

Oracle® Communications
EAGLE Application Processor
Upgrade/Installation Guide for APPD
Release 18.0
G58095-01

July 2026

ORACLE®

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Acronyms

This section provides an alphabetized list of acronyms used in the document.

Table 1. Acronyms

AS	Application Server
E5-APP-B	Eagle5 Application Card class B cpu/board
APPD	Application Card class D cpu/board
OCEPAP	Oracle Communication EAGLE Provisioning Application Processor
GA	General Availability
IPM	Initial Product Manufacture
LA	Limited Availability
MPS	Multi-Purpose Server
MOS	My Oracle Support
OSDC	Oracle Software Delivery Cloud
SM	Service Module
TPD	Tekelec Platform Distribution

What's New in this Guide

This section introduces the documentation updates for Release 18.0 in Oracle Communications EAGLE Application Processor Upgrade/Installation Guide.

Release 18.0 – G58095-01, July 2026

This is a new document that explains the installation process of EPAP 18.0 supporting APPD hardware.

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1 INTRODUCTION

Purpose and Scope

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

- a. An initial installation of the EPAP 18.0.0.0.0 application software, if it is not currently installed on an inservice APPD system running a release of TPD 8.X
- b. A Full upgrade from an in-service E5-APP-B running on release 17.0.x/17.1.x to APPD system running an EPAP Release 18.0.0.0.0 using card replacement of E5-APP-B by APPD.
- c. A dual image upgrade on an in-service APPD system running an EPAP Release 18.0.x.
- d. Please note that initial installation of EPAP 17.0.x or 17.1.x is not supported on APPD hardware.

The audience for this 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 upgrade or installation using an ISO image.

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

Note:

1. **service <service name> start/stop should not be used on EPAP 17.0 onwards. Instead, systemctl start/stop <service name> should be used.**
2. **EPAP 16.4 introduced a new parameter, LSBLSET, in the DN_BL and DNB_BL tables of the PDB database. EPAP releases prior to 16.4 do not have LSBLSET in their DN_BL and DNB_BL tables.**

Customers who use LSBLSET in their provisioning and are upgrading their EPAP network from EPAP 16.3 to a higher release (16.4/17.x/18.x) must ensure that LSBLSET is provisioned only after the entire network has been upgraded to EPAP 18.x. The following key points must be observed when upgrading from 16.3 to 16.4/17.x/18.x:

- **Do not provision LSBLSET in the network while any provisioning node (Active or Standby PDBA site) is still on 16.3, as older nodes will reject the update and cause replication failures.**
- **Ensure that no provisioning is performed in this state (18.x Active PDB / 16.3 Standby PDB). If the EPAP 18.0 Active PDB site upgrades a DN with the LSBLSET parameter, EPAP 16.3 EPAPs will reject the update because they do not have the LSBLSET parameter in their database. Further provisioning at the Standby PDBA and Non-PROVs will be blocked once any update fails to replicate to the Standby PDBA or Non-PROVs.**
- **In a dual PDBonly/dual Mixed server setup, if one PROV (StandAlone/Mixed-EPAP) site is upgraded to EPAP 18.x while the other PROV site remains on EPAP 16.3, do not designate the EPAP 18.x site as the Active provisioning server. The already upgraded EPAP 18.x will be made the Active provisioning server during the maintenance window taken for upgrading the other EPAP 16.3 (or lower) provisioning site to 18.x.**

References

1.1.8 External

- [1] *EAGLE Application Processor (EPAP) Administration Guide*, E54368-01, latest revision, Oracle
- [2] *EPAP 18.0 Administration Manual*, Oracle

1.1.9 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's personnel.

- [1] *TEKELEC Acronym Guide*, MS005077, revision 2.35, September 2005.
- [2] *Software Upgrade Procedure Template*, TM005074, Current Version
- [3] *Integrating MPS into the Customer Network*, TR005014, version 3.1, October 2009
- [4] *TPD Initial Product Manufacture – TPD 8.6*, Latest revision
- [5] *PFS EPAP 17.0*, Latest revision
- [6] *EPAP Administration Manual for EPAP 17.0*, Latest version
- [7] *EPAP Linkset Based Blocklisting*, CGBU_042015

Software Release Numbering

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

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.

The title box describes the operations to be performed during that step.

Each command that the technician is to enter is in 9 point Lucida Console font

1	☐	MPS A: Verify all materials required are present	Materials are listed in Material List (Section 3.2)
---	--------------------------	--	---

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

Other terminology follows.

Table 2. Terminology

Backout (abort)	The process to take a system back to a Source Release prior to completion of upgrade to Target release. Includes preservation of databases and system configuration.
Mixed EPAP	An EPAP where both PDB and RTDB databases reside.
Non-provisionable (Non-prov) EPAP	An EPAP server hosting a Real Time DB without any provisioning interfaces to external provisioning applications. Non-Prov servers are connected to a pair of Provisionable EPAP(mixed-EPAP or PDBonly) from where they get their updates.
Provisionable EPAP	An EPAP server hosting PDB with provisioning interfaces to AS. Both Mixed EPAP and Standalone PDB are Provisionable EPAP.
Source release	Software release to upgrade from.

Split Mirror	Systems that use software RAID instead of hardware RAID can use the software RAID mirrors as a backout mechanism. Conceptually in a software RAID1 with two disks there are two sides to the mirror; let them be side A and side B. For a system with multiple software RAID devices, each device will have an A side and a B side. For an upgrade with a BACKOUT_TYPE=SPLIT_MIRROR the upgrade will break the mirrors at the beginning of the upgrade and perform the upgrade on the Asides of the mirrors. The other sides of the mirrors (B sides) are left intact in their pre-upgrade state throughout the duration of the upgrade. When a backout is performed the system is rebooted into the same 'backout environment'. Inside this 'backout environment' the RAID mirrors are rebuilt from the B sides of the arrays, thus restoring the system to the pre-upgrade state
Standalone PDB	Also known as 'PDB Only', this type of EPAP shall have PDB database only. No RTDB database shall exist on the standalone PDB site.
Target release	Software release to upgrade to.
Upgrade media	USB media or ISO image for APPD.
Dual Image Upgrade (DIU)	This process upgrades both the Application as well as the TPD version on the system together. This provides a faster method to upgrade the setup.

Recommendations

This procedure should be followed thoroughly utilizing the steps as written. **When planning to run upgrade on the server, contact My Oracle Support at least 48 hours before the 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 for assistance.

Read the following notes on procedures:

- While performing the upgrade, do not open the `epapconfig` menu if it is not mentioned in the procedure. Do not run anything in the setup that is not documented in the install/upgrade manual.**
- Any procedure completion times are estimates. Times may vary due to differences in database size, user experience, and user preparation.
- The shaded area within response steps must be verified in order to successfully complete that step.
- Output displayed in the procedures' response steps is presented. Actual output varies depending on system. Output is presented for reference only.
- Where possible, command response outputs are shown as accurately as possible. However, exceptions may include the following:
 - Information such as **time** and **date**.
 - ANY information marked with "**XXXX**." Where appropriate, instructions are provided to determine what output should be expected in place of "**XXXX**."

6. After completing each step and **at each point where data is recorded from the screen, the technician performing the procedure must check each step.** A checkbox has been provided beneath each step number for this purpose.
7. Captured data is required for future support reference if My Oracle Support is not present during the execution of procedures.
8. In procedures that require a command to be executed on a specific MPS, the command is prefaced with MPS A: or MPS B:
9. 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.
10. During DIU (Dual Image Upgrade), do not open the GUI or start the software explicitly.
11. Do not provision data during the DIU process as it might lead to data loss.
12. Copy the commands in a text editor to verify their format before running them in the CLI rather than pasting them directly from the document to the CLI.

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

2 GENERAL DESCRIPTION

This document defines the step-by-step actions performed to execute a software upgrade of an in-service MPS running the EPAP application from the source release to the target release on **APPD** hardware.

For the EPAP application, some steps in this procedure refer to the PDB application feature on the MPS A of the MPS pair. The EPAP application makes it optional for a newly installed MPS A node to be configured as a Provisioning (PDB) node (upgrades of MPS A nodes already configured as a provisioning node does not change this configuration).

Note: Refer to Media and Documentation section of Release Notes 18.0 for correct TPD and EPAP Release

Table 3. Initial Application Installation Path

TPD Release for IPM	EPAP Initial Installation Release
8.10.1.10.0_150.22.0	18.0.0.0.0_180.1.0

Table 4. Install-Upgrade Path

Source Hardware	Source Release	Target Release	Target Hardware	Upgrade Procedure
E5-APP-B	17.0.x /17.1.x or higher	18.0.0.0.0-y.y.y	APPD	Migration using E5-APP-B card replacement by APPD
APPD	18.0.0.0.0-x.x.x or higher	18.0.0.0.0-y.y.y	APPD	DIU upgrade

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

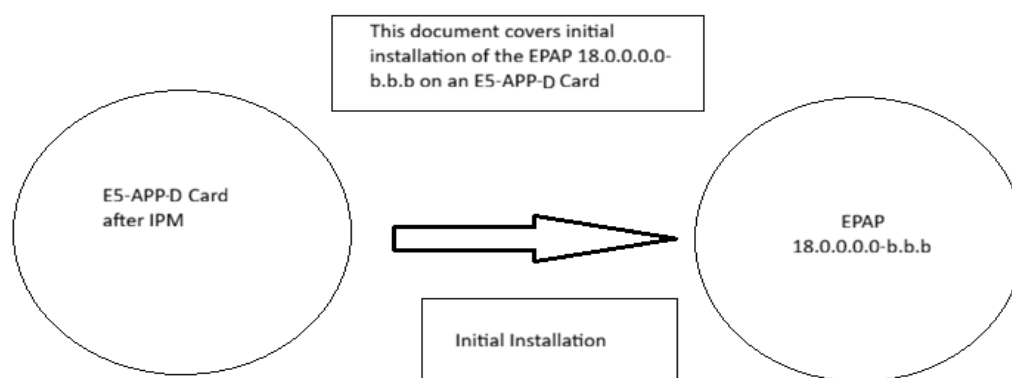


Figure 2: Initial Application Installation Path on an APPD hardware

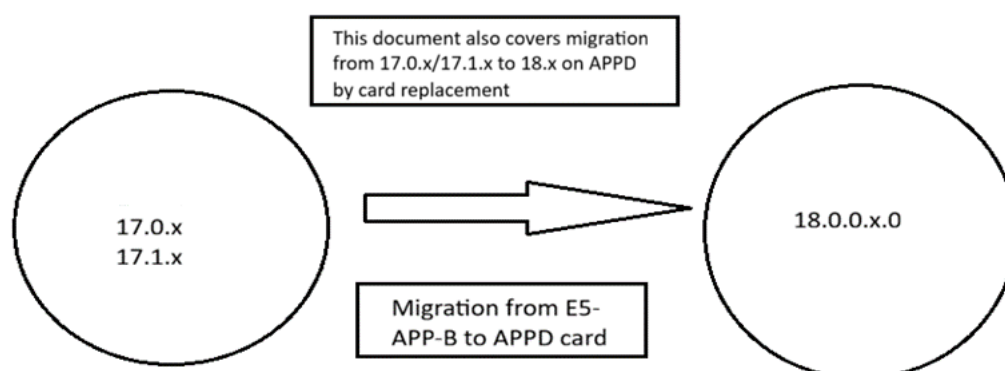


Figure 3: Migration Path - EPAP 18.0.0.0-x.x.x (Replacing E5-APP-B cards by APPD cards)

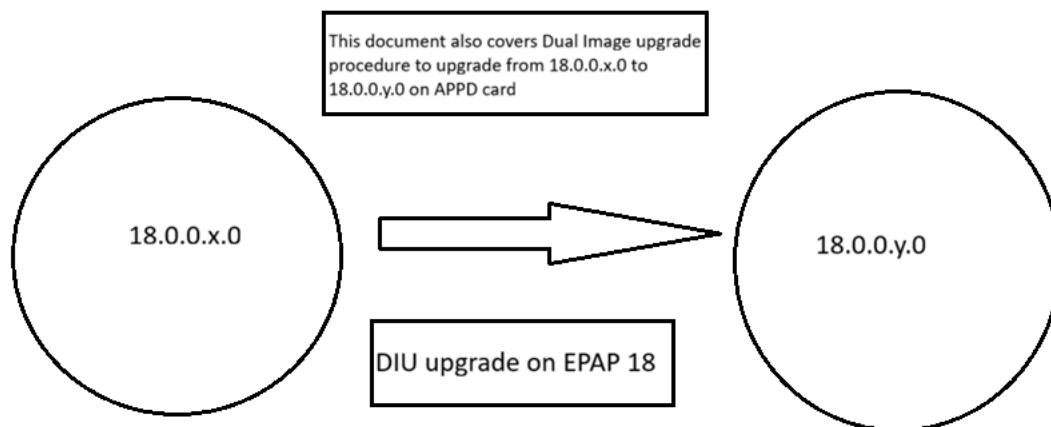


Figure 4: Dual Image Upgrade Path - EPAP 18.0.0.0-x.x.x

Upgrading Customer Network

The below table contains a summary of the order in which upgrade and backout will be performed in a customer network. Ignore the rows not applicable depending upon the customer network. For detailed description on upgrade and backout order, refer the sections given below- Section 2.1.1 to 2.1.6. This applies to the Dual Image upgrade procedure where each node is upgraded one by one.

Table 5. Summary of Upgrade Procedures to be followed in different customer networks.

S.No.	Network Type	Upgrade order	Backout Order
1	Single Mixed Epap	- Mixed EPAP (MPS B) - Mixed EPAP (MPS A)	- Mixed EPAP (MPS A) - Mixed EPAP (MPS B)
2	Dual Mixed EPAP connected with Non-Provs. Note: Ignore Non-Provs, if there is no Non-Prov Server	Mixed EPAP (with standby PDBA) - Mixed EPAP (MPS B) - Mixed EPAP (MPS A) Mixed EPAP (with active PDBA) - Mixed EPAP (MPS B) - Mixed EPAP (MPS A) Non-prov EPAPs (All Non-Provs) - Non-Prov (MPS B) - Non-Prov (MPS A)	Non-provisionable EPAP - Non-Prov (MPS A) - Non-Prov (MPS B) Mixed EPAP (with Standby PDBA) - Mixed EPAP (MPS A) - Mixed EPAP (MPS B) Mixed EPAP (with Active PDBA) - Mixed EPAP (MPS A) - Mixed EPAP (MPS B)

3	Single PDBonly with Non-Prov Note: Ignore Non-Provs, if there is no Non-Prov Server	1. PDBonly 2. Non-Prov (MPS B) 3. Non-Prov (MPS A)	1. Non-Prov (MPS A) 2. Non-Prov (MPS B) 3. PDBonly
4	Dual PDBonly with Non-Prov Note: Ignore Non-Provs, if there is no Non-Prov Server	1. Standby PDBonly 2. Active PDBonly 3. Non-Prov (MPS B) 4. Non-Prov (MPS A)	4. Non-Prov (MPS A) 5. Non-Prov (MPS B) 6. Standby PDBonly 7. Active PDBonly

Upgrading Mixed EPAP Mated Pairs

2.1.1 Upgrading Provisionable mixed EPAP Mated Pairs

Current deployments of the EPAP support two geographically separated EPAP systems that are “mated”, meaning they communicate and replicate PDB information between the two sites. An EPAP system is a pair of MPS servers (an **A** and a **B** node). Hence, a mated pair of EPAP systems consists of four MPS servers, an **A** and a **B** node for each EPAP system (see Figure 5: EPAP Mated Pairs). EPAP allows more than two EPAP systems in a related configuration (up to 22 Non-Provisionable MPS servers).

This document describes upgrade (and, if necessary, backout) of the EPAP software on one system, that system consisting of two MPS servers (A and B).

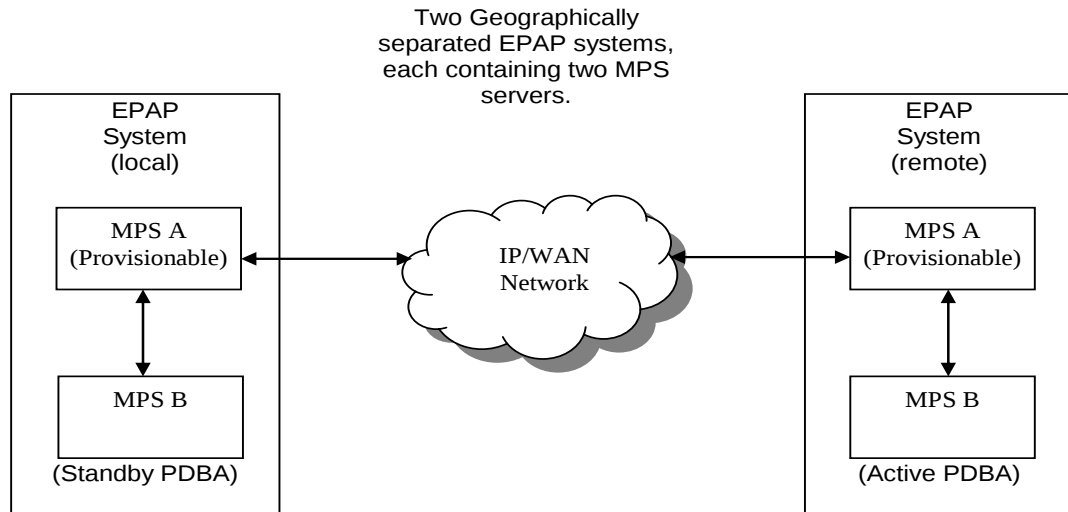


Figure 5: EPAP Mated Pairs

Upgrade of provisionable EPAP (mixed-EPAP) mated pairs must be carried out in the following order:

1. Ensure PDB databases are at the same level. Make sure that all PDB databases are in sync before proceeding.
2. Local MPS-B (Standby PDBA)
3. Local MPS-A (Standby PDBA)
4. Remote MPS-B (Active PDBA)
5. Remote MPS-A (Active PDBA)

NOTE: Since the PDBA software is not running immediately after an upgrade, the syscheck utility will alarm the fact that the PDBA is not running on the local and remote EPAP A-servers.

2.1.2 Backout Provisionable mixed EPAP Mated Pairs

Backout of Provisionable EPAP (mixed-EPAP) Mated Pairs should be done in the reverse order that the upgrade was performed:

1. Identify a PDB backup that was made prior to upgrade, on the EPAP release that backout will target. Note that backout always carries the risk of losing data, should a restore from database backup become necessary.
2. Remote MPS-A (Active PDBA)
3. Remote MPS-B (Active PDBA)
4. Local MPS-A (Standby PDBA)
5. Local MPS-B (Standby PDBA)

On a backout of an upgrade, the server will remain in runlevel 3 (no applications running). The user will be required to manually reboot the server to bring it back into service and a syscheck can be performed.

Upgrading EPAP Non-Provisionable MPS Servers

EPAP Non-Provisional MPS pairs can connect to: Mixed EPAP or Standalone PDB.

2.1.3 Upgrading Non-Provisional MPS pairs in Mixed EPAP configuration

EPAP provides the ability to expand the concept of a mated pair of EPAP systems to have up to 24 EPAP systems (48 MPS servers total) configured such that two of the MPS-A servers will run the PDBA software and RTDB software both and handle provisioning (Provisionable nodes) and the other 22 MPS-B and 22 MPS-A servers will only run the RTDB software, taking their updates from the two Provisionable (mixed-EPAP or PDBonly) MPS-A servers.

An example showing 4 EPAP systems, two of which are provisioning nodes.

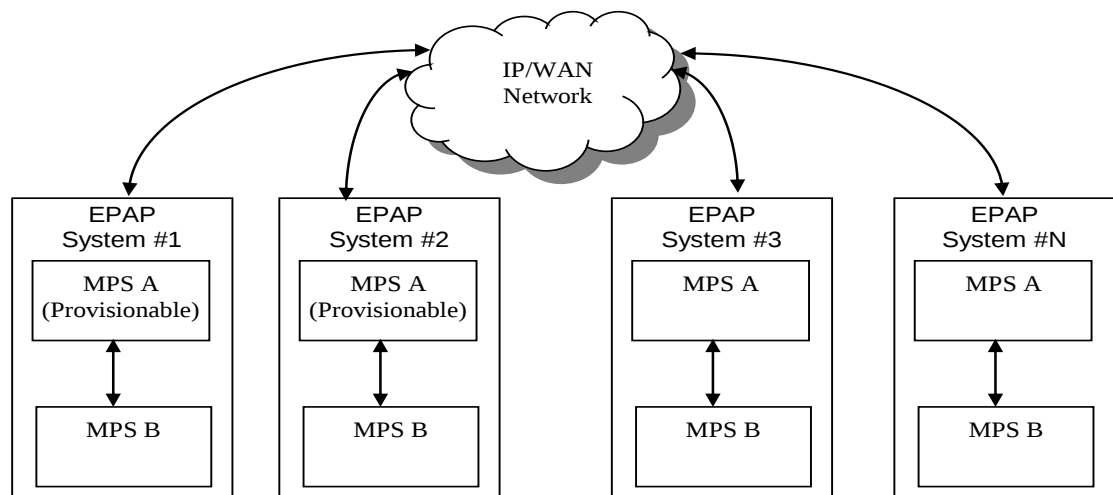


Figure 6: EPAP Mated Pairs with Non-Provisioning MPS Servers

In such a configuration, it is required that the EPAP system containing the provisionable MPS servers are upgraded first, before any EPAP system containing the non-provisionable MPS servers are upgraded. Upgrade of such configuration must be carried out in the following order:

Mixed EPAP (with standby PDBA)

1. Mixed EPAP (MPS B)
2. Mixed EPAP (MPS A)

Mixed EPAP (with active PDBA)

3. Mixed EPAP (MPS B)
4. Mixed EPAP (MPS A)

Non-provisionable EPAPs (**All Non-Provs**)

5. Non-Provisionable (MPS B)
6. Non-Provisionable (MPS A)

2.1.4 Upgrading Non-Provisional MPS pairs in dual PDBonly configuration

EPAP provides the ability to separate the RTDB from PDB to create two architectures: Standalone PDB running PDB process only and Non-Provisionable running RTDB only. Up to 22 Non-Provisional EPAP mated pairs are connected to 2 Standalone PDB that are configured as Active/Standby. In such a configuration, it is required that the Prov servers must be upgraded first followed by the Non-Provs and should be carried out in the following order:

1. Standby PDBonly
2. Active PDBonly
3. Non-Prov (MPS B)
4. Non-Prov (MPS A)

Backout EPAP Non-provisionable MPS servers

EPAP Non-Provisional MPS pairs can connect to: Mixed EPAP or Standalone PDB.

2.1.5 Backout Non-Provisionable MPS pairs in dual PDBonly configuration

Backout of Non-Provisionable MPS pairs in Standalone configuration should be done in the reverse order that the upgrade was performed. Please follow the below mentioned steps for backout:

1. Non-Provisionable (MPS A)
2. Non-Provisionable (MPS B)
3. Standby PDBonly
4. Active PDBonly

On a backout of an upgrade, the server will remain in runlevel 3 (no applications running). The user will be required to manually reboot the server to bring it back into service and a syscheck can be performed.

2.1.6 Backout Non-Provisionable MPS pairs in mixed EPAP configuration

Backout of EPAP Non-provisionable MPS pairs in mixed EPAP configuration should be done in the reverse order that the upgrade was performed:

Non-provisionable EPAP

1. Non-Provisionable (MPS A)
2. Non-Provisionable (MPS B)

Mixed EPAP **(with Standby PDBA)**

3. Mixed EPAP (MPS A)
4. Mixed EPAP (MPS B)

Mixed EPAP **(with Active PDBA)**

5. Mixed EPAP (MPS A)
6. Mixed EPAP (MPS B)

3 UPGRADE OVERVIEW

Upgrade Provisioning Rules

Provisionable Dual Mixed EPAP and dual PDBonly EPAPs can be upgraded with both live provisioning ON or Off, please refer [section 3.1.6](#) and [section 3.1.8](#).

Provisionable Single Mixed and Single PDBonly EPAPs can be upgraded with live provisioning OFF only, please refer [section 3.1.3](#) and [section 3.1.7](#).

Non-Provisionable EPAPs can be upgraded with both live provisioning ON or OFF, please refer [section 3.1.5](#).

The PDBA software remains stopped on the server which is being upgraded even after upgrade is done until asked to start the software as mentioned in the upgrade procedures.

Note: It is very important that any Legacy Update must be accepted before proceeding for Dual Image Upgrade.

Following table describes the typical time required to upgrade to EPAP release 18.0. The data represents what was observed in the lab test. The timing required in actual upgrade might vary. The data is provided to gauge the approximate time required for the upgrade and prepare for proper maintenance window.

Note:

All Non-PROVs can be upgraded within normal maintenance window of 6-8 hours. PROV EPAPS (Mixed-EPAP/No-PROVS) might need extended time based on the amount of data. Customers who have DUAL PROV sites (Mixed-EPAP/PDB only EPAP) can upgrade with Live provisioning ON.

Table 6: Upgrade time for EPAP 18.0 PROV EPAP - Mixed EPAP (Compact DB)/ PDBonly(eXtreme DB)

DB Architecture	DN Count	IMSI Count	IMEI Count	Backup time	Restore Time	Overall upgrade time (Backup Time + Full Upgrade Time + Restore Time)
Compact	40M	0	0	3 minutes	30 minutes	4 hours
Compact	80M	0	0	6 minutes	1 hour	5 hours
Compact	120M	0	0	12 minutes	2 hour 45 minutes	7 hours
Compact	160M	0	0	15 minutes	4 hours and 30 minutes	8 hours

Compact	200M	0	0	25 minutes	6 hours 20 minutes	10 hours
Compact	240M	0	0	30 minutes	8 hours	12 hours
Compact	240M	240M	48M	27 minutes	7 hours	12 hours
eXtreme	240M	0	0	30 minutes	8 hours	12 hours
eXtreme	300M	0	0	35 minutes	11 hours	15 hours
eXtreme	360M	0	0	40 minutes	11 hours 50 minutes	17 hours
eXtreme	0	240M	0	15 minutes	30 minutes	7 hours
eXtreme	480M	555M	45M	26 minutes	6.5 Hrs	11 hours
eXtreme	420M	300M	180M	45 minutes	13.5 Hr	17 hours
eXtreme	480M	555M	45M	55 Minutes	13 Hours	17 hours

Table 7: Upgrade time for EPAP 18.0 Non-PROV EPAP

DB Architecture	DN Count	IMSI Count	IMEI Count	Backup time	Restore Time	Overall upgrade time
Compact	240M DN	240M	48M	30 Minutes	42 minutes	5 hours
eXtreme	0	240M	0	15 minutes	30 minutes	5 hours
eXtreme	480M	555M	45M	1 hour 18 minutes	2 hours	8 hours

Table 8: E5-APP-B to APPD migration in EPAP 18.0

DB Architecture	DN Count	IMSI Count	IMEI Count	Backup time	Restore Time	Overall upgrade time
Compact	240M DN	240M	48M	30 Minutes	42 minutes	5 hours
eXtreme	0	240M	0	15 minutes	30 minutes	5 hours
eXtreme	510M	555M	45M	1 hour 18 minutes	2 hours	8 hours

Required Materials

- For Mixed EPAP or Non-Provisional EPAP: Two (2) target-release USB media (Greater than 10GB of size) or a target-release ISO file. For Standalone PDB: One (1) target-release USB media (Greater than 10GB of size) or a target-release ISO file
- A terminal and null modem cable to establish a serial connection.
- Write down the system configuration information.

Description	Information
PROVISIONABLE (Yes/No)	
PDBA state (Active/Standby)	
Provisioning IP (IPv4)	
Provisioning Mask (IPv4)	
Provisioning Default Router IP (IPv4)	
Provisioning IP (IPv6)	
Provisioning Netmask (IPv6)	
Provisioning Default Router IP (IPv6)	
NTP1 IP (IPv4/IPv6)	
NTP2 IP (IPv4/IPv6)	
NTP3 IP (IPv4/IPv6)	
Local VIP	
Remote VIP	
Local PDBA IP (IPv4)	
Local PDBA IP (IPv6)	
Remote PDBA IP (IPv4/IPv6)	
Remote PDBA B IP (IPv4/IPv6)	
RTDB Homing	
Time Zone	
PDBA Proxy Feature	
Others	

Table 9: System Configuration Information

- Passwords for users on the local system:

EPAP USERS		
login	MPS A password	MPS B password
epapconfig		
epapdev (needed for backout only)		
root		
epapall (needed for GUI access)		
admusr		

Table 10: User Password Table

Installation Phases

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 and Table 8 are to be executed in the order they are listed.

3.1.1 Installation Phases for Mixed and Non-Provisionable EPAP

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Connectivity setup	15	15	Set up connectivity to the MPS Servers.	Procedure 1
IPM APPD Server	45	60	This Procedure will IPM the APPD server Note: IPM will be performed on both MPS A and B	Procedure A.13
Pre-upgrade check	15	75	Verify requirements for install are met.	Procedure 3
Pre-install health check	5	80	Run the syscheck utility to verify that all servers are operationally sound.	Procedure 4
Configure Server 1A	5	85	Set hostname, designation, function and time.	Procedure 5
Configure Server 1B	5	90	Set hostname, designation, function and time.	Procedure 6
Install Servers	30	120	Install software on sides 1A and 1B	Procedure 7 Procedure 8
Configure Switches	30*	150*	Configure the Switches	Procedure 9
Post-install application processing	30	180	Perform first time configuration.	Procedure 11
Post-upgrade health check	5	185	Run the syscheck utility to verify all servers are operationally sound.	Procedure 4

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
**Configure Auto Backup Note: Skip this step if the EPAP is configured as Non-Provisionable.	5	190	Configure Auto Backup from PDB GUI on Provisionable EPAP's, this backup will also get scheduled on attached Non-Prov sites present on the setup.	Procedure A.25
Check EPAP-EAGLE connectivity speed	20	210	Configure and verify that EAGLE SM cards are getting auto-negotiated to 1000Mbps/Full Duplex	Procedure A.17

Table 11: Installation Phases for Mixed EPAP and Non-Provisional EPAP

Note:

- If configuring 4 switches, add 30 minutes to the current setup. Configuring Auto backup is a compulsory step to enable PDB-RTDB translogs pruning.

3.1.2 Installation Phases for Standalone PDB

Note: In the procedures below, skip the steps which need to be executed on MPS B, since MPS B is not present in the Standalone PDB configuration".

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Connectivity setup	15	15	Set up connectivity to the MPS Servers.	Procedure 1
IPM APPD Server	45	60	This Procedure will IPM the APPD server Note: IPM will be performed on both MPS A and B	Procedure A.13

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Pre-upgrade check	15	35	Verify requirements for install are met.	Procedure 3
Pre-install health check	5	40	Run the syscheck utility to verify that all servers are operationally sound.	Procedure 4
Configure Server 1A	5	45	Set hostname, designation, function and time.	Procedure 5
Install Server	30	75	Install software on sides 1A	Procedure 7
Post-install application processing	30	105	Perform first time configuration. Refer to Procedure A.14 to configure the Standalone PDB in segmented network configuration.	Procedure 11
Post-upgrade health check	5	110	Run the syscheck utility to verify all servers are operationally sound.	Procedure 4
**Configure Auto Backup. Note: Perform this step once Non-Provisionable EPAPs are attached to this Standalone PDB	5	115	Configure Auto Backup from PDB GUI on Provisionable EPAP's, this backup will also get scheduled on attached Non-Prov sites present on the setup.	Procedure A.25

Table 12: Installation Phases for Standalone PDB

***NOTE:** The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.

****NOTE:** Configuring Auto backup is a compulsory step to enable PDB-RTDB translog pruning.

Full Upgrade Phases with Card Replacement

The following table illustrates the progression of the full upgrade process by procedure with estimated times and may vary due to differences in typing ability and system configuration. The procedures

outlined below are to be executed in the order they are listed. The full upgrade phases given in this section involve E5-APP-B card being replaced by APPD.

Note: Before proceeding with the Full Upgrade process, refer to [Upgrading Provisionable mixed EPAP Mated Pairs](#) and [Upgrading EPAP Non-Provisionable MPS Servers](#) to get the overview of the EPAP setup and upgrade order.

3.1.3 Full Upgrade Phases for Mixed EPAP without live provisioning with card replacement.

Note: Do not add DN and DNBlock with Isblset parameter until all nodes in the network are migrated to EPAP 18.0 successfully.

Note: The new APPD card should have TPD and Application installed on it before beginning the migration procedure with card replacement. Please note that do not perform the initial configuration or assign Ips to the APPD servers after EPAP installation as there will be IP conflict in the network, if two cards are assigned with the same IP in the network.

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Before Maintenance Window				
APPD cards can also be IPMed separately before the maintenance window begins. Procedure to IPM APPD cards is also included below in the maintenance window, if APPD card is already installed with TPD, skip the procedure in the below table.				
Note: EAGLE should already be upgraded to a supported release (Supported Eagle Release – Eagle 48.1) before beginning the full upgrade procedures in a separate maintenance window.				
Maintenance Window for Card Replacement Begins				
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Full upgrade	5	20	Verify this should be a Full upgrade.	Procedure 2
Pre-upgrade check	15	35	Verify requirements for Full Upgrade are met.	Procedure 3

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
EPAP 16.3/16.4/17.0.0.x/17.1.x RTDB and EuiDB Backups	*See notes below	*See notes below	Backup application databases and other pertinent information in case of backout required	Procedure A.6 Procedure A.7 Procedure A.8
Take snapshot of uiEdit parameters	15	70	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Change MySql engine schema	15	85	Change mysql schema from myiasm to innodb Note: This procedure is not to be performed if migrating from 17.0.0.x/17.1.x/18.0.0.x.	Procedure A.31
Save the EPAP 16.3/16.4/17.0.0.x/17.1.x additional configurations	20	105	Save the NTP, EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations, HTTP configurations	Procedure A.40
Pre-upgrade Backup	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15
Pre-upgrade system time check	5	110	Pre-upgrade system time check.	Procedure 16
Replace E5-APP-B cards by APPD cards	30	140	This Procedure will be done for both Server 1A and 1B.	Procedure A.53
IPM APPD Server	45	185	This Procedure will IPM the APPD server Note: IPM will be performed on both MPS A and B. Skip this step if TPD is already done.	Procedure A.13

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Configure Server 1A	5	190	Set hostname, designation, function and time.	Procedure 5
Configure Server 1B	5	195	Set hostname, designation, function and time.	Procedure 6
Install Servers with EPAP application	30	225	Install software on sides 1A and 1B	Procedure 7 Procedure 8
Configure Switches	30	255	Configure the Switches	Procedure 9
Post-install application processing	30	285	Perform first time configuration.	Procedure 11
Post upgrade health check	5	290	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Post upgrade EuiDB restore	5	295	Restore EuiDB database	Procedure A.32
Restore PDB Backup	*See notes below	*See notes below	Restore EPAP 16.3.1/16.4.1/17.0.0.x /17.1.x/18.0.0.x PDB backup taken before fresh installation	Procedure A.33
Restore RTDB Backup	*See notes below	*See notes below	Restore EPAP 16.3/16.4/17.0.0.x/17.1.x/18.0.0.x RTDB backup taken before fresh installation	Procedure A.36
Reload RTDB from mate	30	325	Reload RTDB from mate on Non-prov MPS B.	Procedure A.11

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Reconfigure Additional EPAP configurations NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS. Also, QS is not supported in EPAP 18.0 release still Note down the Query srver details for future reference	45	365	Reconfigure the EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations Note: If HTTP was enabled before migration, then reconfigure the HTTP configuration by disabling the configuration first and then enabling the configuration again from EPAP GUI	Procedure A.41
Take snapshot of uiEdit parameters on upgraded EPAP 18.0.0.y servers	10	375	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Compare uiEdit parameters	10	385	Compare the snapshot taken in EPAP 18.0.0.y with the one taken on the EPAP 16.3/16.4 /17.x/18.0.0.x before migration	Procedure A.42
Start the PDB software	10	395	Re-activate the PDB on the Provisionable MPS A servers (PDBonly in this case).	Procedure 27
Clear the Replication logs.	20	415	Clear the replication logs before connecting both the PDBAs NOTE: Execute this procedure in case of dual mixed EPAP. Provisioning should be stopped while executing this procedure.	Procedure A.28

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Exchange the keys between active EPAP site and standby EPAP site	30	445	Keys exchange between active and standby EPAP sites. NOTE: Execute this procedure in case of dual mixed EPAP.	Procedure A.35
***Configure Auto Backup	5	450	Configure Auto Backup from EPAP GUI on Provisionable EPAP's, this backup will get scheduled on attached Non-Prov sites present on the setup.	Procedure A.25
Reboot EAGLE Cards	*See notes below	*See notes below	Reboot Eagle Cards to reload updated DB	Procedure 21
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given.	5	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 22

Table 13: Full Upgrade Phases for Mixed and Non-Provisionable EPAP

Note:

- The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data. The time needed to restore PDB backup (MysqIDump) is dependent on the amount of PDB database.
- If configuring 4 switches, add 30 minutes to the current setup.
- The time needed to reload EAGLE cards is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.

- Configuring auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.
- In a dual PDBonly/dual Mixed server setup, if one PROV (StandAlone/Mixed-EPAP) site is upgraded to EPAP 18.x while the other PROV site remains on EPAP 16.3, do not designate the EPAP 18.x site as the Active provisioning server. The already upgraded EPAP 18.x will be made the Active provisioning server during the maintenance window taken for upgrading the other EPAP 16.3 (or lower) provisioning site to 18.x.

Full Upgrade Phases for Dual Mixed EPAP without live provisioning

This procedure lists the procedure to upgrade Dual Mixed EPAP servers without live provisioning.

Phase	Activity	Procedure
Upgrading when both servers are on EPAP 16.3.1 / 16.4.1 /17.0.0.5 or lower release	Upgrade Standby PDBA site on EPAP 16.3.1 /16.4.1 / 17.0.0.5 or lower to EPAP 18.0	Procedure 3.1.3
Upgrading when one server is on EPAP 18.0 and other is on EPAP 16.3.1 / 16.4.1 /17.0.0.5 or lower	Switchover PDBA sites to make server on EPAP 18.0 as Active PDBA site and server on EPAP 16.3.1 or 16.4.1 /17.0.0.5 or lower to standby site	If EPAP 16.3.1 or 16.4.1 is Active PDBA site from EPAP GUI, do a switchover PDBA to make it standby site before upgrade.
Upgrade EPAP 16.3.1/ 16.4.1/ 17.0.0.5 or lower site	Upgrade Standby PDBA site on EPAP 16.3.1 / 16.4.1 / 17.0.0.5 or lower to EPAP 18.0	Procedure 3.1.3

3.1.4 Full Upgrade Phases for Non-Provisionable EPAP with or without live provisioning

Note: This procedure can be used in with or without live provisioning scenario.

Note: The new APPD card should have TPD and Application installed on it before beginning the migration procedure with card replacement. Please note that do not perform the initial configuration or assign Ips to the APPD servers after EPAP installation as there will be IP conflict in the network, if two cards are assigned with the same IP in the network.

Table 14: Full Upgrade Phases for Non-Provisionable EPAP with or without live provisioning

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Before Maintenance Window				
APPD cards can also be IPMed separately before the maintenance window begins. Procedure to IPM APPD cards is also included below in the maintenance window, if APPD card is already installed with TPD, skip the procedure in the below table.				
Note: EAGLE should already be upgraded to a supported release (Supported Eagle Release – Eagle 48.1) before beginning the full upgrade procedures in a separate maintenance window.				
Maintenance Window for Card Replacement Begins				
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Full upgrade	5	20	Verify this should be a Full upgrade.	Procedure 2
Pre-upgrade check	15	35	Verify requirements for Full Upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server’s readiness for upgrade.	Procedure 14
EPAP 16.3/16.4/17.0.0.x /17.1.x RTDB and EuiDB Backups	*See notes below	*See notes below	Backup application databases and other pertinent information in case of backout required	Procedure A.7 Procedure A.8
Take snapshot of uiEdit parameters	10	65	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Change MySql engine schema	15	80	Change mysql schema from myiasm to innodb Note: This procedure is not to be performed if migrating from 17.0.0.x/17.1.x/18.0.0.x.	Procedure A.31
Pre-upgrade Backup	*See notes below	*See notes below	Backup application databases and other pertinent information. Note: PDB Backup is not required so steps mentioned in the procedure to take PDB backup can be skipped	Procedure 15
Save the EPAP 16.3/16.4/17.0.0.x/17.1.x additional configurations	20	100	Save the NTP, EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations, HTTP configurations	Procedure A.40
Pre-upgrade system time check	5	105	Pre-upgrade system time check.	Procedure 16
Replace E5-APP-B cards by APPD cards	30	140	This Procedure will be done for both Server 1A and 1B.	Procedure A.53
IPM APPD Server	45	185	This Procedure will IPM the APPD server Note: IPM will be performed on both MPS A and B. Skip this step, if TPD is already done.	Procedure A.13
Configure Server 1A	5	190	Set hostname, designation, function and time.	Procedure 5
Configure Server 1B	5	195	Set hostname, designation, function and time.	Procedure 6
Install Servers with EPAP application	30	225	Install software on sides 1A and 1B	Procedure 7 Procedure 8
Configure Switches	30	255	Configure the Switches	Procedure 9

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Post-install application processing	30	285	Perform first time configuration.	Procedure 11
Full upgrade health check	5	290	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Change DB architecture from Compact to eXtreme on Non-Prov site Read note carefully. Note 1: Applicable in case of full upgrade from Extreme – (16.3.1/16.4.1/17.0.0.5 or lower) in to 18.0 Extreme architecture. Note 2: This step not needed in Compact(16.3/16.4/17.0.0.5 or lower) -> compact (18.0), compact- (16.3/16.4/17.0.0.5 or lower) >eXtreme (18.0). First upgrade to 18.0 in compact mode then convert to extreme architecture.	45	335	Change DB architecture from compact to Extreme	Procedure 13
Post upgrade EuiDB restore	5	340	Restore EuiDB database	Procedure A.32

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Restore RTDB Backup	*See notes below	*See notes below	Restore EPAP 16.3/16.4/17.0.0.x/17.1.x/18.0.0.x RTDB backup taken before fresh installation	Procedure A.36
Reload RTDB from mate	30	370	Reload RTDB from mate on Non-prov MPS B.	Procedure A.11
Reconfigure Additional EPAP configurations NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS. Also, QS is not supported in EPAP 18.0 release still Note down the Query srver details for future reference	45	415	Reconfigure the EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations Note: If HTTP was enabled before migration, then reconfigure the HTTP configuration by disabling the configuration first and then enabling the configuration again from EPAP GUI	Procedure A.41
Take snapshot of uiEdit parameters on upgraded EPAP 18.0.0.y servers	10	425	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Compare uiEdit parameters	10	435	Compare the snapshot taken in EPAP 18.0.0.y with the one taken on the EPAP 16.3/16.4/17.0.0.x/18.0.0.x before migration	Procedure A.42
Reboot EAGLE Cards	*See notes below	*See notes below	Reboot Eagle Cards to reload updated DB	Procedure 21

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given. NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS.	5	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 22

Note:

- The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- The time needed to restore PDB backup (MysqIDump) is dependent on the amount of PDB database.
- This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- If configuring 4 switches, add 30 minutes to the current setup.
- The time needed to reload EAGLE cards is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- Configuring Auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.

3.1.5 Full Upgrade Phases for Dual Mixed with live provisioning

Note: Refer to [Appendix E](#) for things to be taken care while performing full upgrade with live provisioning.

Note: Do not add DN and DNBlock with lsblset parameter until all nodes in the network are migrated to EPAP 18.0 successfully.

Note: The new APPD card should have TPD and Application installed on it before beginning the migration procedure with card replacement. Please note that do not perform the initial configuration or assign Ips to the APPD servers after EPAP installation as there will be IP conflict in the network, if two cards are assigned with the same IP in the network.

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Before Maintenance Window				
APPD cards can also be IPMed separately before the maintenance window begins. Procedure to IPM APPD cards is also included below in the maintenance window, if APPD card is already installed with TPD, skip the procedure in the below table.				
Note: EAGLE should already be upgraded to a supported release (Supported Eagle Release – Eagle 48.1) before beginning the full upgrade procedures in a separate maintenance window.				
Maintenance Window for Card Replacement Begins				
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Full upgrade	5	20	Verify this should be a Full upgrade.	Procedure 2
Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server’s readiness for upgrade.	Procedure 14
EPAP 16.3/16.4/17.0.0.x/17.1.x RTDB, EuiDB and PDB Backups	*See notes below	*See notes below	Backup application databases and other pertinent information in case of backout required	Procedure A.6 Procedure A.7 Procedure A.8
Take snapshot of uiEdit parameters	15	70	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Clear the repl logs	15	85	Verify that replication logs are cleared between active and standby EPAP’s	Procedure A.28

			NOTE: Provisioning should be stopped while executing this procedure to clear repl logs.	
Reset RTDB homing policy	15	100	Modify the RTDB homing policy	Procedure A.30
Remove remote PDBA IP from Standby PDBA site Note: Make sure remote PDBA is present in Active PDBA site. Refer Appendix E .	15	115	Delete the remote (Active) PDBA IP on Standby PDBA via epapconfig menu	Procedure A.29
Change MySql engine schema	15	130	Change mysql schema from myiasm to innodb Note: This procedure is not to be performed if migrating from 17.0.0.x/17.1.x/18.0.0.x.	Procedure A.31
Save the EPAP 16.3/16.4/17.0.0.x/17.1.x additional configurations	20	150	Save the NTP, EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations, HTTP configurations	Procedure A.40
Pre-upgrade Backup Note: Take PDB backup from the node migrated first in the network. Refer to Procedure A.6 . Note: If the network speed between two PDBAs is very slow, follow the original procedure to perform PDBA backup via MySQL dump process. Refer to Procedure A.27 .	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15
Pre-upgrade system time check	5	155	Pre-upgrade system time check.	Procedure 16
Replace E5-APP-B cards by APPD cards	30	140	This Procedure will be done for both Server 1A and 1B.	Procedure A.53
IPM APPD Server	45	185	This Procedure will IPM the APPD server	Procedure A.13

			Note: IPM will be performed on both MPS A and B. Skip this step, if TPD is already done.	
Configure Server 1A	5	190	Set hostname, designation, function and time.	Procedure 5
Configure Server 1B	5	195	Set hostname, designation, function and time.	Procedure 6
Install Servers with EPAP application	30	225	Install software on sides 1A and 1B	Procedure 7 Procedure 8
Configure Switches	30	255	Configure the Switches	Procedure 9
Post-install application processing	30	285	Perform first time configuration Refer to Procedure A.14 to configure the Standalone PDB in segmented network configuration. Note: Do not start the PDBA software after creating PDB	Procedure 11
Full upgrade health check	5	290	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Post upgrade EuiDB restore	5	295	Restore EuiDB database	Procedure A.32
Note: Make sure that before restoring the Standby PDBA, if the extreme DB is present on the setup then the PDB capacity should be set as per the DB capacity via epapconfig menu Restore PDB Backup Note: If Second PDBA site is getting migrated, take backup from the already upgraded site and restore it on the PDBA node getting migrated. Refer Procedure A.43 and Procedure A.6 for PDB Backup.	*See notes below	*See notes below	Restore EPAP 16.3.1/16.4.1/17.0.0.x/17.1.x/18.0.0.x PDB backup taken before fresh installation	Procedure A.33

Note: If the network speed between two PDBAs is very slow, follow the original procedure to restore PDBA via MySQL dump process. Refer to Procedure A.33 .				
Restore RTDB Backup	*See notes below	*See notes below	Restore EPAP 16.3.1/16.4.1/17.0.0.x/17.1.x/18.0.0.x RTDB backup taken before fresh installation	Procedure A.36
Reload RTDB from mate	30	335	Reload RTDB from mate on Non-prov MPS B	Procedure A.11
Exchange the keys between active EPAP site and standby EPAP site	30	365	Keys exchange between active and standby EPAP sites.	Procedure A.35
Reset RTDB homing policy on Non-Prov nodes Note: 1. Non-Prov must be homed to the Non-Upgraded PDBA (This applicable in case of first PDBA site upgrade) 2. Skip this step during the second PDBA site migration	*See notes below	*See notes below	Modify the RTDB homing to Non-Upgraded PDBA on Non-Prov Nodes	Procedure A.30
Reset RTDB homing policy on Prov PDBA	15	380	In case of Mixed EPAP node being migrated then RTDB homing must point to its own PDBA (Self)	Procedure A.44
Reconfigure Additional EPAP configurations NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS. Also, QS is not supported in EPAP 18.0 release still	45	425	Reconfigure the EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations Note: If HTTP was enabled before migration, then reconfigure the HTTP configuration by disabling the configuration first and then enabling the configuration again from EPAP GUI	Procedure A.41

Note down the Query server details for future reference				
Take snapshot of uiEdit parameters on upgraded EPAP 18.0.0.y servers	10	435	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Compare uiEdit parameters	10	445	Compare the snapshot taken in EPAP 18.0.0.y with the one taken on the EPAP 16.3/16.4 /17.0.0.x /18.0.0.x before migration	Procedure A.42
Start the PDB software	10	455	Re-activate the PDB on the Provisionable MPS A servers (PDBonly in this case). Note: Step only necessary during upgrade of a Provisionable mated EPAP pair (mixed EPAP).	Procedure 27
**Configure Auto Backup.	5	460	Configure auto backup to schedule RTDB Auto-Backup on NonProvisionable EPAP	Procedure A.25
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given. NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS.	5	This is done in a separate MTC.	Accept the upgrade on both MPS-A after sufficient soak period of around 1-7 days (depending upon customer provisioning volume) to see that everything works fine after the upgrade.	Procedure 22

Table 15: Full Upgrade Phases for Dual Mixed with live provisioning

Note:

- When the Non-Upgraded PDBA site (Currently on 16.3.1/16.4.1/17.0.0.x) will be upgraded, do the following:
 - a. Perform switchover on the Non-Upgraded site (Currently on 16.3.1/16.4.1/17.0.0.x) to make it as Standby PDBA.
 - b. The already upgraded site (on EPAP 18.0) will be the newly Active PDBA.
 - c. Then follow the Table 11 Full Upgrade Phases Dual Mixed with Live Provisioning to perform the upgrade.
- The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- The time needed to restore PDB backup (Mysqldump) is dependent on the amount of PDB database.
- This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- If configuring 4 switches, add 30 minutes to the current setup.
- The time needed to reload EAGLE cards is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- Configuring auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.
- In a dual PDBonly/dual Mixed server setup, if one PROV (StandAlone/Mixed-EPAP) site is upgraded to EPAP 18.x while the other PROV site remains on EPAP 16.3, do not designate the EPAP 18.x site as the Active provisioning server. The already upgraded EPAP 18.x will be made the Active provisioning server during the maintenance window taken for upgrading the other EPAP 16.3 (or lower) provisioning site to 18.x.

3.1.6 Full Upgrade Phases for Standalone PDB without live provisioning

Note: Do not add DN and DNBlock with lsblset parameter until all nodes in the network are migrated to EPAP 18.0 successfully.

Note: The new APPD card should have TPD and Application installed on it before beginning the migration procedure with card replacement. Please note that do not perform the initial configuration or assign Ips to the APPD servers after EPAP installation as there will be IP conflict in the network, if two cards are assigned with the same IP in the network.

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		

Before Maintenance Window				
APPD cards can also be IPMed separately before the maintenance window begins. Procedure to IPM APPD cards is also included below in the maintenance window, if APPD card is already installed with TPD, skip the procedure in the below table.				
Maintenance Window for Card Replacement Begins				
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Full upgrade	5	20	Verify this should be a Full upgrade.	Procedure 2
Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
EPAP 16.3/16.4/17.0.0.x /17.1.x EuiDB and PDB Backups	*See notes below	*See notes below	Backup application databases and other pertinent information in case of backout required	Procedure A.6 Procedure A.8
Take snapshot of uiEdit parameters	15	70	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Change MySql engine schema	15	85	Change mysql schema from myiasm to innodb Note: This procedure is not to be performed if migrating from 17.0.0.x/17.1.x/18.0.0.x.	Procedure A.31
Save the EPAP 16.3/16.4/17.0.0.x /17.1.x additional configurations	20	105	Save the NTP, EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations, HTTP configurations	Procedure A.40
Pre-upgrade Backup	*See notes below	*See notes below	Backup application databases and other pertinent information. Note: Copy database files (PDB and EuiDB) to backup server	Procedure 15
Pre-upgrade system time check	5	110	Pre-upgrade system time check.	Procedure 16
Replace E5-APP-B cards by APPD cards	30	140	This Procedure will be done for replacing E5-APP-B card by APPD card for PDBonly server.	Procedure A.53

IPM APPD Server	45	185	This Procedure will IPM the APPD server NOTE: Skip this step, if TPD is already done on APPD	Procedure A.13
Configure Server 1A	5	190	Set hostname, designation, function and time.	Procedure 5
Install Servers with EPAP application	20	210	Install software on sides 1A and 1B	Procedure 7
Post-install application processing	30	240	Perform first time configuration Refer to Procedure A.14 to configure the Standalone PDB in segmented network configuration. Note: Do not start the PDBA software after creating PDB	Procedure 11
Full upgrade health check	5	245	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Post upgrade EuiDB restore	5	250	Restore EuiDB database taken before fresh installation	Procedure A.32
Restore PDB Backup	*See notes below	*See notes below	Restore EPAP 16.3/16.4/17.0.0.x/17.1.x/18.0.0.x PDB backup taken before fresh installation	Procedure A.33
Reconfigure Additional EPAP configurations NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS. Also, QS is not supported in EPAP 17.0 release still Note down the Query server details for future reference	45	295	Reconfigure the EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations Note: If HTTP was enabled before migration, then reconfigure the HTTP configuration by disabling the configuration first and then enabling the configuration again from EPAP GUI	Procedure A.41

Take snapshot of uiEdit parameters on upgraded EPAP 18.0.0.y servers	10	305	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Compare uiEdit parameters	10	315	Compare the snapshot taken in EPAP 18.0.0.y with the one taken on the EPAP 16.3/16.4/17.0.0.x/18.0.0.x before migration	Procedure A.42
Start the PDB software.	10	325	Re-activate the PDB on the upgraded PDB server	Procedure 27
**Configure Auto Backup.	5	330	Configure auto backup to schedule RTDB Auto-Backup on NonProvisionable EPAP	Procedure A.25
Configure PDB capacity	5	335	Configure the PDB capacity for 510 M DNs following the given procedure. This step is optional. Customers may follow it if they need to configure or update capacity at this stage.	Procedure A.47
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given. NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS.	5	This is done in a separate MTC.	Accept the upgrade on both MPS-A after sufficient soak period of around 1-7 days (Depending upon customer provisioning volume) to see that everything works fine after the upgrade.	Procedure 22

Table 16: Full Upgrade Phases on Standalone PDB

Note:

- The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- Configuring Auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.
- In a dual PDBonly/dual Mixed server setup, if one PROV (StandAlone/Mixed-EPAP) site is upgraded to EPAP 18.x while the other PROV site remains on EPAP 16.3, do not designate the EPAP 18.x site as the Active provisioning server. The already upgraded EPAP 18.x will be made the Active provisioning server during the maintenance window taken for upgrading the other EPAP 16.3 (or lower) provisioning site to 18.x.

3.1.7 Full upgrade Phases for Dual PDBonly with live provisioning

Note: Refer Appendix E for things to be taken care while performing full upgrade with live provisioning

Note: Do not add DN and DNBlock with lsblset parameter until all nodes in the network are migrated to EPAP 18.0 successfully.

Note: The new APPD card should have TPD and Application installed on it before beginning the migration procedure with card replacement. Please note that do not perform the initial configuration or assign Ips to the APPD servers after EPAP installation as there will be IP conflict in the network, if two cards are assigned with the same IP in the network.

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Before Maintenance Window				
APPD cards can also be IPMed separately before the maintenance window begins. Procedure to IPM APPD cards is also included below in the maintenance window, if APPD card is already installed with TPD, skip the procedure in the below table.				
Maintenance Window for Card Replacement Begins				
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Full upgrade	5	20	Verify this should be a Full upgrade.	Procedure 2

Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
EPAP 16.3/16.4/17.0.0.x /17.1.x EuiDB and PDB Backups	*See notes below	*See notes below	Backup application databases and other pertinent information in case of backout required	Procedure A.6 Procedure A.8
Take snapshot of uiEdit parameters	10	65	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Clear the repl logs	15	80	STOP ACTIVE PDBA AND VERIFY REPL LOGS NOTE: Provisioning should be stopped while executing this procedure to clear repl logs.	Procedure A.28
Remove remote PDBA IP from Standby PDBA site Note: Make sure remote PDBA is present in Active PDBA site Refer Appendix E.	15	95	Delete the remote (Active) PDBA IP on Standby PDBA via epapconfig menu	Procedure A.29
Reset RTDB homing policy to remote PDB	15	110	Modify the RTDB homing policy to active preferred alternate allowed	Procedure A.30
Change MySql engine schema	15	125	Change mysql schema from myiasm to innnoDB Note: This procedure is not to be performed if migrating from 17.0.0.x/17.1.x/18.0.0.x.	Procedure A.31
Save the EPAP 16.3/16.4/17.0.0.x /17.1.x additional configurations	20	145	Save the NTP, EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations, HTTP configurations	Procedure A.40

Pre-upgrade Backup Note: Take PDB backup from the node migrated first in the network Refer to Procedure A.6.	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15
Pre-upgrade system time check	5	150	Pre-upgrade system time check.	Procedure 16
Replace E5-APP-B cards by APPD cards	30	180	This Procedure will be done for replacing E5-APP-B card by APPD card for PDBonly server.	Procedure A.53
IPM APPD Server	45	225	This Procedure will IPM the APPD server NOTE: Skip this step, if APPD is already installed with TPD	Procedure A.13
Configure Server 1A	5	230	Set hostname, designation, function and time.	Procedure 5
Install Servers with EPAP application	20	250	Install software on sides 1A and 1B	Procedure 7
Post-install application processing	30	280	Perform first time configuration Refer to Procedure A.14 to configure the Standalone PDB in segmented network configuration. Note: Do not start the PDBA software after creating PDB	Procedure 11
Change DB architecture from Compact to eXtreme	10	290	Change DB architecture from compact to Extreme NOTE: This procedure should only be followed, if the PDBonly server was already in extreme architecture before full upgrade. Hence it should be converted to extreme architecture after full upgrade.	Procedure 13
Full upgrade health check	5	295	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4

Post upgrade EuiDB restore	5	300	Restore EuiDB database	Procedure A.32
Note: Make sure that before restoring the Standby PDBA, if the extreme DB is present on the setup then the PDB capacity should be set as per the DB capacity via epapconfig menu Restore PDB Backup Note: If Second PDBA site is getting migrated, take backup from the already upgraded site and restore it on the PDBA node getting migrated. Refer to Procedure A.43 for PDB Restore and Procedure A.6 for PDB Backup.	*See notes below	*See notes below	Restore EPAP 16.3/16.4/17.0.0.x/17.1.x/18.0.0.x PDB backup taken before fresh installation	Procedure A.33
Exchange the keys between active and standby PDB	30	330	Key exchange between Active PDB and Standby PDB	Procedure A.35
Reconfigure Additional EPAP configurations NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS.	45	375	Reconfigure the EMS, Automatic PDB-RTDB backup, Configure file transfer, schedule EPAP Tasks configurations Note: If HTTP was enabled before migration, then reconfigure the HTTP configuration by disabling the configuration first and then enabling the configuration again from EPAP GUI	Procedure A.41

Also, QS is not supported in EPAP 18.0 release still Note down the Query srver details for future reference				
Take snapshot of uiEdit parameters on EPAP 18.0.0.y servers	10	385	Take a snapshot of uiEdit parameters to be compared after migration is complete	Procedure A.39
Compare uiEdit parameters	10	395	Compare the snapshot taken in EPAP 18.0.0.y with the one taken on the EPAP 16.3/16.4/17.0.0.x/18.0.0.x before migration	Procedure A.42
Start the PDB software.	10	405	Re-activate the PDB on the Provisionable MPS A servers (PDBonly in this case). Note: Step only necessary during upgrade of a Provisionable mated EPAP pair (mixed EPAP + PDBonly).	Procedure 27
**Configure Auto Backup.	5	410	Configure auto backup to schedule RTDB Auto-Backup on NonProvisionable EPAP	Procedure A.25
Configure PDB capacity	5	415	Configure the PDB capacity for 510 M DNs following the given procedure. This step is optional. Customers may follow it if they need to configure or update capacity at this stage.	Procedure A.47
Reboot EAGLE Cards	*See notes below	*See notes below	Reboot Eagle Cards to reload updated DB	Procedure 21

Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given. NOTE: After EPAP upgrade, if EMS is not able to receive alarms from EPAP, delete the EPAP from EMS discovery screen and then rediscover the EPAP on EMS.	5	This is done in a separate MTC.	Accept the upgrade on both MPS-A after sufficient soak period of around 1-7 days (depending upon customer provisioning volume) to see that everything works fine after the upgrade.	Procedure 22
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Table 17: Full Upgrade Phases Dual PDBOnly

Note:

- When the Non-Upgraded PDBA site (Currently on 16.3.1/16.4.1/17.0.0.x) will be upgraded, do the following:
 - a. Perform switchover on the Non-Upgraded site(Currently on 16.3.1/16.4.1/17.0.0.x) to make it as Standby PDBA.
 - b. The already upgraded site (on EPAP 18.0) will be the newly Active PDBA.
 - c. Then follow the Table 13 Full Upgrade Phases Dual PDBOnly above to perform the upgrade.
- The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.
- Configuring Auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.
- In a dual PDBOnly/dual Mixed server setup, if one PROV (StandAlone/Mixed-EPAP) site is upgraded to EPAP 18.x while the other PROV site remains on EPAP 16.3, do not designate the EPAP 18.x site as the Active provisioning server. The already upgraded EPAP 18.x will be made the Active provisioning server during the maintenance window taken for upgrading the other EPAP 16.3 (or lower) provisioning site to 18.x.

Dual Image Upgrade Phases

Note: DIU upgrade is not yet supported in EPAP.

The following table illustrates the progression of the various Dual Image Upgrade (DIU) process by procedure with phases, their estimated duration, and the procedure to be performed in every phase. The estimated duration of each upgrade phase may vary due to the differences in the typing ability and system configuration. The procedures outlined in the following tables are to be run in the same order.

Note: Before proceeding with the Dual Image Upgrade procedure, refer to section [Upgrading Provisionable mixed EPAP Mated Pairs](#) and [Upgrading EPAP Non-Provisionable MPS Servers](#) to get the overview of the EPAP setup and upgrade order.

3.1.8 Dual Image Upgrade Phases for Mixed EPAP without Live Provisioning

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Dual Image Upgrade	5	20	Verify this should be a Dual Image Upgrade.	Procedure 2
Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
Pre-upgrade Backup	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15
Pre-upgrade system time check	5	60	Pre-upgrade system time check.	Procedure 16
Upgrade MPS B	30	90	Execute the upgrade procedure on MPS B.	Procedure 18
Upgrade MPS A	30	120	Execute the upgrade procedure on MPS A.	Procedure 19
Post-upgrade health check	5	125	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Clear the Replication logs.	20	430	Clear the replication logs before connecting both the PDBAs Note: Perform this procedure in case of dual mixed EPAP. Provisioning should be stopped while executing this procedure to clear repl logs.	Procedure A.28
Exchange the keys between active EPAP site and standby EPAP site	30	465	Keys exchange between active and standby EPAP sites. Note: Perform this procedure in case of dual mixed EPAP.	Procedure A.35
Switchover PDBA to Active	5	130	Switchover the PDBA state to Active	Procedure A.48
Configure Switches	30**	160**	Re-configure the switch and verify that EAGLE SM cards are getting auto negotiated to 1000Mbps/Full Duplex. Note: Skip this step if speed is already set to 1000Mbps/Full Duplex.	Procedure 9
Post-upgrade Backups	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given.	5	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 A.50

Table 18: Dual Image Upgrade Phases for Mixed EPAP without live provisioning

Note:

- The time needed back up PDB data depends on the amount of application data. The duration of this procedure cannot specify an exact length of time to be specified as different customers have different amounts of application data.
- The time needed to restore PDB backup (MysqIDump) depends on the volume of data in the PDB database.
- The time needed to reload EAGLE cards depends on the amount of application data. The duration of this procedure cannot be specified as different customers have different amounts of application data.
- If configuring 4 switches, add 30 minutes to the current setup.
- Configuring auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.

3.1.9 Dual Image Upgrade Phases for Dual Mixed EPAP without Live Provisioning

This procedure lists the procedure to upgrade Dual Mixed EPAP servers without live provisioning.

Phase	Activity	Procedure
Upgrading when both servers are on EPAP are on the 17.0.0.6 and above release.	Upgrade Standby PDBA site on EPAP 17.0.0.6 and above release to the latest EPAP release. After this switchover, upgrade the setup PDBA to Active and then upgrade the Standby PDBA site.	Refer to Procedure 3.1.9

3.1.10 Dual Image Upgrade Phases for Non-Provisionable EPAP with or without live provisioning

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Dual Image Upgrade	5	20	Verify this should be a Dual Image Upgrade.	Procedure 2
Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
Pre-upgrade Backup	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15
Pre-upgrade system time check	5	60	Pre-upgrade system time check.	Procedure 16
Upgrade MPS B	30	90	Perform the upgrade procedure on MPS B.	Procedure 18

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Upgrade MPS A	30	120	Perform the upgrade procedure on MPS A.	Procedure 19
Post-upgrade health check	5	125	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Configure Switches	30**	165**	Re-configure the switch and verify that EAGLE SM cards are getting auto negotiated to 1000Mbps/Full Duplex. Note: Skip this step if speed is already set to 1000Mbps/Full Duplex.	Procedure 9
Post-upgrade Backups	*See notes below	*See notes below	Back up application databases and other pertinent information.	Procedure 15
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given.	5	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 verify that everything works fine after the upgrade.	Procedure A.50

Table 19: Dual Image Upgrade Phases for Non-Provisionable EPAP with or without live provisioning

Note:

- The time needed to back up application data depends on the amount of application data. The duration of this procedure cannot specify an exact length of time sincebe specified as different customers have different amounts of application data.
- The time needed to restore PDB backup (MysqIDump) depends on the volume of data in the PDB database.
- The time needed to reload EAGLE cards depends on the amount of application data. The duration of this procedure cannot specify an exact length of time sincebe specified as different customers have different amounts of application data.

- If configuring 4 switches, add 30 minutes to the current setup.
- Configuring auto backup is a mandatory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.

3.1.11 Dual Image Upgrade Phases for Dual Mixed with live provisioning

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Connectivity setup	15	15	Set up connectivity to the MPS servers.	Procedure 1
Verify Dual Image Upgrade	5	20	Verify this should be a Dual Image Upgrade.	Procedure 2
Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
Pre-upgrade Backup Note: Take PDB backup from the node migrated first in the network. Refer to Procedure A.6 . Note: If the network speed between two PDBA's is very slow, follow the original procedure to perform PDBA backup via MySQL dump process. Refer to Procedure A.27 .	*See notes below	*See notes below	Back up application databases and other pertinent information.	Procedure 15

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Clear the repl logs	15	85	Verify that replication logs are cleared between active and standby EPAPs. NOTE: Provisioning should be stopped while executing this procedure to clear repl logs.	Procedure A.28
Reset RTDB homing policy	15	100	Modify the RTDB homing policy.	Procedure A.30
Remove remote PDBA IP from Standby PDBA site Note: Make sure remote PDBA is present in Active PDBA site. Refer Appendix E .	15	115	Delete the remote (Active) PDBA IP on Standby PDBA via epapconfig menu.	Procedure A.29
Pre-upgrade system time check	5	60	Pre-upgrade system time check.	Procedure 16
Upgrade MPS B	30	90	Perform the upgrade procedure on MPS B.	Procedure 18
Upgrade MPS A	30	120	Perform the upgrade procedure on MPS A.	Procedure 19
Post-upgrade health check	5	125	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Exchange the keys between active EPAP site and standby EPAP site	30	410	Keys exchange between active and standby EPAP sites.	Procedure A.35

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Reset RTDB homing policy on Non-Prov nodes Note: 1. Non-Prov must be homed to the Non-Upgraded PDBA (This applicable in case of first PDBA site upgrade) 2. Skip this step during the second PDBA site migration	*See notes below	*See notes below	Modify the RTDB homing to Non-Upgraded PDBA on Non-Prov Nodes	Procedure A.30
Reset RTDB homing policy on Prov PDBA	15	425	If Mixed EPAP node is migrated, then RTDB homing must point to its own PDBA (Self).	Procedure A.44
Configure Switches	30**	165**	Re-configure the switch and verify that EAGLE SM cards are getting auto negotiated to 1000Mbps/Full Duplex. Note: Skip this step if speed is already set to 1000Mbps/Full Duplex.	Procedure 9
Post-upgrade Backups	*See notes below	*See notes below	Back up application databases and other pertinent information.	Procedure 15

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given.	5	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 A.50

Table 20: Dual Image Upgrade Phases for Dual Mixed with live provisioning

Note:

- When the non-upgraded PDBA site (Currently on 17.0.0.6 or higher/17.1/18.0.0.x) will be upgraded, do the following:
 - a. Perform switchover on the non-upgraded site (Currently on 17.0.0.6 or higher/17.1/18.0.0.x) to make it as Standby PDBA.
 - b. The already upgraded site (on EPAP 18.0.0.y) will be the newly Active PDBA.
 - c. Then follow the above table Dual Image Upgrade Phases Dual Mixed with Live Provisioning to perform the upgrade.
- The time needed to back up application data depends on the amount of application data. The duration of this procedure cannot specify an exact length of time to be specified as different customers have different amounts of application data.
- The time needed to restore PDB backup (MysqIDump) depends on the amount of data in the PDB database.
- The duration of this procedure cannot specify an exact length of time sincebe specified as different customers have different amounts of application data.
- The time needed to reload EAGLE cards depends on the amount of application data. The duration of this procedure cannot specify an exact length of time to be specified as different customers have different amounts of application data.
- If configuring 4 switches, add 30 minutes to the current setup.
- Configuring auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.

3.1.12 Dual Image Upgrade Phases for Standalone PDB without live provisioning

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
Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
Pre-upgrade Backup	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15
Pre-upgrade system time check	5	60	Pre-upgrade system time check.	Procedure 16
Upgrade MPS A	30	90	Perform the upgrade procedure on MPS A.	Procedure 19
Post-upgrade health check	5	95	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Switchover PDBA to Active	5	100	Switchover the PDBA state to Active	Procedure A.48
Post-upgrade Backups	*See notes below	*See notes below	Back up application databases and other pertinent information.	Procedure 15

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given.	5	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 A.50

Table 21: Dual Image Upgrade Phases for Standalone PDB without live provisioning

***NOTE:** The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.

3.1.13 Dual Image Upgrade Phases for Dual PDBonly with live provisioning

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
Pre-upgrade check	15	35	Verify requirements for upgrade are met.	Procedure 3
Pre-upgrade health check	5	40	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Assess readiness for upgrade	15	55	Assess the server's readiness for upgrade.	Procedure 14
Remove remote PDBA IP from Standby PDBA site Note: Make sure remote PDBA is present in Active PDBA site Refer Appendix E.	15	95	Delete the remote (Active) PDBA IP on Standby PDBA via epapconfig menu	Procedure A.29
Clear the repl logs	15	80	STOP ACTIVE PDBA AND VERIFY REPL LOGS NOTE: Provisioning should be stopped while executing this procedure to clear repl logs.	Procedure A.28
Reset RTDB homing policy to remote PDB	15	110	Modify the RTDB homing policy to active preferred alternate allowed	Procedure A.30
Pre-upgrade Backup	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15
Pre-upgrade system time check	5	60	Pre-upgrade system time check.	Procedure 16
Upgrade MPS A	30	90	Execute the Upgrade procedure on MPS A.	Procedure 19
Post-upgrade health check	5	95	Run the syscheck utility to verify the MPS server is operationally sound.	Procedure 4
Exchange the keys between active and standby PDB	30	300	Key exchange between Active PDB and Standby PDB	Procedure A.35
Post-upgrade Backups	*See notes below	*See notes below	Backup application databases and other pertinent information.	Procedure 15

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Accept the upgrade after successful soak period NOTE: If the node is to be converted from Compact to eXtreme DB architecture, delay this step until the conversion is done and sufficient soak time is given.	5	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 A.50

NOTE:

- When the non-upgraded PDBA site (Currently on 17.x) will be upgraded, do the following:
 - a. Perform switchover on the non-upgraded site (Currently on 17.xy) to make it as Standby PDBA.
 - b. The already upgraded site (on EPAP 17.y0) will be the newly Active PDBA.
 - c. Then follow the above table Dual Image Upgrade Phases for Dual PDBonly with live provisioning to perform the upgrade.
- The time needed to back up application data depends on the amount of application data. The duration of this procedure cannot specify an exact length of time to be specified as different customers have different amounts of application data.
- The time needed to restore PDB backup (Mysqldump) depends on the volume of data in the PDB database. The duration of this procedure cannot be specified as different customers have different amounts of application data.
- The time needed to reload EAGLE cards depends on the amount of application data. The duration of this procedure cannot be specified as different customers have different amounts of application data.
- If configuring 4 switches, add 30 minutes to the current setup.
- Configuring auto backup is a compulsory step to enable PDB-RTDB translog pruning. Ignore this step if auto-backup is already configured.

Backout Phases

Note: Before proceeding with the backout process, refer to [section 2.1](#), [section 2.2](#), [section 2.3](#) and [section 2.4](#) to get the overview of the EPAP setup and the backout order.

3.1.14 Backout Phases for Mixed and Non-Provisionable EPAP

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 My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section.
Backout MPS A and B	900	915-930	Backout MPS A and B.		Procedure A.45
Configure Switches	30*	945-960*	Re-configure the switch and verify that EAGLE SM cards are getting auto negotiated to previous speed. Note: Skip this step if speed before upgrade was 1000Mbps/Full Duplex.	Verify that speed of switch is negotiated to previous speed.	Procedure 9

Table 22: Backout Phases for Mixed and Non-Provisionable EPAP

***NOTE:** If configuring 4 switches, add 30 minutes to the current setup.

3.1.15 Backout Phases for Standalone PDB

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 My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section.

Phase	Elapsed Time (Hours or Minutes)		Activity	Impact	Procedure
	This Step	Cum .			
Backout PDBonly site.	600	615-630	Backout MPS A.		Procedure A.46
Start the PDBA software	5	620-635	Re-activate the PDB on the Provisionable(PDBonly) MPS A servers.		Procedure 27

Table 23: Backout Phases for Standalone PDB

Log Files

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

The 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.

4 DB ARCHITECTURE OVERVIEW

A new parameter LSBLSET would be added to DN and DN Block tables from 16.4 onwards. This parameter will be used along with CGPNBLSET parameter on EAGLE that would be configured in the linkset table on EAGLE. If the value of LSBLSET parameter for a DN/DN Block on EPAP is found to match with the CGPNBLSET parameter of linkset table on EAGLE, it will be considered as blocklisted DN/DN Block. IAM message will be released (i.e. send back to originator) from EAGLE for the corresponding DN/DN Block. In all other cases, the existing functionality will continue to hold true.

The existing DN/ DN Block table parameters that are configured in the GUI are stored in multiple SQL tables, the DN table for example has only two parameters dnID and PT(port type) parameters in it.

There are other tables (example dn_bl, dn_asd etc.) which help in storing the other parameters entered in GUI forms for DN and DNBlock.

While entering values write operation, is performed with the help of multiple joins with these supporting tables.

Finally, while displaying these values during retrieve operation the join of all the supporting tables is taken and the values fetched are displayed together.

The new parameter LSBLSET is part of dn_bl table and dnB_bl SQL tables for DN and DN Block respectively. This new parameter will be compatible only with eagle 46.9 release.

From EPAP 16.3 onwards different DB architectures are supported i.e., “Compact” and “Extreme”. This was done to support enhanced DB capacity.

EPAP 16.4 also supports both compact and extreme architecture. Post upgrade user will remain on existing architecture and will have to change the architecture from compact to extreme as an optional step if required. In changing the DB Architecture from “Compact” to “eXtreme”, the EPAP software shall restart to support the capacity expansion. Before the change in DB Architecture on EPAP, the connecting EAGLE must upgrade to the new release with SLIC cards. Also, the user has-to enable the EPAPX feature on eagle card to support the eXtreme feature. Refer to section [4.3](#) to change DB Architecture from Compact to eXtreme.

NOTE: Section [4.2](#) and [4.3](#) are only required if customer setup is on compact architecture and wants to change architecture to extreme. Others i.e. those who are already on extreme architecture or doesn't want to change to extreme architecture can skip these sections.

Overview of DB architecture change from Compact to Extreme

Upgrade from EPAP 16.3.1/16.4.1/17.0 to EPAP 18.0 followed by DB Architecture conversion from Compact to Extreme must be carried out in following order with different MTC window:

Note: This step is required only when EPAP 18.0 and Eagle are to run in eXtreme mode. If EPAP and Eagle are to run in COMPACT mode, skip this section.

Phase-1 (Upgrade the EPAPs to EPAP 18.0 release in COMPACT mode):

NOTE: If the network consists of Non-PROVs and Mixed-EPAP, move to Phase-2 (Change the Mode from COMPACT mode to eXtreme mode for one Non-PROV site) otherwise continue with the following steps if the setup consists of StandAlonePDB + Non-PROVS.

1. First the Standalone PDBs will be upgraded to EPAP 18.0 in COMPACT mode. Refer to [section 3.4](#) for the upgrade process.
2. All non-PROVs should be upgraded to EPAP 18.0 in COMPACT mode. Refer to [section 3.4](#) for the upgrade process.

After this phase all EPAPs in the customer network are in EPAP 18.0 and are working in COMPACT mode.

Phase 2: Change the Mode from COMPACT mode to eXtreme mode for one Non-PROV site:

Execute the procedure in the following sequence.

1. Choose one EPAP-Eagle site from the customer network, which will be converted to eXtreme mode.
2. On the EAGLE, replace all non-SLIC SCCP cards to SLIC 64-bit SCCP cards. Change stpopts:EPAPX ON.
3. On the connecting Non-Prov, change the mode from COMPACT to eXtreme. Refer to [section 4.3](#) to change DB Architecture to eXtreme. The StandalonePDB should remain in COMPACT mode at this stage.
4. Restore RTDB on Non-Prov EPAP-A (refer to [Procedure A.10](#)) and after successfully restored RTDB on EPAP-A(refer to [Procedure A.11](#)), perform reload from mate on Non-Prov EPAP-B. Reload the Eagle from EPAP. Check that the DB downloads and EPAP-Eagle network work normally. Live provisioning flows all the way to Eagle. Let the node soak for some *time-period.

Phase 3: Change the Mode from COMPACT mode to eXtreme mode for whole network:

At this stage, we have seen that EPAP and Eagle are working fine in eXtreme mode. All the remaining Non-PROVs and StandAlone PDBs will be converted to eXtreme mode now. All the remaining Non-PROVs will be converted to eXtreme mode first. After all Non-PROVs are converted to eXtreme, the StandalonePDBs will be converted to eXtreme. For every site, before converting the EPAPs, connected eagles will have EPAPx feature ON.

1. First on the EAGLE, replace all non-SLIC SCCP cards to SLIC 64-bit SCCP cards. Change stpopts:EPAPX ON. Upgrade/Installation Guide 33 of 292 February 2023
2. On the connected Non-Prov, change the mode from Compact to eXtreme. Refer to [section 4.3](#) to change DB Architecture to eXtreme.
3. Reload the RTDB from already converted eXtreme mode RTDB in phase 1. Refer to [Procedure A.11](#).
4. Reload the Eagle SM cards from the EPAP.
5. Repeat steps 1 to 4 for all remaining Non-PROVs in the Customers network

6. Convert the StandalonePDBs to eXtreme mode.

Change DB Architecture from COMPACT to eXtreme to support EAGLE release 46.7.0.0.0(eXtreme feature)

The following table illustrates the progression of the movement of DB Architecture from COMPACT to eXtreme by procedure with estimated times and may vary due to differences in typing ability and system configuration. The procedures outlined in below Table 18 are to be executed in the order they are listed.

Before proceeding with the change DB Architecture process, refer to section 4 and section 5 to get the overview of the DB Architecture and upgrade order.

- Notes:** 1. Skip this section for mixed EPAP as eXtreme feature not supported on mixed EPAP.
2. DB Architecture cannot be reverted to COMPACT once moved to eXtreme architecture.

4.1.1 Phases to change DB Architecture to eXtreme (Standalone PDB)

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Check database before changing DB architecture to eXtreme.	40	40	Check 9dig counts for all DN/IMSI and IMEI before changing DB architecture to eXtreme.	Procedure 17
Change DB Architecture to eXtreme	40	80	Note: Skip this procedure on Mixed EPAP. Change DB Architecture from COMPACT to eXtreme. Note: If parsing gets failed at this stage then user needs to run it manually. Check Procedure A.4 to execute it manually.	Procedure 13
Accept the upgrade after successful soak period	5	This is done in a separate MTC	Accept the upgrade after sufficient soak period of around 1-7 days (depending upon customer provisioning volume) to see that everything works fine after the upgrade.	Procedure 21

Table 24: Phases to change DB Architecture to eXtreme (Standalone PDB)

4.1.2 Phases to change DB architecture to eXtreme (First Non-Prov site)

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Check database before changing DB architecture to eXtreme.	*see notes below	*see notes below	NOTE: Execute this step on attached PDBOnly EPAP if not already executed. Check 9dig counts for all DN/IMSI and IMEI before changing DB architecture to eXtreme.	Procedure 17
Take backup before moving to eXtreme architecture	**See notes below	**See notes below	Take RTDB backup if not already taken, before moving to eXtreme architecture. Note: Skip this step for PDBOnly.	Procedure A.7
Change DB Architecture to eXtreme	5	5	Change DB Architecture from COMPACT to eXtreme Note: EPAPX feature must be "ON" on the connected eagle before procedure 13	Procedure 13
Restore RTDB backup on Non-prov.	240	245	Restore RTDB backup on Non-prov MPS A.	Procedure A.10
Reload RTDB from mate	10	255	Reload RTDB from mate on Non-prov MPS B.	Procedure A.11
Accept the upgrade after successful soak period	5	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 21

Table 25: Phases to change DB Architecture to eXtreme (First Non-prov site)

***NOTE:** The time for checking database will be added for attached PDBOnly EPAP(Added in section 4.2.1).

****NOTE:** The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.

4.1.3 Phases to change DB architecture to eXtreme (Remaining Non-Prov sites)

Phase	Elapsed Time (Minutes)		Activity	Procedure
	This Step	Cum.		
Take backup before moving to eXtreme architecture	*See notes below	*See notes below	Take RTDB backup if not already taken, before moving to eXtreme architecture. Note: Skip this step for PDBonly.	Procedure A.7
Change DB Architecture to eXtreme	5	5	Change DB Architecture from COMPACT to eXtreme Note: EPAPX feature must be "ON" on the connected eagle before procedure 13	Procedure 13
Reload RTDB from remote	10	15	Reload the RTDB from remote(already in eXtreme mode) Note: Remote Non-Prov EPAP must be in eXtreme mode. (Which may be the first Non-Prov site converted in table 19 or any other remote EPAP which is already in eXtreme mode)	Procedure A.11
Reload RTDB from mate	10	25	Reload RTDB from mate on Non-prov MPS B.	Procedure A.11
Accept the upgrade after successful soak period	5	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 21

Table 26: Phases to change DB Architecture to eXtreme (Remaining Non-Prov sites)

***NOTE:** The time needed to backup application data is dependent on the amount of application data. This procedure cannot specify an exact length of time since different customers have different amounts of application data.

5 UPGRADE PREPARATION

Setting up the upgrade environment

Procedure 1: Setting up the upgrade environment

S T E P #	This procedure sets up the upgrade environment. Windows are opened for both MPS servers. NOTE: Call My Oracle Support for assistance if modem access is the method use for 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 <u>UPGRADE ASSISTANCE</u>.		
1.	<table border="1"> <tr> <td data-bbox="260 712 539 1059"> Upgrade can be done in two ways: A. Remotely B. Locally </td><td data-bbox="547 712 1513 1059"> Refer to Step 2 to 6 for executing remotely. Refer to Step 7 to 19 for executing locally. </td></tr> </table>	Upgrade can be done in two ways: A. Remotely B. Locally	Refer to Step 2 to 6 for executing remotely. Refer to Step 7 to 19 for executing locally.
Upgrade can be done in two ways: A. Remotely B. Locally	Refer to Step 2 to 6 for executing remotely. Refer to Step 7 to 19 for executing locally.		
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3.	<table border="1"> <tr> <td data-bbox="260 1731 539 1823"> Access to the MPS servers is available </td><td data-bbox="547 1731 1513 1823"> If not already logged-in, then log in. <code><hostname> console login: admusr</code> </td></tr> </table>	Access to the MPS servers is available	If not already logged-in, then log in. <code><hostname> console login: admusr</code>
Access to the MPS servers is available	If not already logged-in, then log in. <code><hostname> console login: admusr</code>		

Procedure 1: Setting up the upgrade environment

	through an IP network. Step 3 and 4 provide console access to MPS-B from a remote location. MPS A: Log in to the server as user "admusr".	Password: <password>
4.	MPS A: Start screen session MPS A: Connect to the console of MPS B.	Execute the following commands to start screen and establish a console session to MPS B. <pre>\$ screen -L</pre> Execute the following command on E5-APP-B or APPD: <pre>\$ sudo minicom mate</pre> Note: Now user is connected to the console of MPS-B from a remote location.
5.	Step 5 and 6 provide console access to MPS-A from a remote location. MPS B: Log in to the server as user "admusr".	If not already logged-in, then log in. <pre><hostname> console login: admusr Password: <password></pre>
6.	MPS B: Start screen session MPS B: Connect to the console of MPS A. Note down the timestamp in log.	Execute the following commands to start screen and establish a console session to MPS A. <pre>\$ screen -L</pre> Execute the following command on E5-APP-B or APPD: <pre>\$ sudo minicom mate</pre> Run the following command: <pre>\$ date</pre> Note: Now user is connected to the console of MPS-A from a remote location. Note: If upgrade is to be performed from a remote location skip rest of the procedure. If upgrade is to be performed locally then follow step 7 to 19.

Procedure 1: Setting up the upgrade environment

7.	Ensure MPS X: All the console/PuTTY Sessions.	On all the console/PuTTY sessions, make sure that the logging is enabled and logs are written to a file. For example, on a PuTTY session, do the following. 1. Right click on the top bar in the PuTTY and choose “change setting”. 2. Click on “Logging”. 3. Select “Printable output”. 4. Click on “Browse” and choose where you want the logs to be written so that you can collect those later, if needed. Put a name which will serve better on a later date to understand, for example, name of the log file can be <server name>_active_pdba_A_server_puttylog_ddmmyyyy. 5. Click on “Save”. 6. Type a text “Putty Logging starts” in the PuTTY session and check that above text is logged in the PuTTY log file. Repeat the above six steps on every console/PuTTY session that will be used to enter commands or execute procedure of this document.
8.	Establish a connection to MPS A.	Access to the MPS servers is not available through an IP network, Connect to the APPD card via the serial port For connecting the APPD A card, disconnect the console cable from the serial port on the APPD B card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the APPD B card’s adapter and use it for serial access by connecting the serial cable to the customer laptop’s serial port. Cable part numbers - 830-1220-xx
9. ☐	Create a terminal window for MPS A. Note: Steps 9 to 12 make the serial connection to MPS-A	Create a terminal window e.g. open a putty session on the workstation and give it a title of “ MPS A ”
10. ☐	MPS A: Enable capture file and verify the correspondent file is created.	Enable the data capture and verify that the data capture file is created at the path specified.
11. ☐	Log into MPS A.	<hostname> console login: admusr password: <password>
12. ☐	MPS A: Start screen Session.	Execute the following command to start screen and establish a console session with MPS A. \$ screen -L If for Standalone PDB, the procedure is complete. Otherwise, continue with the next step.

Procedure 1: Setting up the upgrade environment

13. ☐	Establish a connection to MPS B. Note: Steps 13 to 17 make the serial connection to MPS-B	Access to the MPS servers is not available through an IP network, connect to the APPD card via the serial port. For connecting the APPD B card, disconnect the console cable from the serial port on the APPD A card's adapter. The cable should be disconnected at the point where it connects to the serial port labeled 'S1' on the APPD A card's adapter and use it for serial access by connecting the serial cable to the customer laptop's serial port. Cable part numbers - 830-1220-xx
14. ☐	Create a terminal window for MPS B.	Create a terminal window e.g. open a putty session on the workstation and give it a title of "MPS B"
15. ☐	MPS B: Enable capture file and verify a correspondent file is created.	Enable the data capture and verify that the data capture file is created at the path specified.
16. ☐	Log into MPS B.	<hostname> console login: admusr password: <password>
17. ☐	MPS B: Start screen Session.	Execute the following command to start screen and establish a console session with MPS B. \$ screen -L
18. ☐	MPS A and B: Procedure Complete.	This procedure is complete.
19. ☐	Note down the timestamp in log.	Run the following command: \$ date

Determine if upgrade or installation is required

Procedure 2: Determine if upgrade or installation is required

S T E P #	This procedure executes the steps required to determine if an upgrade of the system is required or an initial application installation is required. 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 UPGRADE <u>ASSISTANCE</u> .	
1. ☐	MPS A: Log in to MPS A.	If not already logged-in, login at MPS A as 'admusr'. <hostname> console login: admusr password: <password> .
2.	MPS B: Log in to MPS B.	If not already logged-in, login at MPS B as 'admusr'.

Procedure 2: Determine if upgrade or installation is required

☐		<pre><hostname> console login: admusr password: <password></pre>
3. ☐	MPS B: 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 TKLCepap</pre> <pre>Name : TKLCepap Version : 180.0.2 Release : 18.0.0.0.0_180.2.0 Architecture: x86_64 Install Date: Mon 30 Mar 2026 07:59:03 AM EDT Group : Development/Build Size : 192759935 License : TEKELEC 2005-2024 Signature : (none) Source RPM : TKLCepap-180.0.2-18.0.0.0.0_180.2.0.src.rpm Build Date : Wed 25 Mar 2026 08:32:59 AM EDT Build Host : epap-appd-dev-tpd-150-22-0 Relocations: (not relocatable) Packager : <@tekelec.com> Vendor : Tekelec URL : http://www.tekelec.com/ Summary : Oracle Communications EPAP Package Description:</pre> This is the Oracle Communications EAGLE Application Processor(EPAP) Package. The Package installs EPAP software. EPAP provides Provisioning Database Application (PDBA) and Real Time Database (RTDB). In case of PDBonly, there will be no RTDB, only PDB will reside on A side. In case of Mixed server, both PDB and RTDB will reside on A side and only RTDB will reside on B side. In case of Non-Prov server, only RTDB will reside on both A and B side.
4. ☐	MPS B: Observe the output from the rpm query.	The following is an example of what the output may look like: <pre>\$ appRev</pre> <pre>Install Time: Mon Mar 30 08:14:39 2026 Product Name: EPAP Product Release: 18.0.0.0.0_180.2.0 Base Distro Product: TPD</pre>

Procedure 2: Determine if upgrade or installation is required

		Base Distro Release: 8.10.1.11.0_150.25.0 Base Distro ISO: TPD.install-8.10.1.11.0_150.25.0-OracleLinux8.10-x86_64.iso ISO name: EPAP-18.0.0.0.0_180.2.0-x86_64.iso OS: OracleLinux 8.10 If the output similar-to the above example is displayed, then skip to step 6. Otherwise, proceed to the next step.
5. ☐	MPS B: Installation is required if the application is not present on the server, else upgrade is required.	If the application is not currently installed, output similar-to the example below will be returned from the rpm -qi command in step-3. If this is the case, then an application installation is required. Refer to section 3.1.1 to perform EPAP installation. <pre>\$ rpm -qi TKLCepap package TKLCepap is not installed</pre> Skip to step 10.
6. ☐	MPS B: Determine which version of the application is present.	Write Down the Release Number: Release Number: _____ If the release number on the MPS is less than the release number on the upgrade media, then an upgrade is required.
7. ☐	Determine if Full Upgrade is required.	If the current release is 16.3.x/16.4.x/17.0.0.x/17.1.x and target release is 18.0.0.x, it is a FULL UPGRADE .
8. ☐	Determine if an Dual Image Upgrade is required.	If the current release is 18.0.x.x and target release is 18.0.y.y , it is a Dual Image Upgrade .
9. ☐	MPS A: Determine if it is Provisionable (either mixed-EPAP or PDBonly) or Non-Provisionable EPAP setup.	Execute the following command to determine if the EPAP is Provisionable(either mixed-EPAP or PDBonly) or Non-Provisionable. <pre>\$ uiEdit grep "PROVISIONABLE" "PROVISIONABLE_MPS" is set to "YES"</pre> If the above output contains "YES", then the EPAP is Provisionable(either mixed-EPAP or PDBonly). Otherwise, the EPAP is Non-Provisionable. Write down this information. EPAP setup type: _____

Procedure 2: Determine if upgrade or installation is required

10. ☐	MPS B: Determine if the current DB Architecture is compact or extreme. (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 the following command to determine if the EPAP DB Architecture is Extreme or Compact. <pre>\$ uiEdit grep "DB_ARCHITECTURE" "DB_ARCHITECTURE" is set to "COMPACT"</pre> If the above output contains "COMPACT" or no output is displayed, then the EPAP DB Architecture is Compact. If the above output contains "EXTREME", then the EPAP DB Architecture is Compact. Write down this information. EPAP DB Architecture type: _____ Based on this information DB converter will be run.
11. ☐	MPS A and B: Procedure Complete.	This procedure is complete.
12. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Pre-upgrade requirements

Procedure 3: Verifying Pre-Upgrade Requirements and Capturing Upgrade Data

S T E P #	This procedure verifies that all pre-upgrade requirements have been met. 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 UPGRADE ASSISTANCE.	
1. ☐	Verify all required materials are present.	Verify that the materials listed in Upgrade Material List (Section 3.2) are present.
2. ☐	Verify the availability of passwords for MPS systems.	Refer to Table 6 for the list of users.
3. ☐	Review provisioning rules.	Please review the Provisioning information as defined in Section 3.1 . If you do not understand the information provided in this section, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section
4. ☐	Verify and close active GUI Sessions. On the menu, click User Administration->HTTP(s) Support->Terminate UI Sessions	Skip this step for fresh install. Login to EPAP GUI as uiadmin user. Terminate all the active GUI sessions from EPAP GUI.

		A Terminate Active UI Sessions <table><thead><tr><th>Delete?</th><th>Session Id</th><th>User Id</th><th>User Name</th><th>Admin</th><th>IP Addr</th><th>Last Access</th></tr></thead><tbody><tr><td>☐</td><td>44</td><td>99</td><td>wadmin</td><td>YES</td><td>10.250.32.216</td><td>2017-06-20 07:04:11</td></tr><tr><td>☐</td><td>45</td><td>99</td><td>wadmin</td><td>YES</td><td>10.250.32.216</td><td>2017-06-20 07:04:20</td></tr><tr><td>☐</td><td>46</td><td>99</td><td>wadmin</td><td>YES</td><td>10.250.32.216</td><td>2017-06-20 07:04:33</td></tr></tbody></table> Delete Selected Active Session Select all sessions and click on “Delete Selected Active Session” to delete all active sessions.	Delete?	Session Id	User Id	User Name	Admin	IP Addr	Last Access	☐	44	99	wadmin	YES	10.250.32.216	2017-06-20 07:04:11	☐	45	99	wadmin	YES	10.250.32.216	2017-06-20 07:04:20	☐	46	99	wadmin	YES	10.250.32.216	2017-06-20 07:04:33
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☐	44	99	wadmin	YES	10.250.32.216	2017-06-20 07:04:11																								
☐	45	99	wadmin	YES	10.250.32.216	2017-06-20 07:04:20																								
☐	46	99	wadmin	YES	10.250.32.216	2017-06-20 07:04:33																								
5. ☐	Procedure Complete.	This procedure is complete.																												
6. ☐	Note down the timestamp in log.	Run the following command: \$ date																												

System Health check

Procedure 4: System Health Check

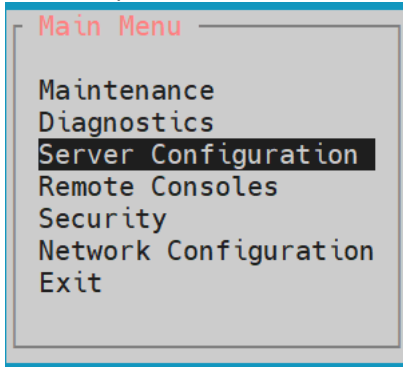
S T E P #	This procedure determines the health of the MPS System before beginning an upgrade. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR UPGRADE ASSISTANCE.	
1. ☐	MPS A: Verify health of MPS A.	Execute Procedure A.1 on MPS A to verify the health of MPS A.
2. ☐	MPS B: Verify health of MPS B.	Execute Procedure A.1 on MPS B to verify the health of MPS B.
3. ☐	Check disk size for Active and Standby PDBA.	Active and Standby PDBA should have the same disk size i.e. 300G or 480G. If the disk sizes are not the same, please contact Oracle Support before proceeding further. Run the following command: <pre># fdisk -l grep disk -i Disk /dev/sda: 447.1 GiB, 480103981056 bytes, 937703088 sectors Disklabel type: gpt Disk identifier: 7BCD8D33-BF69-421C-BB2B-D0BDA8CB97C8 Disk /dev/sdb: 447.1 GiB, 480103981056 bytes, 937703088 sectors Disklabel type: gpt</pre>
4. ☐	Procedure Complete.	This procedure is complete.
5. ☐	Note down the timestamp in log.	Run the following command: \$ date

6. SOFTWARE INSTALLATION PROCEDURES

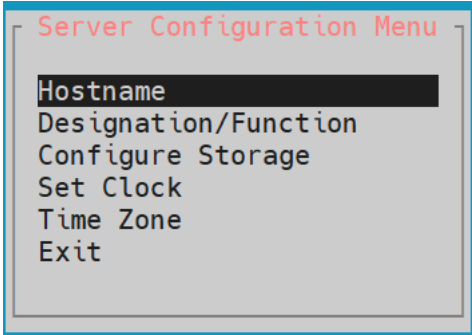
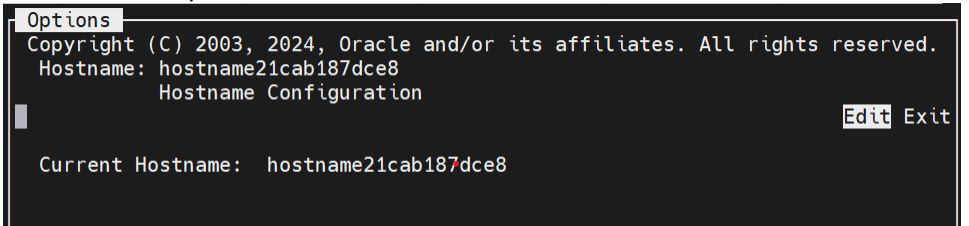
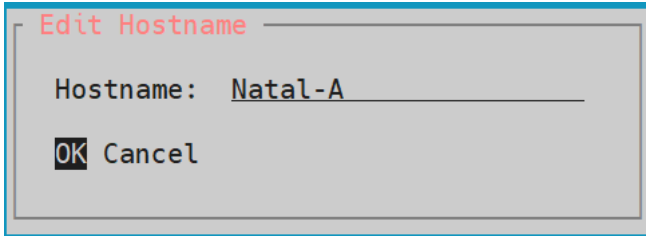
Pre install configuration and initial installation of EPAP can be done on any of the server in the mated pair in any order. These operations can be done simultaneously on both the servers.

Pre-Install configuration on server A

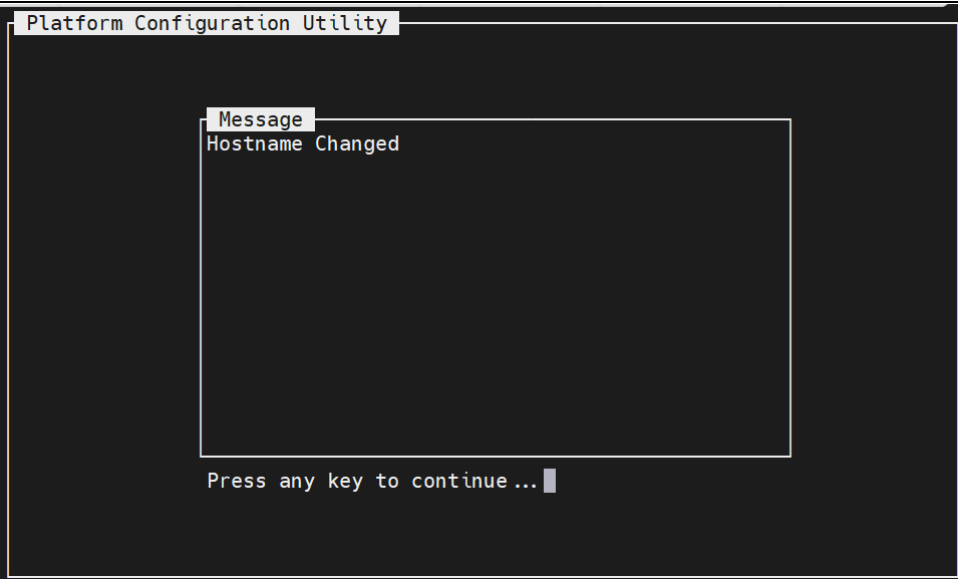
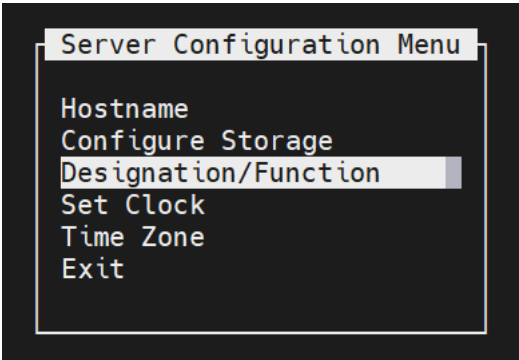
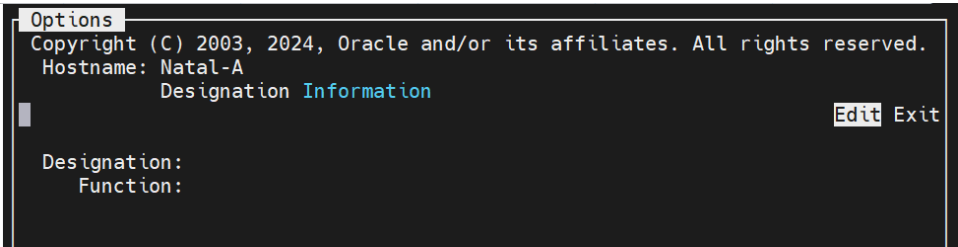
Procedure 5: Pre-Install Configuration on Server A

STEP #	This procedure provides instructions to perform pre-configuration for an initial install of the application.	
	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.	
IMPORTANT: Installation of the Operating System on an Oracle Application Server should be completed before starting installation procedure. Refer to Procedure A.13 or [4] for TPD installation guide.		
1. ☐	Connect to the Server.	If not already connected, connect to the APPD card via the serial port. For connecting the APPD A card, disconnect the console cable from the serial port on the APPD B card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the APPD B card’s adapter and use it for serial access. Cable part numbers - 830-1220-xx
2. ☐	Log in as “admusr” user.	If not already logged in, then login as “admusr”: [hostname] consolelogin: admusr password: password
3. ☐	Start platcfg utility.	\$ sudo su - platcfg
4. ☐	Navigate to the Server Configuration screen.	Select Server Configuration and press [ENTER] 
5. ☐	Navigate to the Hostname screen.	Select Hostname and press [ENTER]

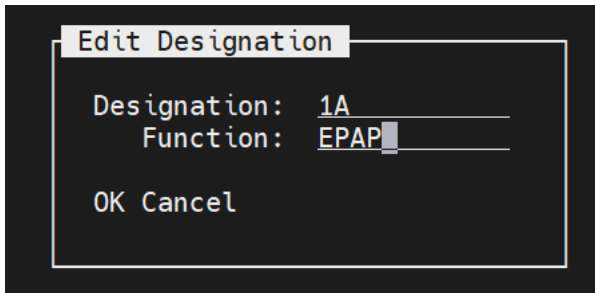
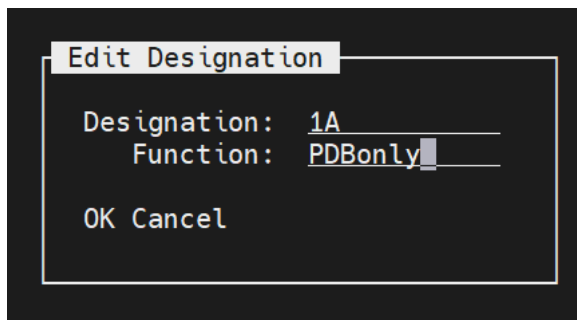
Procedure 5: Pre-Install Configuration on Server A

		
6. ☐	Select Edit to edit the hostname.	Select Edit and press [ENTER] 
7. ☐	Enter the hostname and press ok.	Delete the default entry and enter the Hostname as mps-xxxx-a where xxxx is the last 4 digits of server serial number. Press OK when done.  While connected to the serial console, some console output might come when the user is using the serial console to configure the EPAP. Those serial output are harmless and can be ignored.
8. ☐	Exit Back to the Server Configuration Menu.	Press any key to exit back to the Server Configuration Menu. Verify that the hostname has been properly set.

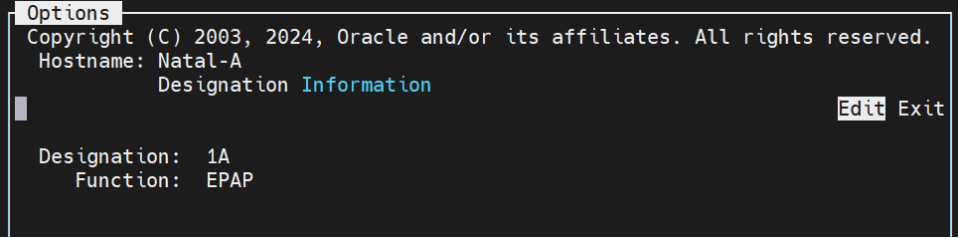
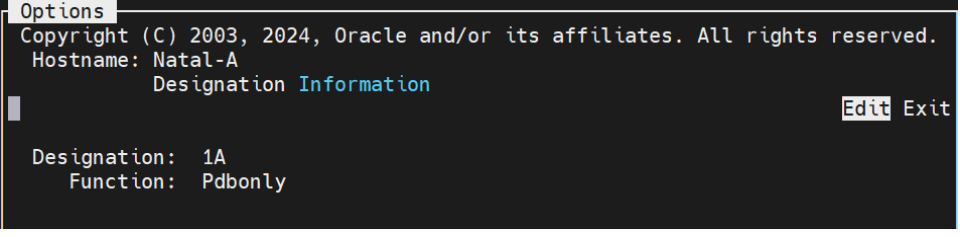
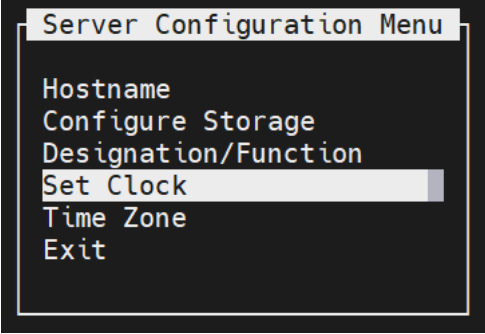
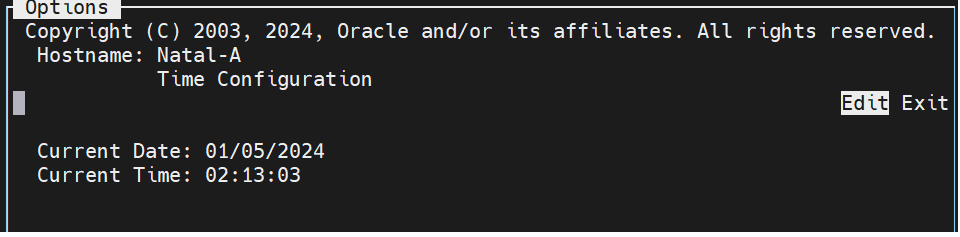
Procedure 5: Pre-Install Configuration on Server A

		
9. ☐	Navigate to the Designation/Function menu option.	Select Designation/Function and press [ENTER] 
10. ☐	View the current designation and function.	The screen will show the current designation and function setting. On initial install, these fields are blank. 

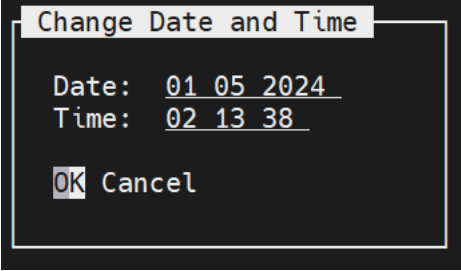
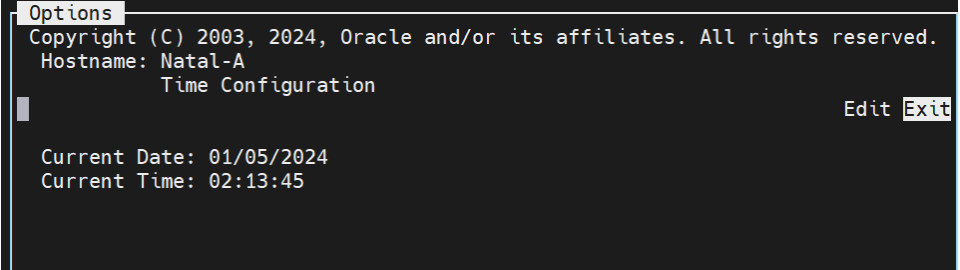
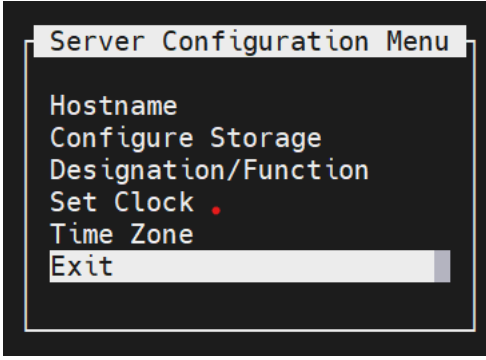
Procedure 5: Pre-Install Configuration on Server A

		If not blank, the values should be as follows for Mixed EPAP and Non-Provisional EPAP: 1. The Designation is “1A” for the A server 2. The Function field should be set to EPAP. If not blank, the values should be as follows for Standalone PDB. 1. The Designation is “1A” for the A server 2. The Function field should be set to PDBonly. If both the fields are blank or 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.
11. ☐	View the current designation and function.	Skip to Step 13 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]. For Mixed EPAP or Non-Provisional EPAP, the following is a correct example:  For Standalone PDB, the following is a correct example: 

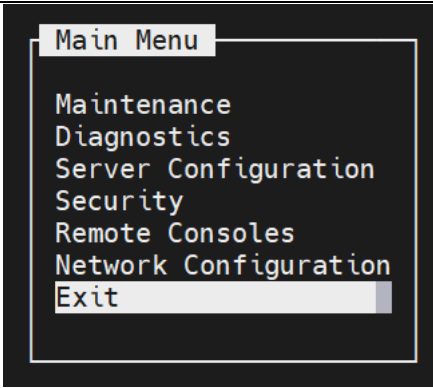
Procedure 5: Pre-Install Configuration on Server A

12. ☐	Verify that the Designation and Function information is correct then select and press “Exit”.	For Mixed EPAP or Non-Provisional EPAP, the following is a correct example:  For Standalone PDB, the following is a correct example: 
13. ☐	Select “Set Clock” Menu.	
14. ☐	1) Select “Edit” from the options dialogue box. 2) Using an NTP source, set the Date/Time to be correct for the Eastern Time zone (GMT -5) and press “OK”. NOTE: All systems default to Eastern time post IPM. It is	

Procedure 5: Pre-Install Configuration on Server A

	important to set the time for the Eastern Time zone at this time.	
15. ☐	Verify that the Date and Time is correct then select and press "Exit".	
16. ☐	Exit from platcfg menu.	Select EXIT until the platcfg menu is closed and the command line is displayed. 

Procedure 5: Pre-Install Configuration on Server A

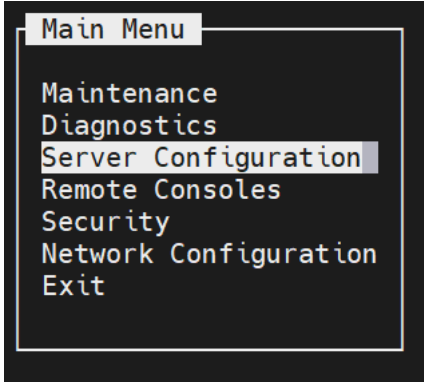
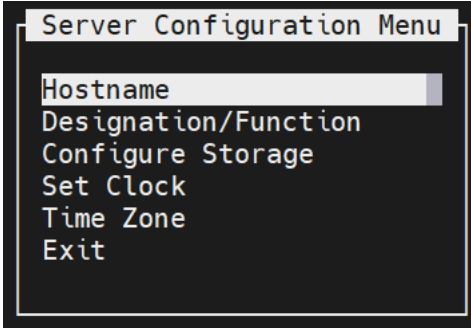
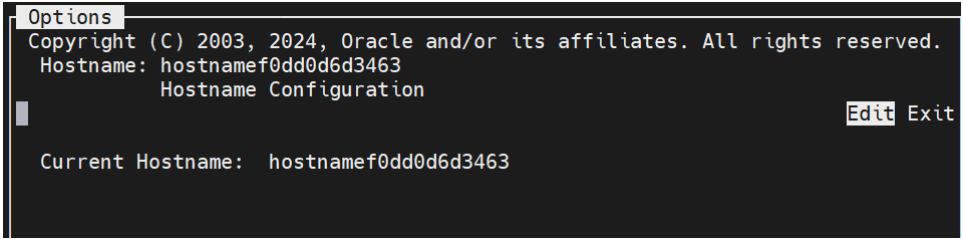
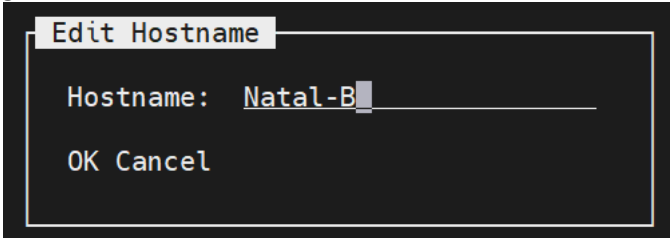
			
17. ☐	Reboot the Server.	\$ sudo reboot	
18. ☐	Procedure complete.	Procedure is complete.	
19. ☐	Note down the timestamp in log.	Run the following command: \$ date	

Pre-Install configuration on server B

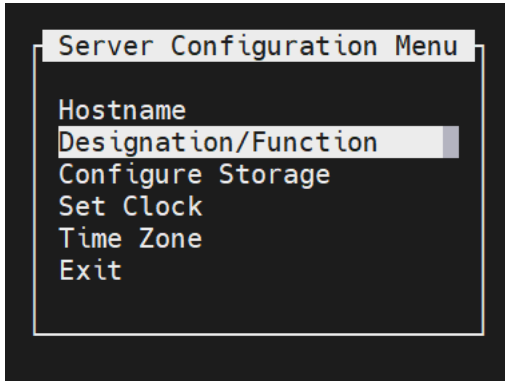
Procedure 6: Pre-Install Configuration on Server B

S T E P #	This procedure provides instructions to perform pre configuration for an initial install of the application. 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.		
	IMPORTANT: Installation of the Operating System on an Oracle Application Server should be completed before starting installation procedure. Refer to Procedure A.13 or [4] for TPD installation.		
	1. ☐	Connect to the Server.	If not already connected, connect to the APPD card via the serial port. For connecting the APPD B card, disconnect the console cable from the serial port on the APPD A card's adapter. The cable should be disconnected at the point where it connects to the serial port labeled 'S1' on the APPD A cards' adapter and use it for serial access. Cable part numbers - 830-1220-xx
2. ☐	Log in as "admusr" user.	If not already logged in, then login as 'admusr': [hostname] consolelogin: admusr password: password	
3.	Start platcfg utility.	\$ sudo su - platcfg	

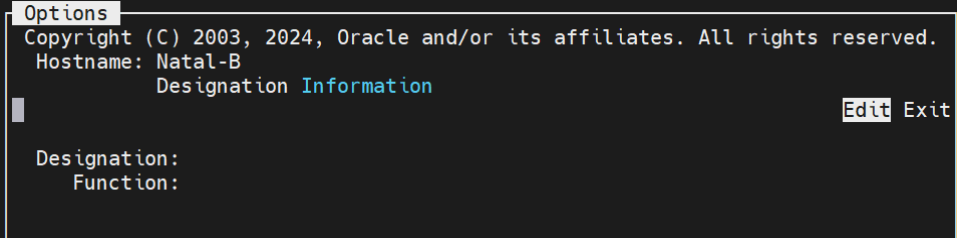
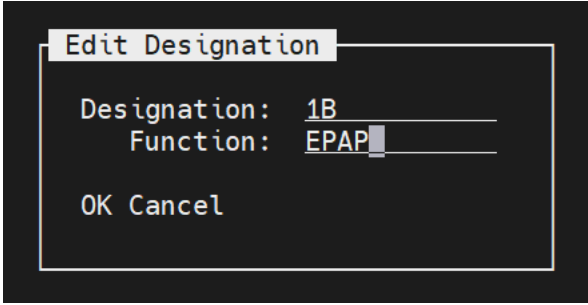
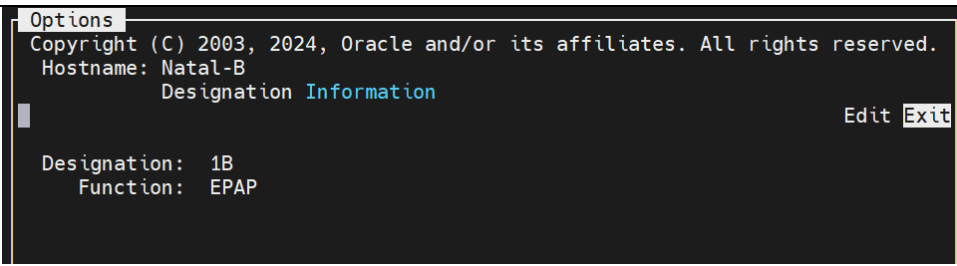
Procedure 6: Pre-Install Configuration on Server B

☐		
4. ☐	Navigate to the Server Configuration screen.	Select Server Configuration and press [ENTER]  The screenshot shows a 'Main Menu' with the following options: Maintenance, Diagnostics, Server Configuration (highlighted), Remote Consoles, Security, Network Configuration, and Exit.
5. ☐	Navigate to the Hostname screen.	Select Hostname and press [ENTER]  The screenshot shows a 'Server Configuration Menu' with the following options: Hostname (highlighted), Designation/Function, Configure Storage, Set Clock, Time Zone, and Exit.
6. ☐	Select Edit to edit the hostname.	Select Edit and press [ENTER]  The screenshot shows an 'Options' screen with the following text: Copyright (C) 2003, 2024, Oracle and/or its affiliates. All rights reserved. Hostname: hostnamef0dd0d6d3463. Hostname Configuration. Edit Exit. Current Hostname: hostnamef0dd0d6d3463.
7. ☐	Enter the hostname and press ok.	Delete the default entry and enter the Hostname as mps-xxxx-b where xxxx is the last 4 digits of server serial number. Press OK when done.  The screenshot shows an 'Edit Hostname' screen with the following text: Hostname: Natal-B (highlighted). OK Cancel.

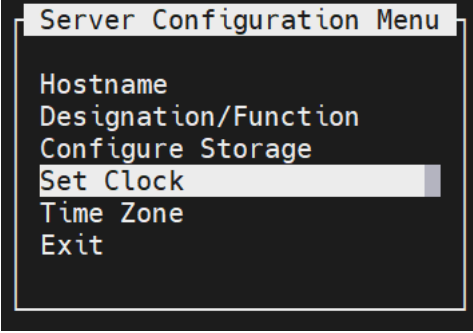
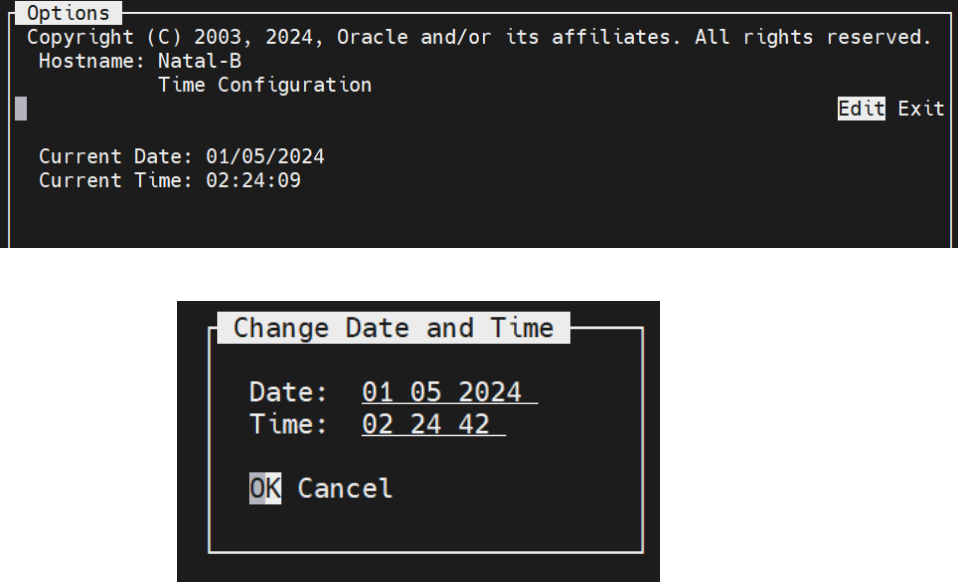
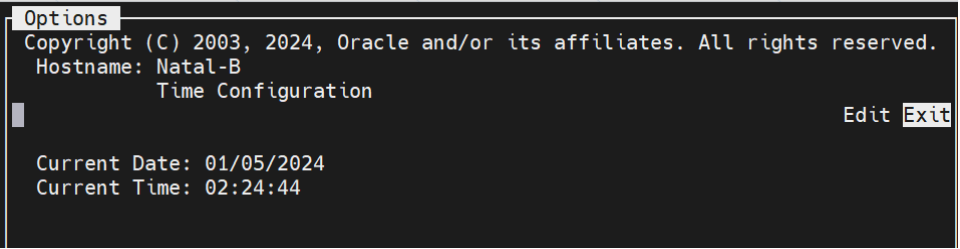
Procedure 6: Pre-Install Configuration on Server B

		While connected to the serial console, some console output might come when the user is using the serial console to configure the EPAP. Those serial output are harmless and can be ignored.
8. ☐	Exit Back to the Server Configuration Menu.	Press any key to exit back to the Server Configuration Menu. Verify that the hostname has been properly set. 
9. ☐	Navigate to the Designation/Function menu option.	Select Designation/Function and press [ENTER] 
10. ☐	View the current designation and function.	The screen will show the current designation and function setting. On initial install, these fields are blank.

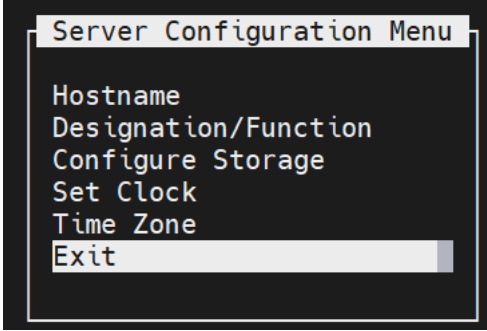
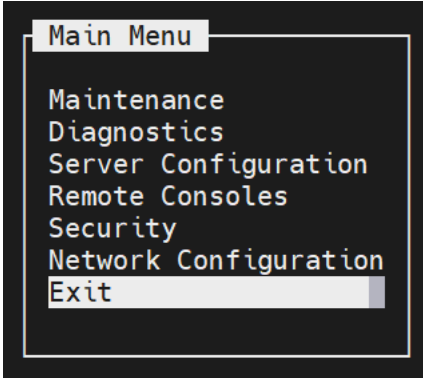
Procedure 6: Pre-Install Configuration on Server B

		 If not blank the values should be as follows for Mixed EPAP and Non-Provisional EPAP: 1. The Designation is “1B” for the B server 2. The Function field should be set to EPAP. 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.
11. ☐	View the current designation and function.	Skip to Step 13 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]. 
12. ☐	Verify that the Designation and Function information is correct then select and press “Exit”.	

Procedure 6: Pre-Install Configuration on Server B

13. ☐	Select "Set Clock" Menu.	
14. ☐	1) Select "Edit" from the options dialogue box. 2) Using an NTP source, set the Date/Time to be correct for the Eastern Time zone (GMT -5) and press "OK". NOTE: All systems default to Eastern time post IPM. It is important to set the time for the Eastern Time zone at this time.	
15. ☐	Verify that the Date and Time is correct then select and press "Exit".	
16. ☐	Exit from platcfg menu.	Select EXIT until the platcfg menu is closed and the command line is displayed.

Procedure 6: Pre-Install Configuration on Server B

		 
17. ☐	Reboot the Server.	\$ sudo reboot
18. ☐	Procedure complete.	Procedure is complete.
19. ☐	Note down the timestamp in log.	Run the following command: \$ date

Install Application on server B

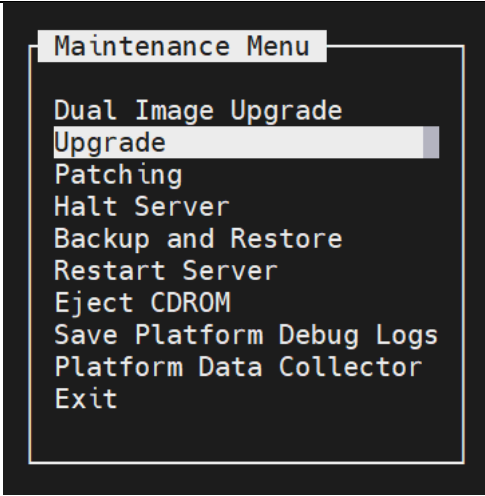
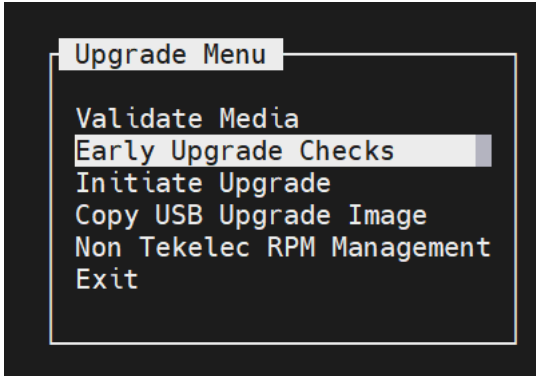
Procedure 7: Install the Application on Server B

S T E P #	This procedure installs the application on the server. 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. ☐	MPS B: Install 1B. Perform Procedure in Procedure A.12 or copy EPAP 16.3 ISO to /var/TKLC/upgrade directory.

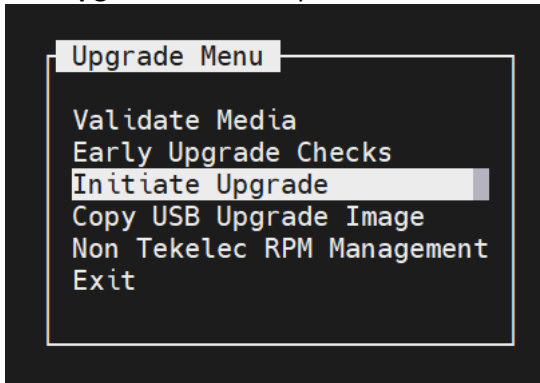
Procedure 7: Install the Application on Server B

2. ☐	Create a terminal window log into MPS B.	If not already connected, connect to the APPD card via the serial port. For connecting the APPD B card, disconnect the console cable from the serial port on the APPD A card's adapter. The cable should be disconnected at the point where it connects to the serial port labeled 'S1' on the APPD A card's adapter and use it for serial access. Cable part numbers - 830-1220-xx
3. ☐	MPS B: Login prompt is displayed.	<hostname> console login: Note: Hit enter if no login prompt is displayed.
4. ☐	MPS B: log in as "admusr" user.	[hostname] consolelogin: admusr password: password
5. ☐	MPS B: Start platcfg utility.	\$ sudo su - platcfg
6. ☐	MPS B: Navigate to the Upgrade menu.	The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER]. <pre> Main Menu ----- Maintenance Diagnostics Server Configuration Remote Consoles Security Network Configuration Exit </pre> Select the Upgrade menu and press [ENTER].

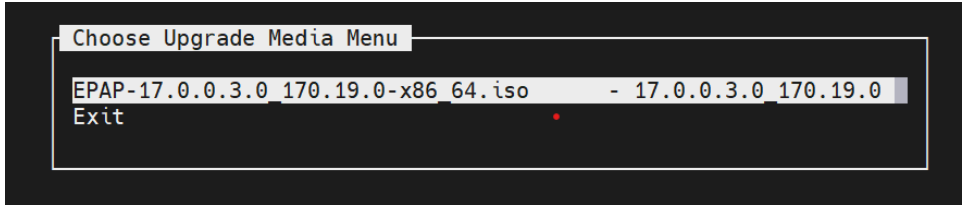
Procedure 7: Install the Application on Server B

			
7. ☐	MPS X: Validate ISO file.	Validate ISO file using Procedure A.2.	
8. ☐	MPS A: Select Early Upgrade Checks	Select the “Early Upgrade Checks” menu to verify that the system is ready for upgrade.  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.	

Procedure 7: Install the Application on Server B

		<pre> Early Checks failed for the next upgrade Look at earlyChecks.log for more info tarting Early Upgrade Checks at 1011413059 Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::TPDEarlyChecks upgrade policy... Verified server is not pending accept of previous upgrade ERROR: Raid mirrors are syncing! ERROR: md2 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 1011413059 [admusr@epappri ~]\$ cat /proc/mdstat Personalities : [raid1] md1 : active raid1 sdb2[1] sda2[0] 262080 blocks super 1.0 [2/2] [UU] md2 : active raid1 sda1[0] sdb1[1] 468447232 blocks super 1.1 [2/2] [UU] [====>.....] resync = 29.7% (139377920/468447232) finish=73.0min speed=75060K/sec bitmap: 4/4 pages [16KB], 65536KB chunk unused devices: <none> </pre> Contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section, if the early upgrade checks fail due to any other reason.
9. ☐	MPS A: Navigate to the Initiate Upgrade menu	Select the Initiate Upgrade menu and press [ENTER]. 
10. ☐	MPS B: Select the Upgrade Media.	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].

Procedure 7: Install the Application on Server B

		
11. ☐	MPS B: Upgrade proceeds.	The screen displays the following, indicating that the upgrade software is first validating the media, and then proceeding with the upgrade. <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>
12. ☐	MPS B: Upgrade proceeds.	Many informational messages appear on the terminal screen as the upgrade proceeds. The messages are not shown here for clarity sake. When installation is complete, the server reboots.
13. ☐	MPS B: Upgrade completed.	After the final reboot, the screen displays the login prompt as in the example below. <pre>Starting atd: [OK] ~~ /etc/rc4.d/S98ExQueue start ~~ ExQueue started. Starting TKLCe5appb: [OK] Checking network config files: [OK] Daemon is not running... AlarmMgr daemon is not running, delaying by 1 minute ~~ /etc/rc4.d/S99Epap start ~~ EPAP configuration data not found. Exiting... ~~ /etc/rc4.d/S99Pdba start ~~ EPAP configuration data not found. Exiting... Starting smartd: [OK] Daemon is not running... AlarmMgr daemon is not running, delaying by 1 minute TPDhpDiskStatus stop/pre-start, process 5527 TKLChwmgmtcli stop/pre-start, process 5508 Oracle Linux Server release 6.9 Kernel 2.6.32-642.6.2.el6prere17.4.0.0.0_88.32.0.x86_64 on an x86_64</pre>

Procedure 7: Install the Application on Server B

14. ☐	MPS B: log in as "epapdev" user.	[hostname] console login: epapdev password: password
15. ☐	MPS B: Check the Upgrade log.	Examine the upgrade logs in the directory /var/TKLC/log/upgrade and verify that no errors and warnings were reported. \$ grep -i error /var/TKLC/log/upgrade/upgrade.log Check the output of the upgrade log. Contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section, if the output contains any error except the following: <pre>[root@Salta-B core]# grep -i error /var/TKLC/log/upgrade/upgrade.log 1673985608::ERROR: run-r1841b65093e14801be5696ea62d92ac2 is not recognized as a systemd service! 1673985608::ERROR: Could not stop run- r1841b65093e14801be5696ea62d92ac2! 1673985608::ERROR: service_conf reconfig failed! [root@Salta-B core]#</pre> \$ grep -i warning /var/TKLC/log/upgrade/upgrade.log Examine the output of the above command to determine if any warnings were reported. Contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section, if the output contains any warnings beside the following: <pre>[root@Salta-B core]# grep -i error /var/TKLC/log/upgrade/upgrade.log 1673985608::ERROR: run-r1841b65093e14801be5696ea62d92ac2 is not recognized as a systemd service! 1673985608::ERROR: Could not stop run- r1841b65093e14801be5696ea62d92ac2! 1673985608::ERROR: service_conf reconfig failed! [root@Salta-B core]# grep -i warning /var/TKLC/log/upgrade/upgrade.log 1673985030:* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/free".</pre>

Procedure 7: Install the Application on Server B

		<pre> 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/free". 1673985033::useradd: warning: the home directory already exists. 1673985476::2023-01-17T19:57:57.683121Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.683144Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1.1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.808924Z 6 [Warning] [MY-010453] [Server] root@localhost is created with an empty password ! Please consider switching off the --initialize-insecure option. 1673985551::WARNING: A new file was added to xml alarm files...reparsing xml... 1673985551::WARNING: FILE: /usr/TKLC/plat/etc/alarms/alarms_mps.xml 1673985571::TKLCepap-HA #####warning: group root} does not exist - using root [root@Salta-B core]# </pre>
16.	☐ MPS B: Check that the upgrade completed successfully.	<pre>\$ grep "Upgrade returned success" /var/TKLC/log/upgrade/upgrade.log</pre>
17.	☐ MPS B: Check that the upgrade completed successfully.	Verify that the message "Upgrade returned success!" is displayed. If it is not, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section. <pre>1399367207:: Upgrade returned success!</pre>
18.	Login to MPS B via epapdev user and go to directory /usr/TKLC/epap/bin and execute the following command: ./mysql_setup.pl	<pre>[epapdev@Salta-B ~]# ./mysql_setup.pl</pre>
19.	☐ MPS B: Login to MPS B via root user and update ssh_config	<pre>Switch to root user., \$su - <root Password></pre>

Procedure 7: Install the Application on Server B

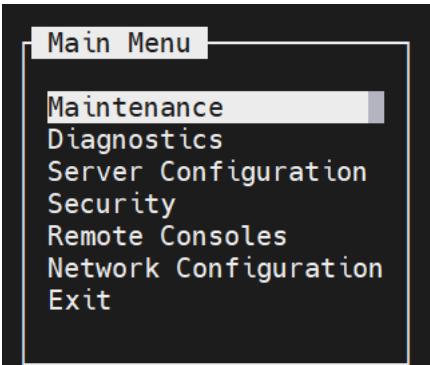
	to disable MD5 and MAC algorithm for security	Perform following steps to disable unsecure algorithm for ssh: 1. \$ grep "MACs hmac-md5,hmac-md5-96," /etc/ssh/ssh_config If output contains "MACs hmac-md5,hmac-md5-96", execute the below steps 2, 3 and 4. Else go to step 5. 2. \$ rcstool co /etc/ssh/ssh_config 3. \$ sed -i -e '/MACs hmac-md5,hmac-md5-96,hmac-sha1-96/d' /etc/ssh/ssh_config 4.\$ rcstool ci /etc/ssh/ssh_config 5. \$ grep "MACs hmac-sha2-256,hmac-sha2-512" /etc/ssh/sshd_config If no output is displayed for above command continue to next command in steps else skip these steps 6. \$ rcstool co /etc/ssh/sshd_config 7. \$ sed -i '\$ a \\tMACs hmac-sha2-256,hmac-sha2-512' /etc/ssh/sshd_config 8. \$ rcstool ci /etc/ssh/sshd_config 9. \$ systemctl restart sshd
20. ☐	Update the httpd.conf file to disable the Cache control no-store policy.	Perform the following steps to disable Cache control no-store policy: 1. \$ grep "Header set Cache-Control no-store" /etc/httpd/conf/httpd.conf If the output contains "Header set Cache-Control no-store", Execute the below steps. If no output is displayed for the above command, skip the steps mentioned below. 2. \$ sudo sed -i '/Cache-Control no-store/c/#Header set Cache-Control no-store' /etc/httpd/conf/httpd.conf 3. \$ grep "Header set Cache-Control no-store" /etc/httpd/conf/httpd.conf The output should be "#Header set Cache-Control no-store" showing that the line has been commented.
21. ☐	MPS B: Install Complete.	Install Procedure is complete.

Procedure 7: Install the Application on Server B

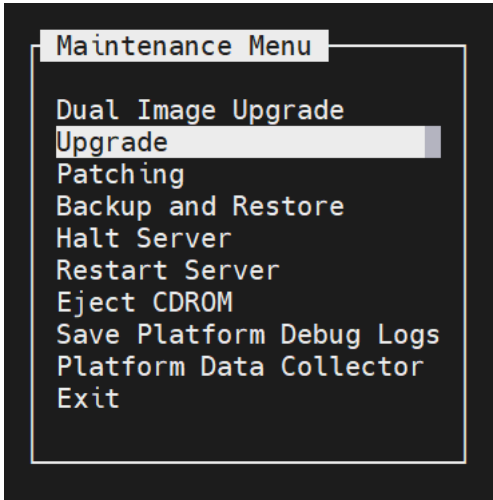
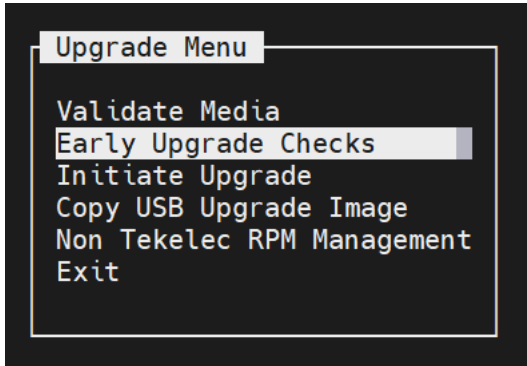
22. ☐	Note down the timestamp in log.	Run the following command: \$ date
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Procedure 8 Install Application on server A

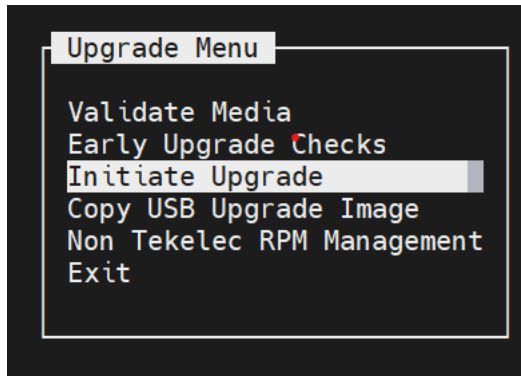
Procedure 8: Install the Application on Server A

S T E P #	This procedure installs the application on the server. 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. ☐	MPS A: Install EPAP on 1A.	Perform Procedure in Procedure A.12 or copy EPAP 16.4 ISO to /var/TKLC/upgrade directory.
2. ☐	Create a terminal window and log into MPS A.	If not already connected, connect to the APPD card via the serial Port. For connecting the APPD A card, disconnect the console cable from the serial port on the APPD B card's adapter. The cable should be disconnected at the point where it connects to the serial port labeled 'S1' on the APPD B card's adapter and use it for serial access. Cable part numbers - 830-1220-xx
3. ☐	MPS A: Login prompt is displayed.	<hostname> console login: Note: Hit enter if no login prompt is displayed.
4. ☐	MPS A: log in as "admusr" user.	[hostname] consolelogin: admusr password: password
5. ☐	MPS A: Start platcfg utility.	\$ sudo su - platcfg
6. ☐	MPS A: Navigate to the Upgrade menu.	The platcfg Main Menu appears. On the Main Menu , select Maintenance and press [ENTER]. 

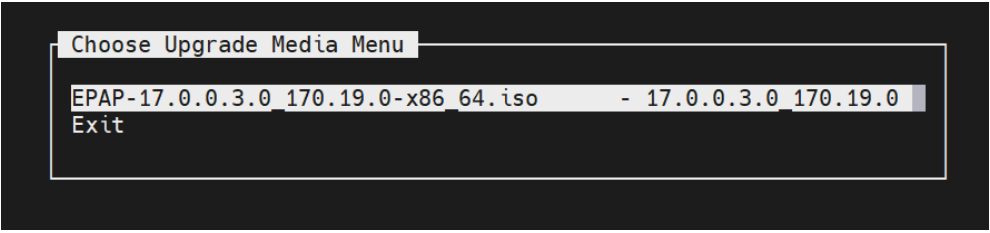
Procedure 8: Install the Application on Server A

		Select the Upgrade menu and press [ENTER].  <pre>Maintenance Menu Dual Image Upgrade Upgrade Patching Backup and Restore Halt Server Restart Server Eject CDRom Save Platform Debug Logs Platform Data Collector Exit</pre>
7. ☐	MPS X: Validate ISO file.	Validate ISO file using Procedure A.2.
8. ☐	MPS A: Select Early Upgrade Checks	Select the “Early Upgrade Checks” menu to verify that the system is ready for upgrade.  <pre>Upgrade Menu Validate Media Early Upgrade Checks Initiate Upgrade Copy USB Upgrade Image Non Tekelec RPM Management Exit</pre> 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.

Procedure 8: Install the Application on Server A

		<pre> Early Checks failed for the next upgrade Look at earlyChecks.log for more info Starting Early Upgrade Checks at 1011413059 Running earlyUpgradeChecks() for Upgrade::EarlyPolicy::TPDEarlyChecks upgrade policy... Verified server is not pending accept of previous upgrade ERROR: Raid mirrors are syncing! ERROR: md2 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 1011413059 [admusr@epappri ~]\$ cat /proc/mdstat Personalities : [raid1] md1 : active raid1 sdb2[1] sda2[0] 262080 blocks super 1.0 [2/2] [UU] md2 : active raid1 sda1[0] sdb1[1] 468447232 blocks super 1.1 [2/2] [UU] [====>.....] resync = 29.7% (139377920/468447232) finish=73.0min speed=75060K/sec bitmap: 4/4 pages [16KB], 65536KB chunk unused devices: <none> </pre> Contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section if the early upgrade checks fail due to any other reason
9. ☐	MPS A: Navigate to the Initiate Upgrade menu	Select the Initiate Upgrade menu and press [ENTER]. 
10. ☐	MPS A: Select the Upgrade Media.	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].

Procedure 8: Install the Application on Server A

		
11. ☐	MPS A: Upgrade proceeds.	The screen displays the output like following, indicating that the upgrade software is first running the upgrade checks, and then proceeding with the upgrade. <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>
12. ☐	MPS A: Upgrade proceeds.	Many informational messages appear on the terminal screen as the upgrade proceeds. The messages are not shown here for clarity sake. When installation is complete, the server reboots.
13. ☐	MPS A: Upgrade completed.	After the final reboot, the screen displays the login prompt as in the example below. <pre>Starting atd: [OK] ~~ /etc/rc4.d/S98ExQueue start ~~ ExQueue started. Starting TKLCe5appb: [OK] Checking network config files: [OK] Daemon is not running... AlarmMgr daemon is not running, delaying by 1 minute ~~ /etc/rc4.d/S99Epap start ~~ EPAP configuration data not found. Exiting... ~~ /etc/rc4.d/S99Pdba start ~~ EPAP configuration data not found. Exiting... Starting smartd: [OK] Daemon is not running... AlarmMgr daemon is not running, delaying by 1 minute TPDhpDiskStatus stop/pre-start, process 5527 TKLChwmgmtcli stop/pre-start, process 5508 Oracle Linux Server release 6.9 Kernel 2.6.32-642.6.2.el6prere17.4.0.0.0_88.32.0.x86_64 on an x86_64</pre>
14. ☐	MPS A: log in as "epapdev" user.	<pre>[hostname] consolelogin: epapdev password: password</pre>

Procedure 8: Install the Application on Server A

15. ☐	MPS A: Check the Upgrade log.	Examine the upgrade logs in the directory <code>/var/TKLC/log/upgrade</code> and verify that no errors and warnings were reported. \$ grep -i error /var/TKLC/log/upgrade/upgrade.log Check the output of the upgrade log. Contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section, if the output contains any errors beside the following: <pre>[root@Salta-B core]# grep -i error /var/TKLC/log/upgrade/upgrade.log 1673985608::ERROR: run-r1841b65093e14801be5696ea62d92ac2 is not recognized as a systemd service! 1673985608::ERROR: Could not stop run-r1841b65093e14801be5696ea62d92ac2! 1673985608::ERROR: service_conf reconfig failed! [root@Salta-B core]#</pre> \$ grep -i warning /var/TKLC/log/upgrade/upgrade.log Examine the output of the above command to determine if any warnings were reported. Contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section, if the output contains any warnings beside the following: <pre>[root@Salta-B core]# grep -i error /var/TKLC/log/upgrade/upgrade.log 1673985608::ERROR: run-r1841b65093e14801be5696ea62d92ac2 is not recognized as a systemd service! 1673985608::ERROR: Could not stop run-r1841b65093e14801be5696ea62d92ac2! 1673985608::ERROR: service_conf reconfig failed! [root@Salta-B core]# grep -i warning /var/TKLC/log/upgrade/upgrade.log 1673985030::* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/free". 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". "/var/TKLC/epap/rt". 1673985031::* write: WARNING:: Could not find configured path</pre>
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Procedure 8: Install the Application on Server A

		<pre> 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031::* write: WARNING:: Could not find configured path "/var/TKLC/epap/free". 1673985033::useradd: warning: the home directory already exists. 1673985476::2023-01-17T19:57:57.683121Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.683144Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1.1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.808924Z 6 [Warning] [MY-010453] [Server] root@localhost is created with an empty password ! Please consider switching off the --initialize-insecure option. 1673985551::WARNING: A new file was added to xml alarm files...reparsing xml... 1673985551::WARNING: FILE: /usr/TKLC/plat/etc/alarms/alarms_mps.xml 1673985571::TKLCepap-HA #####warning: group root} does not exist - using root [root@Salta-B core]# Refer to section 3.7 to know more about logging. </pre>
16. ☐	MPS A: Check that the upgrade completed successfully.	\$ grep "Upgrade returned success" /var/TKLC/log/upgrade/upgrade.log
17. ☐	MPS A: Check that the upgrade completed successfully.	Verify that the message "Upgrade returned success!" is displayed. If it is not, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section. <pre> 1399367207:: Upgrade returned success! </pre>
18. ☐	Login to MPS A via epapdev user and go to directory /usr/TKLC/epap/bin and execute the following command: ./mysql_setup.pl	[epapdev@Salta-A ~]# ./mysql_setup.pl
19.	MPS A: Login to MPS A via root user and update ssh_config to disable MD5 and MAC algorithm for security	Switch to root user., \$su - <root Password> Perform following steps to disable unsecure algorithm for ssh: \$ grep "MACs hmac-md5,hmac-md5-96," /etc/ssh/ssh_config

Procedure 8: Install the Application on Server A

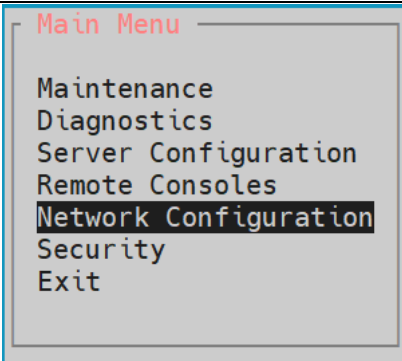
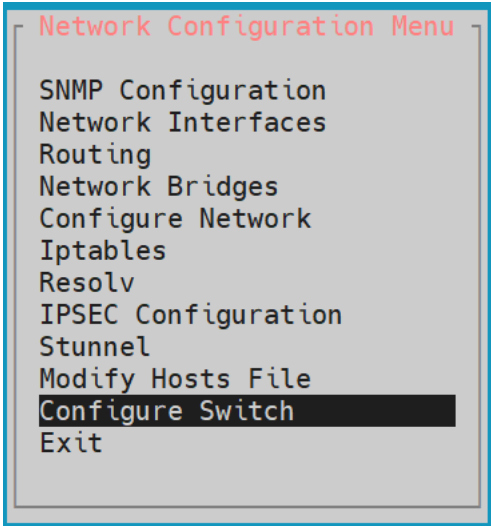
		If output contains "MACs hmac-md5,hmac-md5-96", execute the below steps 2, 3 and 4. Else go to step 5. 2. <code>\$ rcstool co /etc/ssh/ssh_config</code> 3. <code>\$ sed -i -e '/MACs hmac-md5,hmac-md5-96,hmac-sha1-96/d' /etc/ssh/ssh_config</code> 4. <code>\$ rcstool ci /etc/ssh/ssh_config</code> 5. <code>\$ grep "MACs hmac-sha2-256,hmac-sha2-512" /etc/ssh/sshd_config</code> If no output is displayed for above command continue to next command in steps else skip these steps 6. <code>\$ rcstool co /etc/ssh/sshd_config</code> 7. <code>\$ sed -i '\$ a \\tMACs hmac-sha2-256,hmac-sha2-512' /etc/ssh/sshd_config</code> 8. <code>\$ rcstool ci /etc/ssh/sshd_config</code> 9. <code>\$ systemctl restart sshd</code>
20. ☐	Update the httpd.conf file to disable the Cache control no-store policy	Perform the following steps to disable Cache control no-store policy: 1. <code>\$ grep "Header set Cache-Control no-store" /etc/httpd/conf/httpd.conf</code> If the output contains "Header set Cache-Control no-store", Execute the below steps. If no output is displayed for the above command, skip the steps mentioned below. 2. <code>sudo sed -i '/Cache-Control no-store/c/#Header set CacheControl no-store' /etc/httpd/conf/httpd.conf</code> 3. <code>\$ grep "Header set Cache-Control no-store" /etc/httpd/conf/httpd.conf</code> The output should be "#Header set Cache-Control no-store" showing that the line has been commented.
21. ☐	MPS A: Install Complete.	Install Procedure is complete.
22. ☐	Note down the timestamp in log.	Run the following command: <code>\$ date</code>

Procedure 9 Switch Configuration

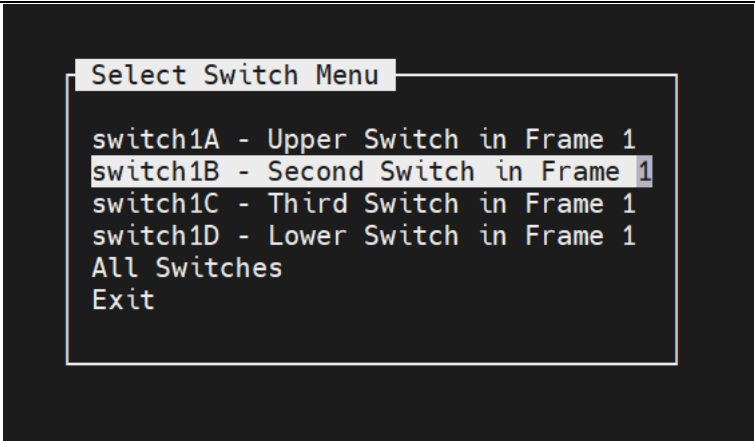
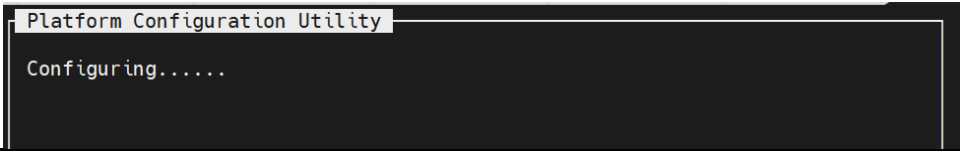
Procedure 9: Switch Configuration

S T E P #	This procedure Configures the Switches of a new Installed APPD EPAP 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.	NOTE: THIS IS IMPORTANT CONNECT the cross-over cable from Port 1 of Switch1A to Port 1 of Switch1B. DISCONNECT the cross-over cable from Port 2 of Switch1A to Port 2 of Switch1B. Please make a note that the switch configuration should only be attempted by a skilled technician and not all. All uplinks should be removed while switch configuration. There should not be any loop in the switches during their configuration. Make sure to enable and start tftp service by using following commands if not started earlier :- sudo systemctl start tftp sudo systemctl enable tftp
2. ☐	MPS B: log in as "admusr" user.	[hostname] console login: admusr password: password
3. ☐	MPS B: Set Telco Switch with non-default speed.	Note: The default speed to be set on the switch is 1000Mbps. However, the recommended setting can be changed to 'auto', '1000/full' or '100/full'. At the EAGLE end, the operator can set the IP LINK to 'auto'.
4. ☐	MPS B: Start platcfg utility.	\$ sudo su - platcfg
5. ☐	MPS B: Navigate to the Network Configuration Menu.	On the platcfg Main Menu , select Network Configuration and press [ENTER].

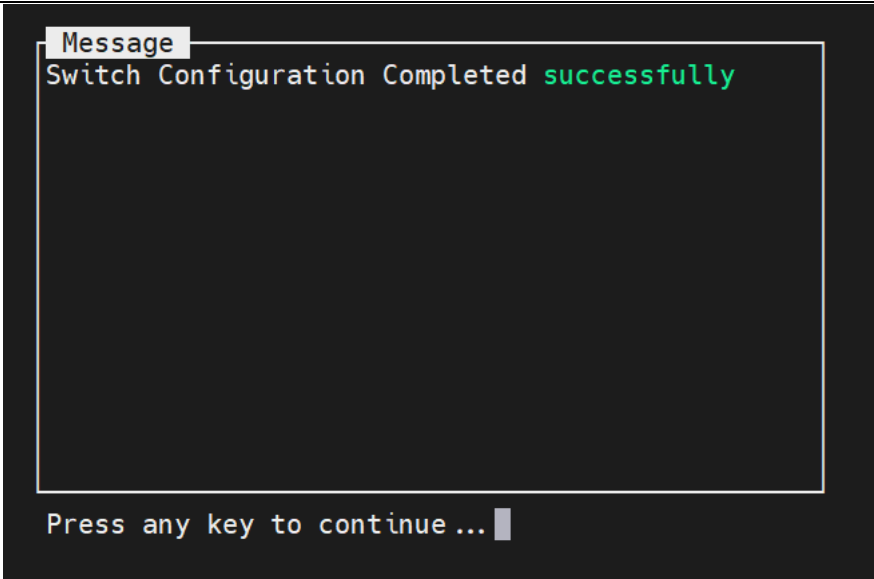
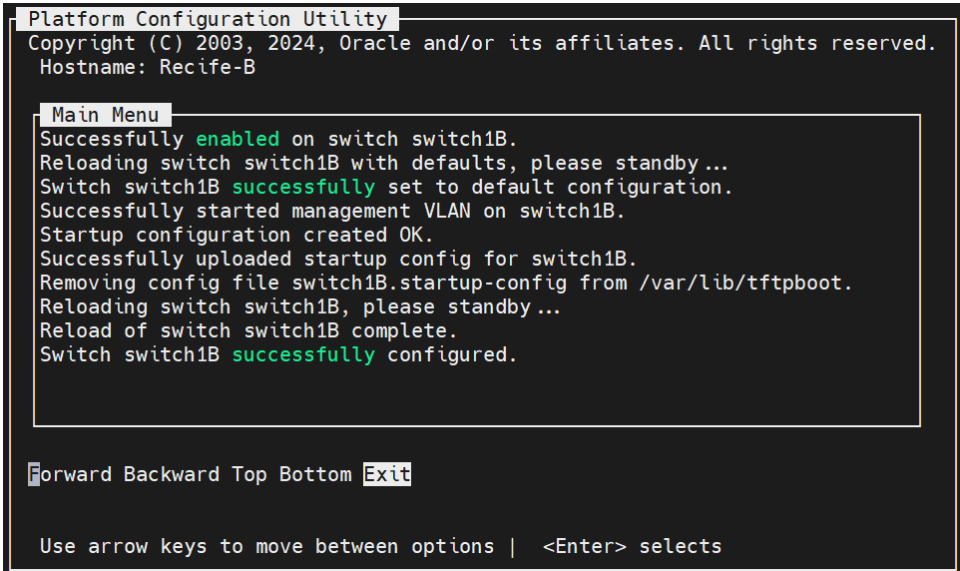
Procedure 9: Switch Configuration

		 Main Menu - Maintenance - Diagnostics - Server Configuration - Remote Consoles Network Configuration - Security - Exit
6. ☐	MPS B: Navigate to the Configure Switch Menu.	On the Network Configuration menu, select Configure Switch and press [ENTER].  Network Configuration Menu - SNMP Configuration - Network Interfaces - Routing - Network Bridges - Configure Network - Iptables - Resolv - IPSEC Configuration - Stunnel - Modify Hosts File Configure Switch - Exit
7. ☐	MPS B: Select Switch1B.	On the Select Switch Menu, select Switch1B – Second Switch in Frame 1 and press [ENTER].

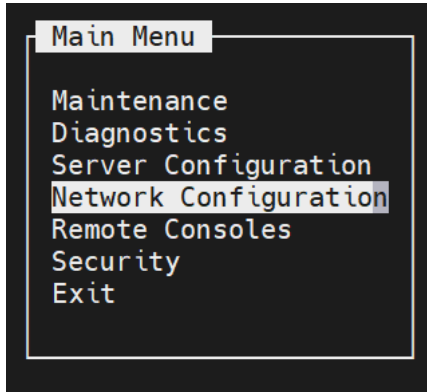
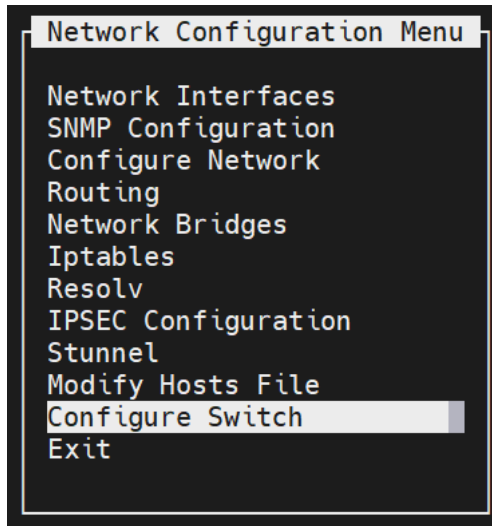
Procedure 9: Switch Configuration

		
8. ☐	MPS B: Confirm Switch 1B Configuration.	Select Yes and press [ENTER] to configure Switch 1B. 
9. ☐	MPS B: Switch Configuration Screen.	Configuring the switch takes about 10 minutes, once completed press any key to continue and then click Exit. 

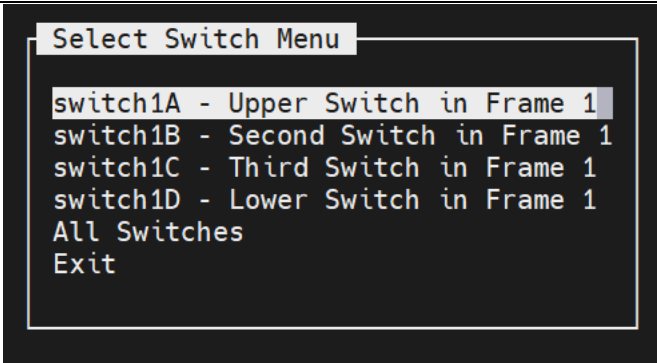
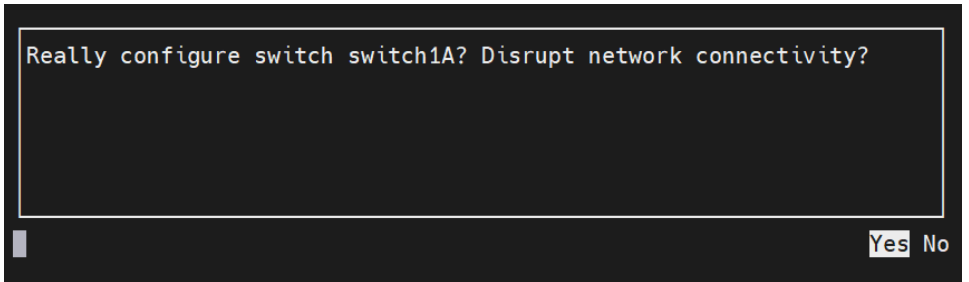
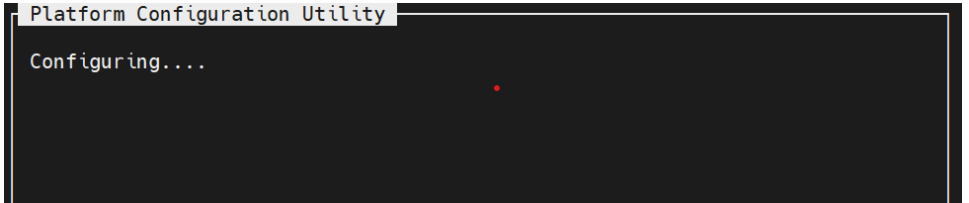
Procedure 9: Switch Configuration

		
		
10. ☐	MPS B: Exit out of platcfg.	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.
11. ☐	MPS A: Connect to Server 1A.	Now that Switch 1B is configured, we need to configure switch 1A. Connect to server 1A to configure switch 1A [hostname] consolelogin: admusr password: <i>password</i>

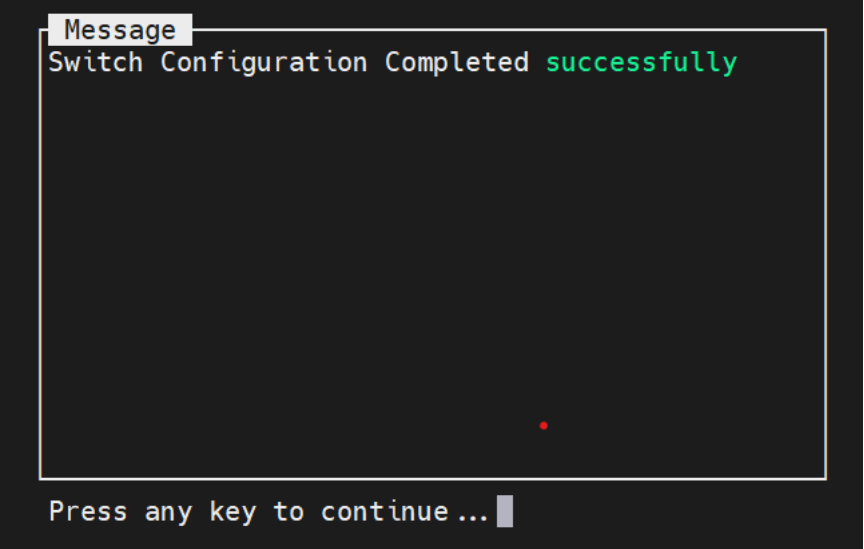
Procedure 9: Switch Configuration

12. ☐	MPS A: Set Telco Switch with non-default speed.	Note: The default speed to be set on the switch is 1000Mbps. However, the recommended setting can be changed to 'auto', '1000/full' or '100/full'. At the EAGLE end, the operator can set the IP LINK to 'auto'. Otherwise proceed to step 13.
13. ☐	MPS A: Start platcfg. utility	\$ sudo su - platcfg
14. ☐	MPS A: Navigate to the Network Configuration Menu.	On the platcfg Main Menu , select Network Configuration and press [ENTER]. 
15. ☐	MPS A: Navigate to the Configure Switch Menu.	On the Network Configuration menu, select Configure Switch and press [ENTER]. 
16. ☐	MPS A: Select Switch1A.	On the Select Switch Menu, select Switch1A – Upper Switch in Frame 1 and press [ENTER].

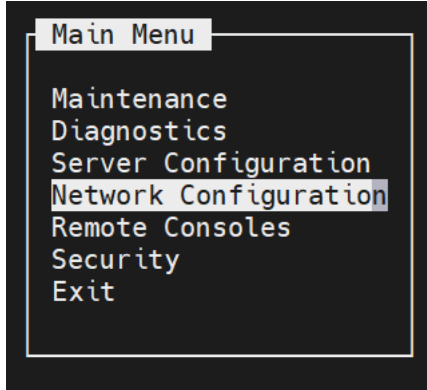
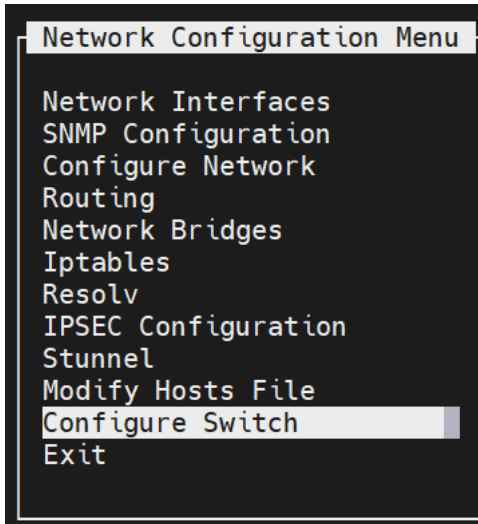
Procedure 9: Switch Configuration

		
17. ☐	MPS A: Confirm Switch 1A Configuration.	Select Yes and press [ENTER] to configure Switch 1A. 
18. ☐	MPS A: Navigate to the Configure Switch Menu.	Configuring the switch takes about 10 minutes, once completed press any key to continue and then click Exit. 

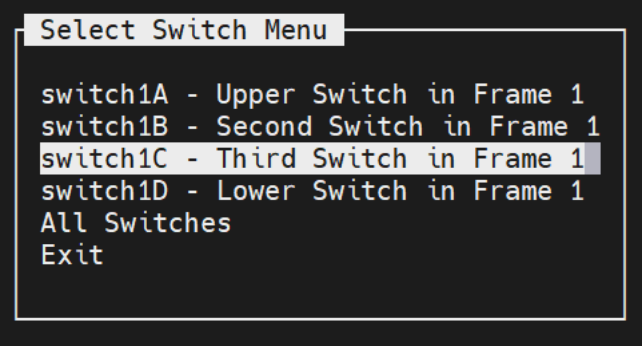
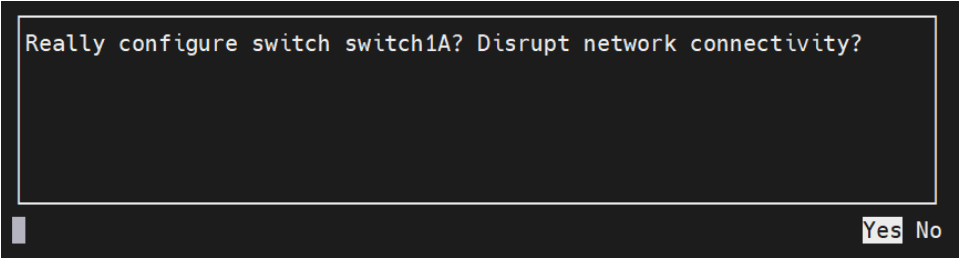
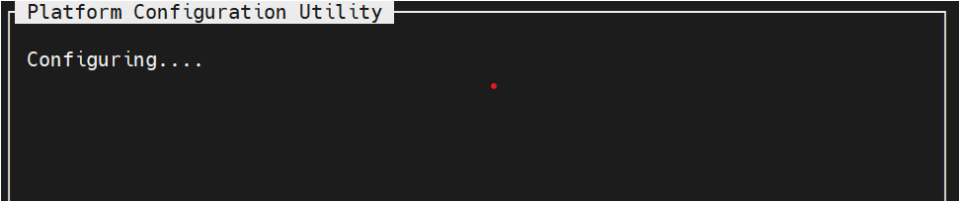
Procedure 9: Switch Configuration

		 The screenshot shows a terminal window with a black background. At the top, a white box labeled 'Message' contains the text 'Switch Configuration Completed successfully' in green. Below this, the text 'Press any key to continue ...' is displayed with a cursor. The bottom of the window shows the 'Platform Configuration Utility' menu with various options.
19. ☐	MPS A: Exit out of platcfg.	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.
20. ☐	MPS A: Optional Configuration of Switch 1C.	If the system is installed with 4 switches, proceed with the next step, otherwise skip to step 37.
21. ☐	Move Serial Cables.	On the front of switches 1A and 1B, unplug the serial cables connected to Console port and plug them in switches 1C and 1D Console port respectively.

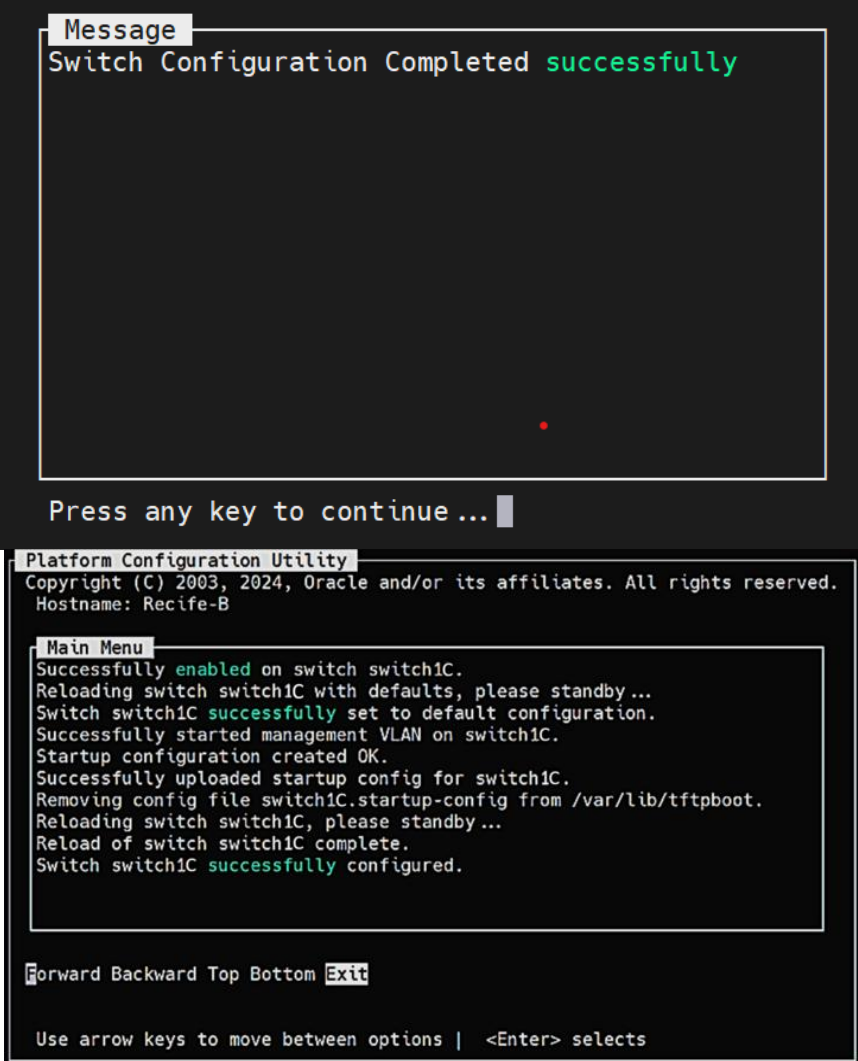
Procedure 9: Switch Configuration

22. ☐	MPS A: Start platcfg utility.	<code>\$ sudo su - platcfg</code>
23. ☐	MPS A: Navigate to the Network Configuration Menu.	On the platcfg Main Menu, select Network Configuration and press [ENTER]. 
24. ☐	MPS A: Navigate to the Configure Switch Menu.	On the Network Configuration menu, select Configure Switch and press [ENTER]. 
25. ☐	MPS A: Select Switch1C.	On the Select Switch Menu, select Switch1C – Third Switch in Frame 1 and press [ENTER].

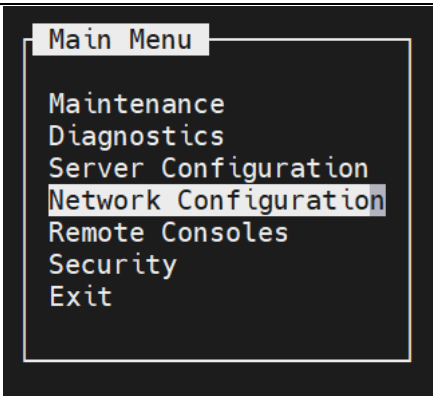
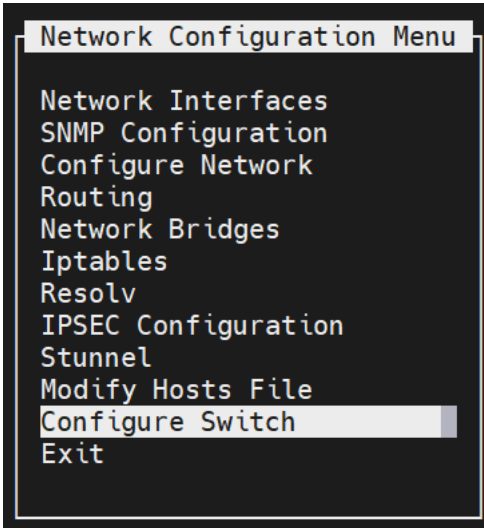
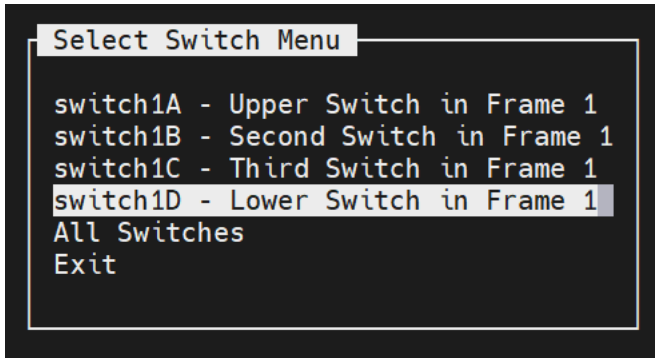
Procedure 9: Switch Configuration

		
26. ☐	MPS A: Confirm Switch 1C Configuration.	Select Yes and press [ENTER] to configure Switch 1C 
27. ☐	MPS A: Navigate to the Configure Switch Menu.	Configuring the switch takes about 10 minutes, once completed press any key to continue and then click Exit. 

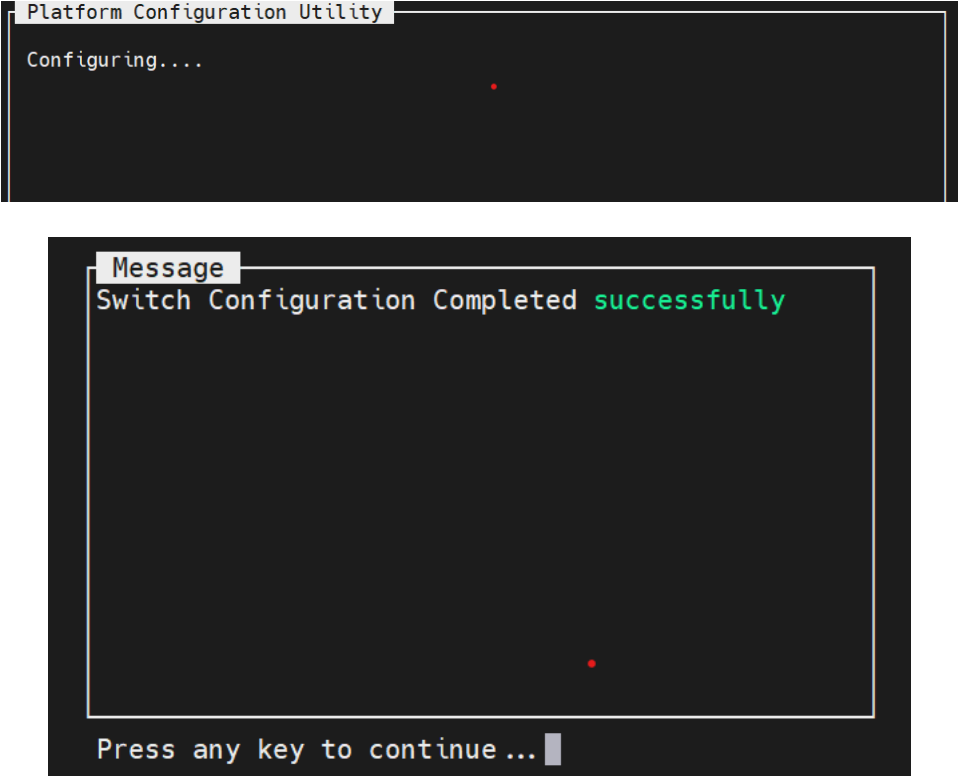
Procedure 9: Switch Configuration

		 The screenshot shows the Platform Configuration Utility (platcfg) interface. At the top, a 'Message' box displays 'Switch Configuration Completed successfully' in green. Below this, it says 'Press any key to continue ...'. The main menu lists several status messages: 'Successfully enabled on switch switch1C.', 'Reloading switch switch1C with defaults, please standby...', 'Switch switch1C successfully set to default configuration.', 'Successfully started management VLAN on switch1C.', 'Startup configuration created OK.', 'Successfully uploaded startup config for switch1C.', 'Removing config file switch1C.startup-config from /var/lib/tftpbboot.', 'Reloading switch switch1C, please standby...', 'Reload of switch switch1C complete.', and 'Switch switch1C successfully configured.' At the bottom, navigation options are listed: 'Forward Backward Top Bottom Exit', and a note: 'Use arrow keys to move between options <Enter> selects'.
28. ☐	MPS A: Exit out of platcfg.	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.
29. ☐	MPS B: Connect to Server 1B.	<pre>[hostname] consolelogin: admusr password: password</pre>
30. ☐	MPS B: Start platcfg utility.	<pre>\$ sudo su - platcfg</pre>
31. ☐	MPS B: Navigate to the Network Configuration Menu.	On the platcfg Main Menu, select Network Configuration and press [ENTER].

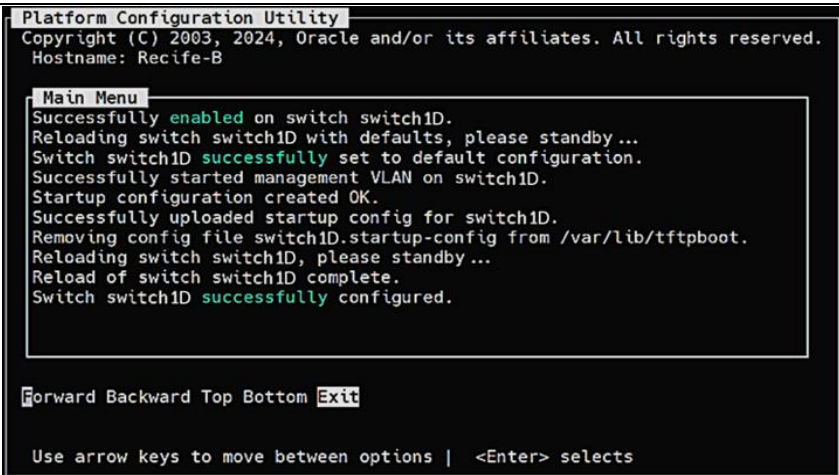
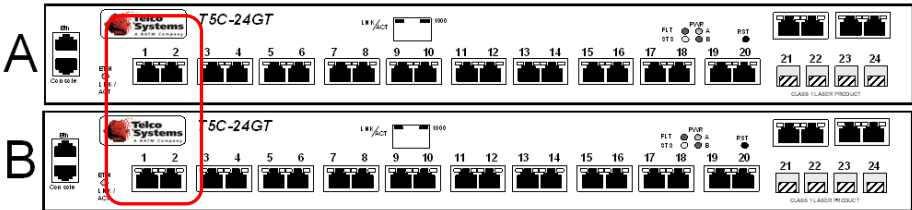
Procedure 9: Switch Configuration

		 <pre> Main Menu Maintenance Diagnostics Server Configuration Network Configuration Remote Consoles Security Exit </pre>
32. ☐	MPS B: Navigate to the Configure Switch Menu.	On the Network Configuration menu, select Configure Switch and press [ENTER].  <pre> Network Configuration Menu Network Interfaces SNMP Configuration Configure Network Routing Network Bridges Iptables Resolv IPSEC Configuration Stunnel Modify Hosts File Configure Switch Exit </pre>
33. ☐	MPS B: Select Switch1D.	On the Select Switch Menu, select Switch1D – Lower Switch in Frame 1 and press [ENTER].  <pre> Select Switch Menu switch1A - Upper Switch in Frame 1 switch1B - Second Switch in Frame 1 switch1C - Third Switch in Frame 1 switch1D - Lower Switch in Frame 1 All Switches Exit </pre>

Procedure 9: Switch Configuration

34. ☐	MPS B: Confirm Switch 1D Configuration.	Select Yes and press [ENTER] to configure Switch 1D. 
35. ☐	MPS B: Switch Configuration Screen.	Configuring the switch takes about 10 minutes, once completed press any key to continue and then click Exit. 

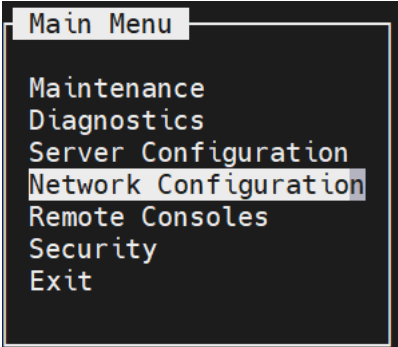
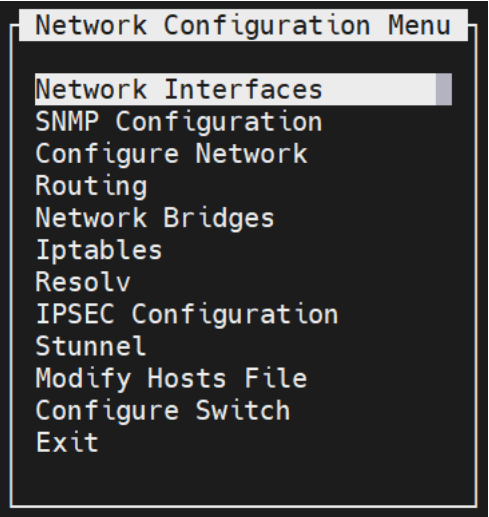
Procedure 9: Switch Configuration

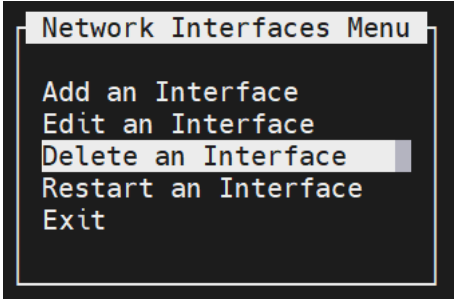
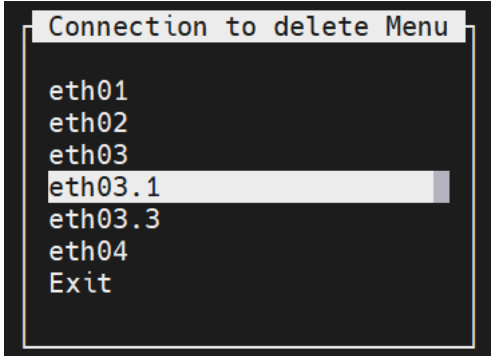
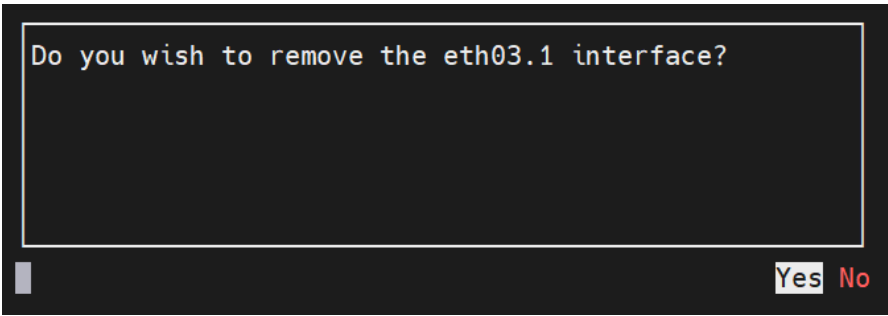
		
36.	☐ MPS B: Exit out of platcfg.	Select Exit and press [ENTER] to return to the Network Configuration Menu. Select Exit and press [ENTER] to return to the Main Menu. Select Exit and press [ENTER] to exit out of platcfg.
37.	☐ Connect the cross-over cable from Port 2 of Switch1A to Port 2 of Switch1B .	
38.	☐ Procedure complete.	Procedure is complete.
39.	☐ Note down the timestamp in log.	Run the following command: \$ date

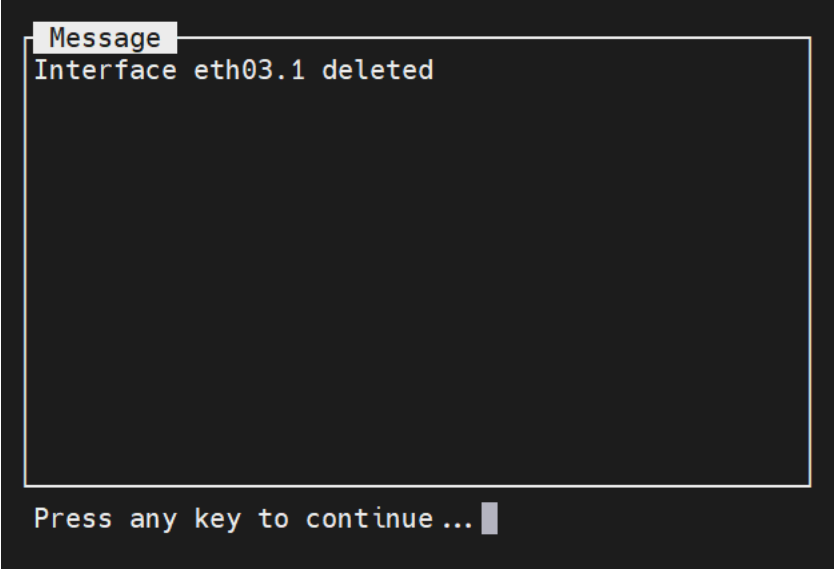
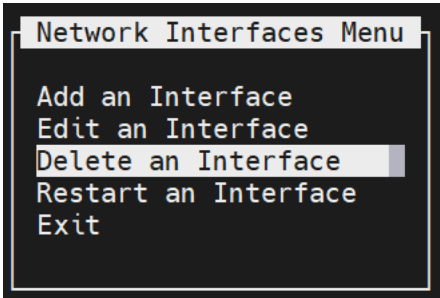
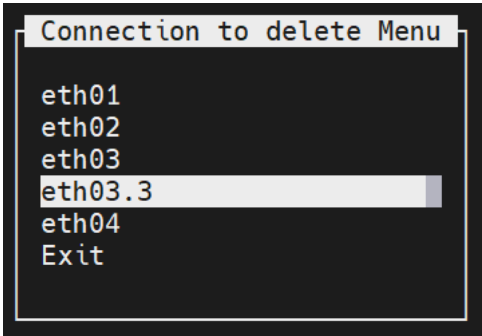
Procedure 10 Configure Sync Network Redundancy

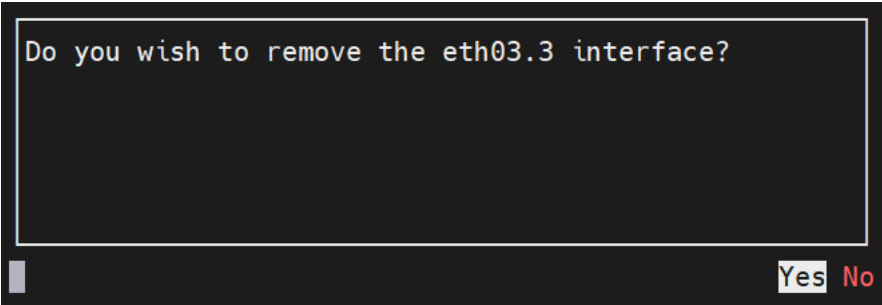
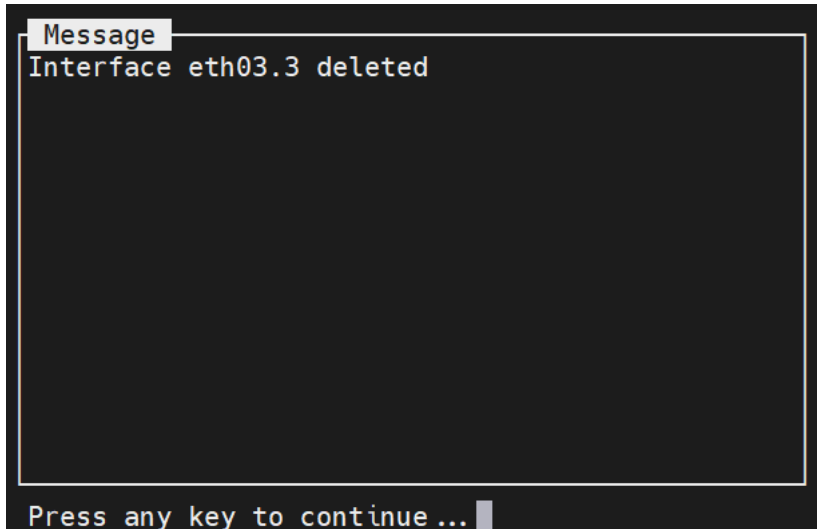
Note: This procedure will configure the APPD EPAP cards with the Sync Network Redundancy feature. This will use the Backup Provisioning Network ports, therefore the Backup Provisioning Network feature cannot be used.

Procedure 10: Procedure to Configure Sync Network Redundancy

S T E P #	This procedure will sync network redundancy in place of backup provisioning network. Note: Estimated time of completion is 90 minutes.	
1. ☐	MPS A: Log in as “admusr” user to the serial console of APPD card.	<code>[hostname] consolelogin: admusr</code> <code>password: password</code>
2. ☐	MPS A: Start platcfg utility.	<code>\$ sudo su - platcfg</code>
3. ☐	MPS A: Navigate to the Network Configuration Menu.	On the platcfg Main Menu, select Network Configuration and press [ENTER]. 
4. ☐	MPS A: Navigate to the Network Interfaces Menu.	On the Network Configuration menu, select Network Interfaces and press [ENTER]. 

5. ☐	MPS A: Navigate to the Delete an Interface Menu.	On the Network Interfaces Menu, select Delete an Interface and press [ENTER]. 
6. ☐	MPS A: Select to delete eth03.1 and press Enter.	On the Connection to delete Menu, select eth03.1 and press [ENTER]. 
7. ☐	MPS A: Confirm eth03.1 interface deletion.	Select Yes and press [ENTER] to delete the eth03.1 interface. 

		
8. ☐	MPS A: Press any key to continue. Navigate to the Delete an Interface Menu.	On the Network Interfaces Menu, select Delete an Interface and press [ENTER]. 
9. ☐	MPS A: Select to delete eth03.3 and press Enter.	On the Connection to delete Menu, select eth03.3 and press [ENTER]. 

10. ☐	MPS A: Confirm eth03.3 interface deletion.	Select Yes and press [ENTER] to delete the eth03.3 interface.  
11. ☐	MPS A: Press any key to continue and exit out of platcfg.	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.
12. ☐	MPS A: Verify that eth03.1 and eth03.3 are deleted.	<pre>\$ sudo netAdm show eth01 eth02 eth03 eth04</pre> The interfaces eth03.1 and eth03.3 should not be listed.

13. ☐	MPS A: Take the backup of original net.conf.	\$ sudo cp /usr/TKLC/plat/etc/net.conf /usr/TKLC/plat/etc/net.conf_orig
14. ☐	MPS A: Replace the network configuration file for sync network redundancy.	\$ sudo cp /usr/TKLC/plat/etc/net.sync.conf /usr/TKLC/plat/etc/net.conf cp: overwrite `/usr/TKLC/plat/etc/net.conf'? y
15. ☐	MPS A A: Take the backup of original vlan.conf.	\$ sudo cp /usr/TKLC/plat/etc/vlan.conf /usr/TKLC/plat/etc/vlan.conf_orig
16. ☐	MPS A: Replace the vlan configuration file for sync network redundancy.	<u>APPD Card:</u> Single Pair of Switch(18 SM Cards): vlan.sync.single_pair_switch.e5appd.conf (Ports 7 to 24 on switch 1A and ports 5 to 24 on switch 1B can be used for SM card connectivity) Two Pair of switches (40 SM Cards): vlan.sync.e5appd.conf (Ports 7 to 22 on switch 1A and ports 5 to 22 on switch 1B can be used for SM card connectivity, no change for switch 1C and 1D) For e.g., on T1200 server for Single pair of switches: \$ sudo cp /usr/TKLC/plat/etc/vlan.sync.single_pair_switch.t1200.conf /usr/TKLC/plat/etc/vlan.conf cp: overwrite `/usr/TKLC/plat/etc/vlan.conf'? y
17. ☐	MPS A: Reconfigure the network interfaces.	\$ sudo netAdm init Interface bond0 added Interface eth01 added Interface eth02 added Interface bond0.3 added Interface eth03 added Interface eth04 added Interface bond0.1 added Successfully configured network
18. ☐	MPS A: Restart network service.	\$ sudo systemctl restart network
19. ☐	MPS B	Repeat all the above steps on the MPS B.

20. ☐	Network Connectivity	Connect eth04 on MPS A to port 5 on Switch 1A and connect eth04 on MPS B to port 6 on Switch 1A.
21. ☐	Configure Switch 1B first and then Switch 1A using 0.	Perform 0 – Switch1B and Switch1A Configuration to configure Switch1B and then Switch1A.
22. ☐	MPS A: Verify that ping mate is working. Also ensure that the sync redundancy is working fine by turning off one switch and running ping mate.	\$ ping -c 4 mate PING mate (192.168.2.100) 56(84) bytes of data. 64 bytes from mate (192.168.2.100): icmp_seq=1 ttl=64 time=0.189 ms 64 bytes from mate (192.168.2.100): icmp_seq=2 ttl=64 time=0.188 ms 64 bytes from mate (192.168.2.100): icmp_seq=3 ttl=64 time=0.166 ms 64 bytes from mate (192.168.2.100): icmp_seq=4 ttl=64 time=0.143 ms --- mate ping statistics --- 4 packets transmitted, 4 received, 0% packet loss, time 3001ms rtt min/avg/max/mdev = 0.143/0.171/0.189/0.022 ms
23. ☐	MPS A: Reconfigure EPAP using epapconfig menu if the configuration was done before configuring sync network redundancy.	\$ su - epapconfig Please follow the instructions written in 0.
24. ☐	Procedure complete.	Procedure is complete.
25. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure 11 Configuring the application

Procedure 11: Configuring the Application

S T E P #	This procedure configures the application on the server. 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.
NOTE: This procedure configures the application in the IPv4 configuration. To configure the application in the IPv6 configuration, refer to [6].	

Procedure 11: Configuring the Application

1. ☐	MPS A: Log on Server A.	<code>[hostname] consolelogin: admusr password: <i>password</i></code>
2. ☐	MPS A: Switch user to epapconfig.	<code>\$ sudo su - epapconfig</code> Warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.
3. ☐	MPS A: A note of caution appears. Evaluate the conditions listed. When all the conditions are satisfied, press Return to continue.	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. 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 epapdev user on the mate MPS server. 5. You must be prepared to designate this MPS as provisionable or non-provisionable. Press return to continue...
4. ☐	MPS A: Upon pressing Return you can now abort or proceed with the initial configuration. To continue with the configuration, enter Y.	Are you sure you wish to continue? [N]:Y
5. ☐	MPS A: For Mixed EPAP or Non-Provisionable EPAP: You are prompted for the epapdev, root and admusr user password on the mate MPS server in order to confirm the secure shell keys are successfully exchanged. The example shows the output generated when the correct password is entered, the secure shell keys are successfully exchanged, and the UI database is set up on MPS A and MPS B at this site.	<pre> Password of epapdev: ssh is working correctly. Password of root: ssh is working correctly. Password of admusr: ssh is working correctly. Password of root: ssh is working correctly. Building the initial database on side A. Stopping local slave Stopping remote slave EuiDB already exists. FIPS integrity verification test failed. Starting local slave Starting remote slave The provisioning architecture of the EPAP software allows for exactly 2 customer provisionable sites. Additional sites that are to receive the data provisioned to the provisionable sites should answer 'N' here. If there are only 2 mated sites, it is safe to answer 'Y' here. Is this site provisionable? [Y]: Y </pre>

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	Type Y if this site is Provisionable(either mixed-EPAP or PDBonly), otherwise Type N. For Standalone PDB: You are prompted for the System Number and Network Configuration Type.	<pre>Caution: This is the first login of the text user interface. Press return to continue... Are you sure you wish to continue? [N]: Y Building the initial database on side A. Stopping local slave No preexisting EuiDB database was detected. Set EPAP System Number: ES12345678 Enter the Network Configuration Type (1 for Single, 2 for Segmented): 2</pre>
6. ☐	MPS A: The EPAP Configuration Menu is displayed. Select choice 2, Configure Network Interfaces Menu.	EPAP Configuration Menu for standalone PDB:

Procedure 11: Configuring the Application

	<pre>/-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 DB Architecture Menu ----- e Exit \ EPAP Configuration Menu for NON-Prov EPAP:</pre>	
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Procedure 11: Configuring the Application

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre> Enter Choice: 2	
7. ☐	MPS A: The Configure Network Interfaces Menu is displayed. Select choice 1, Configure Provisioning Network.	Configuration Menu for Mixed EPAP and Non-Provisionable EPAP: <pre> /-----Configure Network Interfaces Menu-----\ 1 Configure Provisioning Network ----- 2 Configure Sync Network ----- 3 Configure DSM Network ----- 4 Configure Backup Provisioning Network ----- 5 Configure Static NAT Addresses ----- 6 Configure Provisioning VIP Addresses ----- </pre>	

Procedure 11: Configuring the Application

		<pre> e Exit -----\ Enter Choice: 1 Configuration Menu for Standalone PDB: /-----Configure Network Interfaces Menu-----\ 1 Configure Provisioning Network 2 Configure Backup Provisioning Network 3 Configure Static NAT Addresses e Exit -----\ Enter Choice: 1 </pre>
8. ☐	MPS A: The submenu for configuring communications networks and other information is displayed. Note: Enter choice "1" for IPv4 configuration. Otherwise, enter choice "2" for IPv6 configuration.	<pre> /-----Configure Provisioning Network Menu-----\ 1 IPv4 Configuration 2 IPv6 Configuration e Exit -----\ Enter Choice: </pre> Example output for Mixed EPAP and Non-Provisionable EPAP in IPv4 configuration: <pre> Enter Choice: 1 Verifying connectivity with mate... EPAP A provisioning network IP Address: 10.75.141.47 EPAP B provisioning network IP Address: 10.75.141.48 EPAP provisioning network netmask: 255.255.255.128 EPAP provisioning network default router: 10.75.141.1 Example output Standalone PDB in IPv4 configuration: EPAP A provisioning network IP Address:10.75.141.47 EPAP provisioning network netmask:255.255.255.128 EPAP provisioning network default router:10.75.141.1 </pre>
9. ☐	MPS A: The Configure Network Interfaces menu is displayed. Select choice e, Exit.	Configuration Menu for Mixed EPAP and Non-Provisionable EPAP: <pre> /-----Configure Network Interfaces Menu-----\ 1 Configure Provisioning Network 2 Configure Sync Network 3 Configure DSM Network 4 Configure Backup Provisioning Network </pre>

Procedure 11: Configuring the Application

		<pre> 5 Configure Static NAT Addresses 6 Configure Provisioning VIP Addresses e Exit -----\ Enter Choice: e Configuration Menu for Standalone PDB: /-----Configure Network Interfaces Menu-----\ 1 Configure Provisioning Network 2 Configure Backup Provisioning Network 3 Configure Static NAT Addresses e Exit -----\ Enter Choice: e </pre>
10. ☐	MPS A: The EPAP Configuration Menu is displayed. Select choice 3, Set Time Zone.	EPAP Configuration Menu for Non-prov EPAP:

Procedure 11: Configuring the Application

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre> Enter Choice:3
11. ☐	MPS A: An important Caution statement is displayed. After noting the caution, press Return to continue.	Caution: This action requires a reboot of the affected MPS servers to activate the change. Operation of the EPAP software before the MPS servers are rebooted may have unpredictable consequences. Press return to continue...<return> Are you sure you wish to change the timezone for MPS A and B? [N]: Y

Procedure 11: Configuring the Application

	You are prompted for confirmation on setting the time zone for the MPS A and MPS B at this site for Mixed EPAP or Non-provisionable EPAP. For Standalone PDB, time zone for MPS A is prompted only. Enter y to confirm the change. (Pressing Return accepts the default of 'N' (no), cancels the action and you are returned to the EPAP Configuration Menu). Type Y to set the time zone.																																																																																		
12. ☐	MPS A: The following prompt is displayed. If the time zone is known, it can be entered at the prompt. If the exact time zone value is not known, press Return, and a list of the valid names is displayed.	Enter a time zone:																																																																																	
13. ☐	If an incorrect time zone is entered or if only the Return key is pressed, a list of all available time zone values is displayed. Note: The time zone change does not take effect until the next time the MPS is rebooted.	Valid time zone files are: <table border="0"> <tr> <td>Australia/Broken_Hill</td><td>Australia/LHI</td><td></td></tr> <tr> <td>Australia/NSW</td><td></td><td></td></tr> <tr> <td>Australia/North</td><td>Australia/Queensland</td><td></td></tr> <tr> <td>Australia/South</td><td></td><td></td></tr> <tr> <td>Australia/Tasmania</td><td>Australia/Victoria</td><td></td></tr> <tr> <td>Australia/West</td><td></td><td></td></tr> <tr> <td>Australia/Yancowinna</td><td>Australia/ACT</td><td>Brazil/Acre</td></tr> <tr> <td>Brazil/DeNoronha</td><td>Brazil/East</td><td>Brazil/West</td></tr> <tr> <td>Canada/Atlantic</td><td>Canada/Central</td><td>Canada/East-</td></tr> <tr> <td>Saskatchewan</td><td></td><td></td></tr> <tr> <td>Canada/Eastern</td><td>Canada/Mountain</td><td></td></tr> <tr> <td>Canada/Newfoundland</td><td></td><td></td></tr> <tr> <td>Canada/Pacific</td><td>Canada/Yukon</td><td></td></tr> <tr> <td>Chile/Continental</td><td></td><td></td></tr> <tr> <td>Chile/EasterIsland</td><td>Etc/GMT</td><td>Etc/GMT+1</td></tr> <tr> <td colspan="3">-----Sample Output continues-----</td></tr> <tr> <td colspan="3">-----End of output below-----</td></tr> <tr> <td>MST</td><td>MST7MDT</td><td>NZ</td></tr> <tr> <td>NZ-CHAT</td><td>PRC</td><td>PST8PDT</td></tr> <tr> <td>Poland</td><td>Portugal</td><td>ROC</td></tr> <tr> <td>ROK</td><td>Singapore</td><td>Turkey</td></tr> <tr> <td>W-SU</td><td>WET</td><td>africa</td></tr> <tr> <td>asia</td><td>australasia</td><td>backward</td></tr> <tr> <td>etcetera</td><td>europa</td><td>factory</td></tr> <tr> <td>northamerica</td><td>pacificnew</td><td>solar87</td></tr> <tr> <td>solar88</td><td>solar89</td><td>southamerica</td></tr> <tr> <td>GB-Eire</td><td>GMT</td><td>GMT+0</td></tr> </table>	Australia/Broken_Hill	Australia/LHI		Australia/NSW			Australia/North	Australia/Queensland		Australia/South			Australia/Tasmania	Australia/Victoria		Australia/West			Australia/Yancowinna	Australia/ACT	Brazil/Acre	Brazil/DeNoronha	Brazil/East	Brazil/West	Canada/Atlantic	Canada/Central	Canada/East-	Saskatchewan			Canada/Eastern	Canada/Mountain		Canada/Newfoundland			Canada/Pacific	Canada/Yukon		Chile/Continental			Chile/EasterIsland	Etc/GMT	Etc/GMT+1	-----Sample Output continues-----			-----End of output below-----			MST	MST7MDT	NZ	NZ-CHAT	PRC	PST8PDT	Poland	Portugal	ROC	ROK	Singapore	Turkey	W-SU	WET	africa	asia	australasia	backward	etcetera	europa	factory	northamerica	pacificnew	solar87	solar88	solar89	southamerica	GB-Eire	GMT	GMT+0
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asia	australasia	backward																																																																																	
etcetera	europa	factory																																																																																	
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Procedure 11: Configuring the Application

		GMT+1 GMT+12 GMT+3 GMT+6 GMT+9 GMT-10 GMT-2 GMT-5 GMT-8 Jamaica UTC GMT+10 GMT+13 GMT+4 GMT+7 GMT-0 GMT-11 GMT-3 GMT-6 GMT-9 Navajo Universal GMT+11 GMT+2 GMT+5 GMT+8 GMT-1 GMT-12 GMT-4 GMT-7 Greenwich UCT Zulu Enter a time zone file (relative to /usr/share/lib/zoneinfo): US/Eastern
14. ☐	SERVER A: Enter choice 7, Configure NTP Server Menu. NOTE: If an NTP server does not need to be added at this time, you can skip all steps related to option 7 Configure NTP Server Menu, and proceed to the PDB Configuration Menu at step 20.	EPAP Configuration Menu for Non-prov EPAP: <pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre> Enter Choice: 7

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15. ☐	MPS A: The EPAP Configure NTP Server Menu is displayed. Enter choice 2, Add External NTP Server. Note: Enter choice "1" to configure IPv4 NTP server. Otherwise, enter choice "2" to configure IPv6 NTP server.	<pre> /-----EPAP Configure NTP Server Menu-----\ 1 Display External NTP Server 2 Add External NTP Server 3 Remove External NTP Server e Exit \-----/ Enter Choice: 2 /-----Add External NTP Server Menu-----\ 1 IPv4 Configuration 2 IPv6 Configuration e Exit \-----/ Enter Choice: █ </pre>
16. ☐	MPS A: You are prompted to confirm the action of adding a new NTP Server. (Pressing Return would accept the default of 'N' or 'no', and would cancel the action to add an external NTP server.) Type Y and press return. NOTE: All NTP Server IP addresses shown are only examples.	<pre> Are you sure you wish to add new NTP Server? [N]: Y Enter the EPAP NTP Server IP Address: <NTP_server_IP_Addr> External NTP Server [<NTP_server_IP_Addr>] has been added. Press return to continue...<return> </pre>
17. ☐	MPS A: The EPAP Configure NTP Server Menu is displayed.	<pre> /-----EPAP Configure NTP Server Menu-----\ 1 Display External NTP Server 2 Add External NTP Server 3 Remove External NTP Server \-----/ </pre>

Procedure 11: Configuring the Application

	Enter choice 1, Display External NTP Server.	<pre> e Exit ----- Enter Choice: 1 </pre>
18. ☐	MPS A: Verify the External NTP Server IP address is correct and press Return. NOTE: All NTP Server IP addresses shown are only examples.	<pre> ntpserver1 <Ipaddress> Press return to continue...<return> </pre>
19. ☐	MPS A: The EPAP Configure NTP Server Menu is displayed. Select choice e, Exit.	<pre> /-----EPAP Configure NTP Server Menu-----\ 1 Display External NTP Server 2 Add External NTP Server 3 Remove External NTP Server e Exit \-----/ Enter Choice: e </pre>
20. ☐	MPS A: The EPAP Configuration Menu is displayed. Select choice 8, PDB Configuration Menu. Note: Execute the step to do PDB Configuration Menu (except step 27) even if the EPAP is to be configured as Non-Provisionable.	PDB Configuration Menu for Non-prov EPAP:

Procedure 11: Configuring the Application

	<pre>/-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \ Enter choice: 8</pre>	
--	--	--

Procedure 11: Configuring the Application

21.



MPS A: The Configure PDB Menu is displayed. Select choice 1.

PDB Configuration Menu for Mixed EPAP:

```

/-----Configure PDB Menu-----\
/-----\
| 1 | Configure PDB Network |
|-----|
| 2 | RTDB Homing Menu |
|-----|
| 3 | Change MPS Provisionable State |
|-----|
| 4 | Create PDB |
|-----|
| 5 | Change Auto DB Recovery State |
|-----|
| 6 | Change PDBA Proxy State |
|-----|
| e | Exit |
\-----/

```

PDB Configuration menu for Non-Provisionable EPAP:

```

/-----Configure PDB Menu-----\
/-----\
| 1 | Configure PDB Network |
|-----|
| 2 | RTDB Homing Menu |
|-----|
| 3 | Change Auto DB Recovery State |
|-----|
| e | Exit |
\-----/

```

Note: Configure the PDB network in the same format as that of the provisioning network format.

Enter Choice: 1

PDB Configuration Menu for Standalone PDB (for default DB Architecture: COMPACT):

```

/-----Configure PDB Menu-----\
/-----\
| 1 | Configure PDB Network |
|-----|
| 2 | Create PDB |
|-----|
| 3 | Change Auto DB Recovery State |
|-----|
| e | Exit |
\-----/

```

Enter Choice: 1

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22. ☐	MPS A: The PDB Network Configuration Menu is displayed. Select choice 1.	PDB Network Configuration menu: <pre> /-----PDB Network Configuration Menu-----\ /-----\ 1 IPv4 Configuration ----- ----- 2 IPv6 Configuration ----- ----- e Exit \-----\ </pre> Enter Choice: 1
23. ☐	Note: Do not provide the remote PDBA IP address in case user is performing migration. MPS A: Provide the IP address of the MPS A on EAGLE A and the IP address for the MPS A on EAGLE B where the remote PDBA database is to reside. Enter the password for MPS A on EAGLE B. If configuration of the PDB network is successful, the output confirms the secure shell keys are successfully exchanged, as shown in the output for Provisionable(mixed-EPAP and PDBonly) MPSs Note: If the default values shown are correct press return to accept them. Otherwise, enter the values and press Return.	Following is the output on Mixed EPAP. <pre> Verifying connectivity with mate... This MPS is configured to be provisionable. The EPAP local PDBA IPv4 address is currently set to <IP>. The EPAP local PDBA IPv6 address is currently not configured. The EPAP local PDBA IPv4 Address is <IP>. EPAP remote PDBA IP Address [0.0.0.0]: <A IP Address> EPAP remote PDBA B machine IP Address [0.0.0.0]: <B IP Address> The server does not know of <A IP Address> Will just exchange host keys for the name given! Password of epapdev: <epapdev password> </pre> Following is the output on Non-Provisionable EPAP. <pre> Verifying connectivity with mate... This MPS is configured to be non-provisionable. You will be prompted for both of the remote PDBA addresses. Order does not matter. Enter one of the two PDBA IP addresses [0.0.0.0]: <IP Address> Enter the other of the two PDBA IP addresses [0.0.0.0]: <IP Address> </pre> Following is the output on Standalone PDB. <pre> This MPS is configured to be provisionable. The EPAP local PDBA IPv4 address is currently set to <IP> The EPAP local PDBA IPv6 address is currently not set. The EPAP local PDBA IPv4 Address is <IP>. </pre>

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	In case of Non-Provisionable EPAP, provide the IP address of Active and Standby PDBA.	EPAP remote PDBA IP Address [0.0.0.0]:
24. ☐	MPS A: Press Return to return to the Configure PDB Menu. Enter choice 2, RTDB Homing Menu.	Skip this step if EPAP configured as Standalone PDB. <pre> /-----Configure PDB Menu-----\ /-----\ 1 Configure PDB Network ----- 2 RTDB Homing Menu ----- 3 Change MPS Provisionable State ----- 4 Create PDB ----- 5 Change Auto DB Recovery State ----- 6 Change PDBA Proxy State ----- e Exit \-----/ </pre> Enter Choice: 2
25. ☐	MPS A: The RTDB Homing Menu is displayed. Enter choice 3, Configure Standby RTDB Homing.	Skip this step for Standalone PDB. For Non-Prov Nodes: <pre> /-----RTDB Homing Menu-----\ /-----\ 1 Configure Specific RTDB Homing ----- 2 Configure Active RTDB Homing ----- 3 Configure Standby RTDB Homing ----- e Exit \-----/ </pre> Enter Choice: 2 In the event that the Active PDB is unavailable, should updates be allowed to the RTDBs from the Standby PDBA? [Y]: N Caution: If this option is selected, the Standby PDB will not provision the RTDBs at this site in the event that the Active PDB is not available. Are you sure you want to disallow updates to the RTDBs from the Standby PDB? [N]: Y The RTDBs will home to the Active and will not allow updates from the Standby PDB. Press return to continue...^☐

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		For Mixed EPAP : MPS Side A: hostname: Floater05 hostid: 4b0a6e8d Platform Version: 7.0.1-8.6.0.0.0_110.6.0 Software Version: EPAP 170.0.12-17.0.0.0.0_170.12.0 Wed Mar 29 05:59:19 EDT 2023 <pre> /-----RTDB Homing Menu-----\ /-----\ 1 Configure Specific RTDB Homing --- ----- 2 Configure Active RTDB Homing --- ----- 3 Configure Standby RTDB Homing --- ----- e Exit \-----/ </pre> Enter Choice: 1 EPAP software and PDBA are running. Stop them? [N]: Y EPAP software is running on mate MPS. Stop it? [N]: Y Since this is an unpaired EPAP, specific homing will be directed to the local PDB. The RTDB Homing policy is set to 'specific' and will prefer updates from 10.75.141.110 Press return to continue...
26. ☐	MPS A: The RTDB Homing Menu is displayed. Enter e to exit.	Skip this step for Standalone PDB. <pre> /-----RTDB Homing Menu-----\ /-----\ 1 Configure Specific RTDB Homing --- ----- 2 Configure Active RTDB Homing --- ----- 3 Configure Standby RTDB Homing --- ----- e Exit \-----/ </pre> Enter Choice: e

Procedure 11: Configuring the Application

27.



MPS A: Enter choice 3.
Create PDB.

Note:

Stop the EPAP software by answering 'Y'. If you get the message to stop it.

Note:

While creating PDB database using the Create PDB option of the EPAP Configuration Menu, ensure that the value for remote PDB IP is set to 0.0.0.0.

Note: Perform this step only for the Provisionable EPAP (Mixed EPAP or Standalone PDB). Skip this step if the EPAP is configured as Non-Provisionable.

The Menu for Mixed EPAP.

```

/-----Configure PDB Menu-----\
/-----\
| 1 | Configure PDB Network |
|---|-----|
| 2 | RTDB Homing Menu |
|---|-----|
| 3 | Create PDB |
|---|-----|
| 4 | Change Auto DB Recovery State |
|---|-----|
| 5 | Change PDBA Proxy State |
|---|-----|
| e | Exit |
\-----/

```

Enter Choice:

Enter Choice: 3

The Menu for Standalone PDB(for default DB Architecture: COMPACT):

```

/-----Configure PDB Menu-----\
/-----\
| 1 | Configure PDB Network |
|---|-----|
| 2 | Create PDB |
|---|-----|
| 3 | Change Auto DB Recovery State |
|---|-----|
| e | Exit |
\-----/

```

Enter Choice: 2

```

localIp = 10.75.141.47
localName=Natal-47A
remoteIp = 0.0.0.0
There is no remote PDB

remoteBip = 0.0.0.0
There is no remote B PDB
mysqld is alive
Local PDB database does not exist.
Creating the local database
~~ /etc/init.d/Pdba stop ~~
PDBA process is already stopped.
Removing local pdba status file.
Creating the remote database

```

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28. ☐	NOTE: The example output to the right has been truncated for brevity.	TRUNCATED OUTPUT <pre>MyISAM file: /var/TKLC/epap/db/pdb/stats/pdbaStats.MYI is already checked Waiting for mysqlpdb to start done Removing local pdba status file. Removing remote pdba status file.</pre>
29. ☐	MPS A: The Configure PDB Menu is displayed. Enter choice e, Exit. The Configure PDB Menu is displayed. Enter choice e, Exit.	The Configure PDB Menu for Mixed EPAP: <pre>/-----Configure PDB Menu-----\ 1 Configure PDB Network 2 RTDB Homing Menu 3 Change MPS Provisionable State 4 Create PDB 5 Change Auto DB Recovery State 6 Change PDBA Proxy State e Exit \-----\</pre> Enter Choice: e The Configure PDB Menu for Standalone PDB: <pre>/-----Configure PDB Menu-----\ 1 Configure PDB Network 2 Create PDB 3 Change Auto DB Recovery State e Exit \-----\</pre> Enter Choice: e
30. ☐	MPS A: The EPAP Configuration Menu is displayed. Enter choice 1, Display Configuration.	

Procedure 11: Configuring the Application

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit \-----/ </pre> Enter Choice: 1
31. ☐	MPS A: The configuration information is displayed. Verify that the configuration data displayed is correct.	For Mixed EPAP and Non-Provisionable EPAP configured in IPv4 configuration, the configuration data shall look like: <pre> EPAP A Provisioning Network IP Address = 10.75.141.55 EPAP A Provisioning Network IP Address v6 = Not configured EPAP B Provisioning Network IP Address = 10.75.141.56 EPAP B Provisioning Network IP Address v6 = Not configured Provisioning Network Netmask = 255.255.255.128 Provisioning Network Prefix = Not configured Provisioning Network Default Router = 10.75.141.1 Provisioning Network Default Router v6 = Not configured EPAP A Backup Prov Network IP Address = Not configured EPAP A Backup Prov Network IP Address v6 = Not configured EPAP B Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address v6 = Not configured Backup Prov Network Netmask = Not configured </pre>

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	Backup Prov Network Prefix v6	= Not configured
	Backup Prov Network Default Router	= Not configured
	Backup Prov Network Default Router v6	= Not configured
	EPAP A Sync Network Address	= 192.168.2.100
	EPAP B Sync Network Address	= 192.168.2.200
	EPAP A Main DSM Network Address	= 192.168.120.100
	EPAP B Main DSM Network Address	= 192.168.120.200
	EPAP A Backup DSM Network Address	= 192.168.121.100
	EPAP B Backup DSM Network Address	= 192.168.121.200
	EPAP IP Version	= IPv4
	EPAP A HTTP Port	= 80
	EPAP B HTTP Port	= 80
	EPAP A HTTP SuExec Port	= 8001
	EPAP B HTTP SuExec Port	= 8001
	EPAP A Banner Connection Port	= 8473
	EPAP B Banner Connection Port	= 8473
	EPAP A Static NAT Address	= Not configured
	EPAP B Static NAT Address	= Not configured
	PDBI Port	= 5873
	Remote MPS A Static NAT Address	= Not configured
	Remote MPS A HTTP Port	= 80
	Local Provisioning VIP	= Not configured
	Remote Provisioning VIP	= Not configured
	Local PDBA Address	= 10.75.141.55
	Local PDBA Address v6	=
	0000:0000:0000:0000:0000:0000:0000:0000	=
	Remote PDBA Address	= 0.0.0.0
	Remote PDBA B Address	= 0.0.0.0
	Time Zone	= America/New_York
	PDB Database	= Exists
	Preferred PDB	= 10.75.141.55
	Allow updates from alternate PDB	= Yes
	Auto DB Recovery Enabled	= No
	PDBA Proxy Enabled	= No
	Press return to continue...<return>	
	For Standalone PDB, the configuration data shall look like:	
	EPAP A Provisioning Network IP Address	= 10.250.51.130
	EPAP B Provisioning Network IP Address	= Not configured
	Provisioning Network Netmask	= 255.255.255.128
	Provisioning Network Prefix	= Not configured
	Provisioning Network Default Router	= 10.250.51.1
	Provisioning Network Default Router v6	= Not configured
	EPAP A Backup Prov Network IP Address	= Not configured
	EPAP A Backup Prov Network IP Address v6	= Not configured
	Backup Prov Network Netmask	= Not configured
	Backup Prov Network Prefix v6	= Not configured
	Backup Prov Network Default Router	= Not configured
	Backup Prov Network Default Router v6	= Not configured
	Network Configuration Type	= SINGLE
	EPAP IP Version	= IPv4
	EPAP A HTTP Port	= 80
	EPAP A HTTP SuExec Port	= 8001
	EPAP A Banner Connection Port	= 8473
	EPAP A Static NAT Address	= Not configured
	PDBI Port	= 5873
	Remote MPS A Static NAT Address	= Not configured
	Remote MPS A HTTP Port	= Not configured
	Local PDBA Address	= 10.250.51.130
	Local PDBA Address v6	= Not configured
	Remote PDBA Address	= 0.0.0.0
	Time Zone	= US/Eastern
	PDB Database	= Exists
	Auto DB Recovery Enabled	= No

Procedure 11: Configuring the Application

		Press return to continue... <return>
32. ☐	MPS A: The EPAP Configuration Menu is displayed. Enter choice e, Exit.	EPAP Configuration Menu for Non-Provisional EPAP: <pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre> Enter Choice: e For Non-Provisionable EPAP, the following is displayed. <pre> INFO: Increasing rt volume size for Non-provisionable EPAP. Please wait... INFO: db space increased on 'A'. INFO: Stopping Epap, mysqlapp and mysqlpdb services... Done. INFO: Starting Epap, mysqlapp and mysqlpdb services... Done. </pre>

Procedure 11: Configuring the Application

		INFO: Successfully configured Non-provisionable EPAP.
33. ☐	Start EPAP services on PDBonly/Mixed/Non-Prov Server	Start Epap services on both server 1A and 1B in case of Mixed and Non-Prov server using below command. <pre># systemctl start Epap</pre> <pre>[root@Manaus-a ~]# systemctl start Epap</pre> <pre>[root@Manaus-a ~]#</pre> <pre>[root@Manaus-b ~]# systemctl start Epap</pre> <pre>[root@Manaus-b ~]#</pre> In case of PDBonly server, restart EPAP service only on 1A server from root user using below command. <pre># systemctl start Epap</pre> <pre>[root@Manaus-a-PDBonly ~]# systemctl start Epap</pre>
34. ☐	Move the pdba binary file on Mixed and PDBonly server Note: This step is valid only when the user is performing migration.	Switch to epapdev user using <pre># su - epapdev</pre> <pre>[epapdev@Quito-a~]# cd /usr/TKLC/epap/bin</pre> <pre>[epapdev@Quito-a bin]# mv pdba pdba_stopped</pre> <pre>[epapdev@Quito-a bin]#</pre>
35. ☐	MPS A: The EPAP Configuration Menu is displayed. Select choice 6, Platform Menu.	EPAP Configuration Menu for mixed EPAP:

Procedure 11: Configuring the Application

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit \-----/ Enter Choice: 6 </pre>
36. ☐	MPS A: The Platform Menu is displayed. Enter Choice 2, Reboot MPS.	Menu for Mixed EPAP and Non-Provisionable EPAP: <pre> /-----EPAP Platform Menu-----\ /-----\ 1 Initiate Upgrade ----- 2 Reboot MPS ----- 3 MySQL Backup ----- 4 RTDB Backup ----- 5 PDB Backup ----- e Exit \-----/ Enter Choice: 2 </pre>

Procedure 11: Configuring the Application

		CAUTION: Rebooting this MPS will stop all EPAP processes will prevent updating of the RTDB until the EPAP software is automatically re-started when the system comes back up. Are you sure you want to reboot the MPS? [N]: Menu for Standalone PDB: <pre> /-----EPAP Platform Menu-\ 1 Initiate Upgrade 2 Reboot MPS 3 MySQL Backup 4 PDB Backup e Exit \-----/ </pre> Enter Choice: 2 CAUTION: Rebooting this MPS will stop all EPAP processes will prevent updating of the RTDB until the EPAP software is automatically re-started when the system comes back up.
37. ☐	MPS A: For Mixed EPAP and Non-Provisionable EPAP you are prompted whether MPS A, MPS B or BOTH sides are to be rebooted. Select the default value of BOTH by pressing Return. Note: In case of the Standalone PDB, no prompt is given and the server goes down for a reboot.	For Mixed EPAP and Non-Provisionable EPAP, a prompt is displayed: Reboot MPS A, MPS B or [BOTH]: <return> For Standalone PDB, the following is displayed. Reboot local MPS... Broadcast message from root (pts/1) (Thu May 29 16:13:51 2014): The system is going down for reboot NOW!
38.	Move the pdba_stopped binary file on Mixed and PDBonly server Note: This step is valid only when user is performing migration	<pre>[epapdev@Quito-a bin]# mv pdba_stopped pdba [epapdev@Quito-a bin]#</pre>
39. ☐	MPS A: The console logon appears at the system prompt signifying the	<hostname> login: admusr Password: Note: The console logon will be preceded by many lines of reboot output.

Procedure 11: Configuring the Application

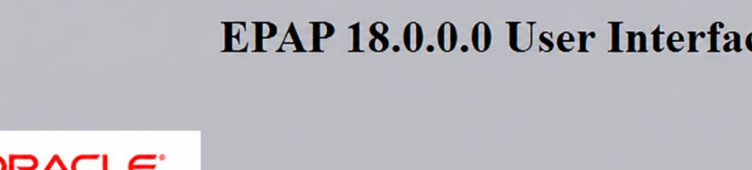
	EPAP initial configuration is completed.	
40. ☐	Connected PDBonly: Configure DSM Min Mem Size	Execute Procedure A.21 only if the Non-Prov EPAP is installed and is connected to Standalone PDB server. Otherwise, skip this step if – a. This is Mixed EPAP b. This is non-prov EPAP and connected to mixed EPAP.
41. ☐	Reconnect console cables.	On APPD card, reconnect the console cable between the serial port labeled 'S0' on APPD B card's adapter and the serial port labeled 'S1' on the APPD A card's adapter and the console cable between the serial port labeled 'S0' on APPD A card's adapter and the serial port labeled 'S1' on the APPD B card's adapter. Cable part numbers - 830-1220-xx
42. ☐	Procedure complete.	Procedure is complete.
43. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure 12 Provision data from GUI

Procedure 12: Provision data from GUI (Active Provisionable(mixed-EPAP or PDBonly) Site as designated by customer)

S T E P #	This procedure provision 1 NE and 1 DN from GUI on Active Site. 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. ☐	Access the EPAP GUI by opening a web browser (Preferably Microsoft Edge) via HTTPS and providing the IP address of Server A. The EPAP LOGIN screen should appear.	The GUI screen on Mixed EPAP should look like:

Procedure 12: Provision data from GUI (Active Provisionable(mixed-EPAP or PDBonly) Site as designated by customer)



The screenshot displays the login interface for EPAP 18.0.0.0. At the top center, the title "EPAP 18.0.0.0 User Interface" is shown in a large, bold, black serif font. On the left side, there is a white rectangular box containing the Oracle Communications logo, which consists of the word "ORACLE" in red above the word "COMMUNICATIONS" in black. To the right of the logo, the labels "Username:" and "Password:" are positioned to the left of two white input fields. Below these fields is a "Login" button with a light gray background and a thin black border.

EPAP 18.0.0.0 User Interface

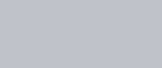
ORACLE
COMMUNICATIONS

Username:

Password:

Login

The GUI screen on Standalone PDB should look like:



ORACLE[®]
COMMUNICATIONS

EPAP 18.0.0.0.0 User Interface

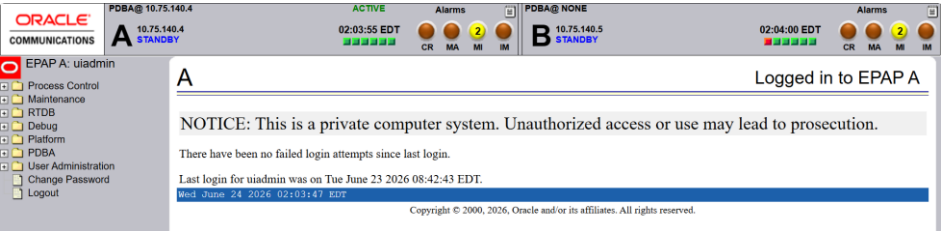
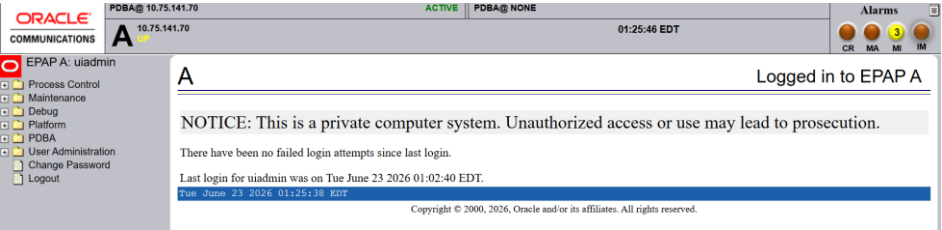
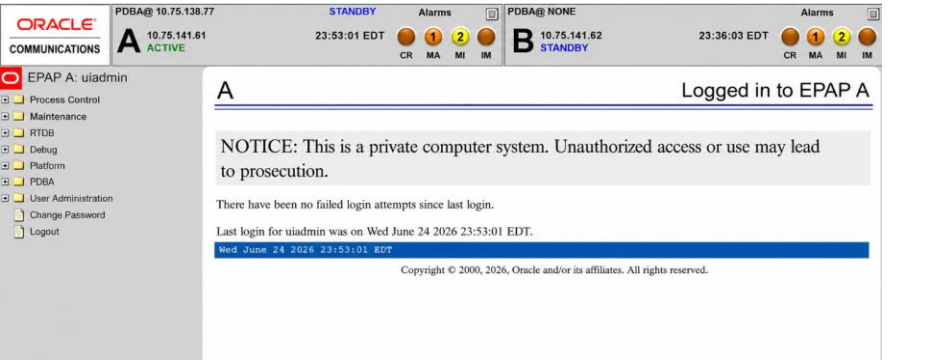
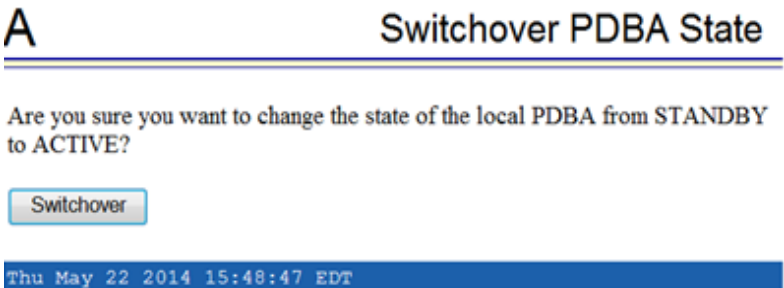
System Number: ES26052026

Username:

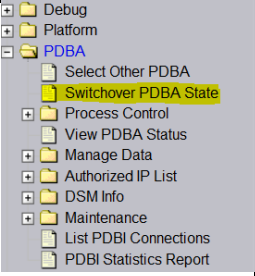
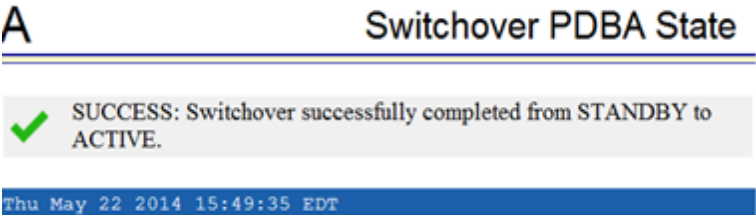
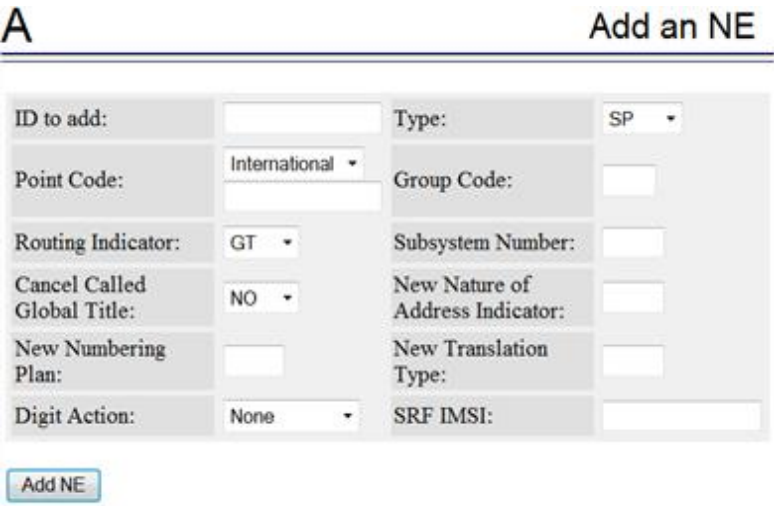
Password:

Login

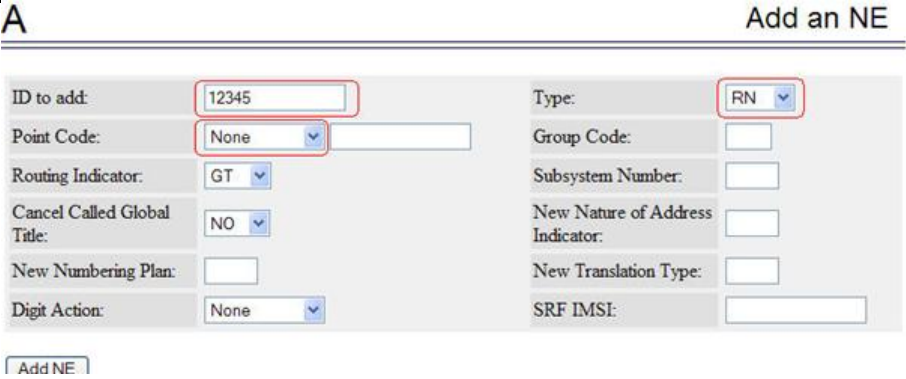
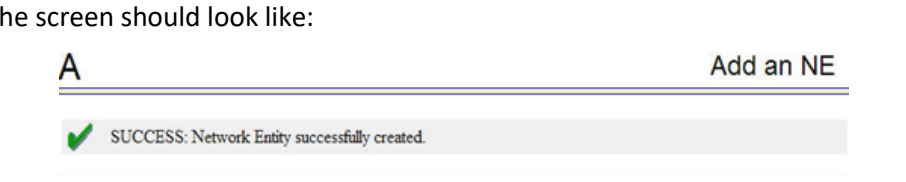
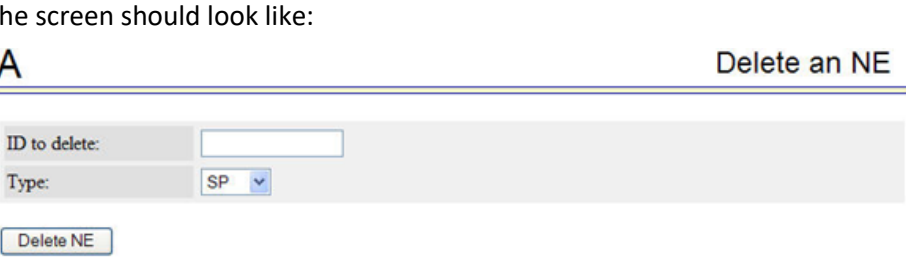
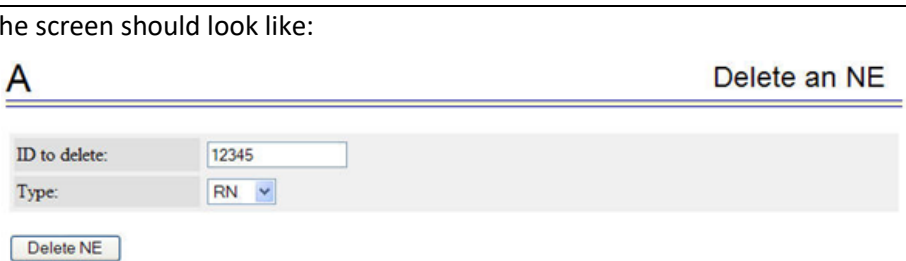
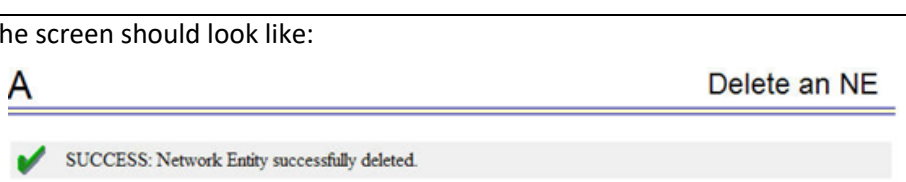
Procedure 12: Provision data from GUI (Active Provisionable(mixed-EPAP or PDBonly) Site as designated by customer)

2. ☐	Login as uiadmin.	The GUI screen on Mixed EPAP should look like:  The GUI screen on Standalone PDB should look like:  The GUI screen on non-Prov EPAP should look like: 
3. ☐	On the Site designated by the customer Active PDB GUI select "Switchover PDBA State" to make the PDBA Active.	The screen should look like: 

Procedure 12: Provision data from GUI (Active Provisionable(mixed-EPAP or PDBonly) Site as designated by customer)

		
4. ☐	Click on the "Switchover" button.	The screen should look like: 
5. ☐	PDBA should become ACTIVE.	The screen should look like: 
6. ☐	On the ACTIVE PDBA site, select PDBA→Manage Data→Network Entity→Add	The screen should look like: 
7. ☐	Enter ID as "12345", select Type "RN" and	The screen should look like:

Procedure 12: Provision data from GUI (Active Provisionable(mixed-EPAP or PDBonly) Site as designated by customer)

	select Point Code as "None".	
8. ☐	Click on the "Add NE" button. Network Entity should be successfully added.	The screen should look like: 
9. ☐	Select PDBA→Manage Data→Network Entity→Delete	The screen should look like: 
10. ☐	Enter ID as "12345" and select Type "RN".	The screen should look like: 
11. ☐	Click on the "Delete NE" button. Network Entity should be successfully deleted.	The screen should look like: 
12. ☐	View PDBA Status	The screen should look like:

Procedure 12: Provision data from GUI (Active Provisionable(mixed-EPAP or PDBonly) Site as designated by customer)

	Platform PDBA Select Other PDBA Switchover PDBA State Process Control View PDBA Status Manage Data Authorized IP List DSM Info Maintenance List PDBI Connections PDBI Statistics Report	A View PDBA Status PDBA@10.253.103.18 Status Status: ACTIVE Version: 1.0 Level: 2 Birthday: 07/23/2009 15:56:51 GMT DN Prefix: IMSI Prefix: Counts: IMSIs=0, DNS=0, DN Blocks=0, NES=0, IMEIs=0, IMEI Blocks=0, ASDs=0, DN_DNs=0, DNB_DNs=0 RTDB Address Level 10.253.103.18 2 192.168.2.200 (mate) 2 PDB@10.253.103.18 Status Status: Database daemon is running Counts: IMSIs=0, DNS=0, DNBlocks=0, NES=0, IMEIs=0, IMEIBlocks=0, ASDs=0, DN_DNs=0, DNB_DNs=0
13.	☐ Procedure complete	Procedure is complete.
14.	☐ Note down the timestamp in log.	Run the following command: \$ date

Procedure 13 Change DB Architecture

Procedure 13: Change the DB Architecture

NOTE: Skip this procedure in following two cases:

1. EPAP 18.0 is a Mixed EPAP.
2. Extreme architecture is not required

STEP #	This procedure change the DB Architecture from COMPACT to eXtreme. 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.	MPS A: Log in as epapdev user.	[hostname] console login: epapdev password: password
2.	MPS A: Verify that SM_MIN_MEM_SIZE is correctly set	Verify that DSM_MIN_MEM_SIZE is set correctly for the server to be converted into extreme architecture. To convert DB architecture of an EPAP installed with release 18.0 from compact to extreme, the value of DSM_MIN_MEM_SIZE should be set to either of these 4 values - 12046 or 24092 or 12370 or 24740. [root@Cusco-a logs]# uiEdit grep -i DSM_MIN_MEM_SIZE "DSM_MIN_MEM_SIZE" is set to "24092" If you don't get any output from the above command or the value in the output is set to something else other than

		12046/24092/12370/24740, kindly set the needed value explicitly using the below command. <pre>[epapdev@Cres-a ~]\$ uiEdit "DSM_MIN_MEM_SIZE" 24092 "DSM_MIN_MEM_SIZE" is set to "24092"</pre>
3.	MPS A: Log into epapconfig.	Switch to root user., <pre>\$su - <root Password> \$su - epapconfig</pre> Warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.
4.	MPS A: The EPAP Configuration Menu is displayed. Select choice 14 or 15, DB Architecture Menu Note: Select choice 14 on Non-provisionable EPAP and 15 on PDBonly.	Note: Start Pdba software before executing this operation. EPAP Configuration Menu for Non-Provisionable: <pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre> Enter choice: 14

		EPAP Configuration Menu for standalone PDB: <pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 DB Architecture Menu ----- e Exit \-----/ </pre> Enter choice: 15
5.	MPS A: The DB Architecture Menu is displayed. Select choice 1, Display current DB Architecture Note: Default DB Architecture is displayed.	<pre> /-----DB Architecture Menu-----\ /-----\ 1 Display Current DB Architecture ----- 2 Change DB Architecture to eXtreme ----- e Exit \-----/ </pre>

		Enter Choice: 1 DB Architecture: COMPACT
6.	MPS A: The DB Architecture Menu is displayed. Select choice 2, Change DB Architecture to eXtreme NOTE: It may be asked to stop the EPAP software if it is running. Stop it by answering 'Y'.	Skip this step if DB Architecture already set to eXtreme. <pre> /-----DB Architecture Menu-----\ /-----\ 1 Display Current DB Architecture ----- 2 Change DB Architecture to eXtreme ----- e Exit \-----/ </pre> Enter Choice: 2 Example output Non-Provisionable EPAP: <pre> Caution: If this option is selected, the DB Architecture shall be changed from Compact to eXtreme and this architecture cannot be reverted. WARNING: In order to complete this change in DB Architecture, you must perform RTDB conversion. Are you sure you want to change the DB Architecture from Compact to eXtreme? [N]: y EPAP software is running. Stop it? [N]: y EPAP software is running on mate MPS. Stop it? [N]: y INFO: DB ARCHITECTURE changed to eXtreme. </pre> Example output Standalone PDB:

		Caution: If this option is selected, the DB Architecture shall be changed from Compact to eXtreme and this architecture cannot be reverted. Please verify that all connected Non-Provisional Sites are running on eXtreme Architecture. It will take 30 minutes or more to populate the PDB 9Dig tables. Are you sure you want to change the DB Architecture from Compact to eXtreme? [N]: Y EPAP software is running. Stop it? [N]: Y PDBA software is running. Stop it? [N]: Y INFO: Populating the DN 9 Digit tables... INFO: Populating the IMSI 9 Digit tables... INFO: Populating the IMEI 9 Digit tables... INFO: DB ARCHITECTURE changed to eXtreme. Press return to continue...
7.	MPS A: The DB Architecture Menu is displayed. Select choice e, Exit	<pre> /-----DB Architecture Menu-----\ /-----\ 1 Display Current DB Architecture ----- ----- 2 Change DB Architecture to eXtreme ----- ----- e Exit \-----/ </pre> Enter Choice: e
8.	MPS A: EPAP Configuration Menu is displayed. Select choice e, Exit	

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 DB Architecture Menu ----- e Exit \-----/ </pre> Enter Choice: e
9.	MPS A: Start Epap and Pdba software. Note: Move to step 11 if it is configured as PDBonly. Otherwise continue to next step.	Start Epap and Pdba software to reflect the changes. Use the following command to start Epap: <pre> \$ systemctl start Pdba </pre> <pre> ~~ /etc/init.d/Epap start ~~ "EPAP_RELEASE" is set to "0.617" EPAP application start Successful. </pre> <pre> \$ systemctl start Pdba </pre> <pre> ~~ /etc/init.d/Pdba start ~~ PDBA application start Successful. </pre>
10.	MPS B: Log on Server B.	<pre> [hostname] consolelogin: epapdev password: <i>password</i> </pre>

11.	MPS B: Start Epap software.	Start Epap software to reflect the changes. Use the following command to start Epap: <pre>\$ sudo systemctl start Epap</pre> <pre>~~ /etc/init.d/Epap start ~~</pre> <pre>"EPAP_RELEASE" is set to "0.617"</pre> <pre>EPAP application start Successful.</pre>
12.	Procedure complete.	Procedure is complete.
13.	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

7 SOFTWARE UPGRADE PROCEDURES

Procedure 14 Assess MPS server's readiness for upgrade

Procedure 14: Assess the MPS Server's Readiness for Upgrade

S T E P #	This procedure executes the steps required to assess the readiness of a system to be upgraded. 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>UPGRADE ASSISTANCE</u>.	
1. ☐	MPS B: Log in as the user "admusr".	If not already logged-in, then log in. <pre><hostname> console login: admusr password: <password></pre>
2. ☐	MPS B: Display the /etc/hosts configuration for the pdb entities.	If upgrading the first MPS B of a Provisionable mated pair, execute the following command to display the configuration of pdb entries: <pre>\$ grep pdb /etc/hosts</pre> Otherwise, skip to step 4.
3. ☐	MPS B: Verify the correct configuration for pdb entities in the /etc/hosts file.	Below is an example of the output of the grep command: <pre>192.168.55.176 host1-a pdba 192.168.61.76 host2-a prova-ip pdbb</pre> If the command output contains 2 entries (pdba and pdbb are both configured), continue to the next step . If the command output does not contain unique entries for pdba and pdbb, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section.
4. ☐	MPS B: Display the contents of the /var/TKLC/upgrade directory.	Execute the following command to display the presence of EPAP software ISO images: <pre>\$ ls -la /var/TKLC/upgrade</pre> Note: The file permissions and ownership may vary due to the different methods used to transfer the file. Below is an example of the output of the 'ls -la' command for EPAP16.2: <pre>[root@Natal-A upgrade]# ls -la total 1785996 drwxrwxr-x. 3 root admgrp 4096 Jun 23 01:19 . dr-xr-xr-x. 21 root root 4096 Jun 23 00:00 .. -r--r----- 1 root root 904644608 Jun 23 01:19 EPAP-16.2.0.0.1_162.26.0-x86_64.iso</pre>

Procedure 14: Assess the MPS Server's Readiness for Upgrade

5. ☐	MPS B: Delete old ISO images.	Remove any ISO images that are not the target software ISO image using the following command: <pre># sudo rm -f /var/TKLC/upgrade/<filename></pre> Refer to step 6 to display the content of /var/TKLC/upgrade directory. Removed ISO should not be displayed.
6. ☐	MPS B: Determine when last reboot occurred. For any server up longer than 180 days would be a candidate for reboot during a maintenance window.	<pre>\$ uptime</pre> 15:19:34 up 23 days, 3:05, 2 users, load average: 0.10, 0.13, 0.09
7. ☐	MPS B: Disk Integrity step: Executing self-test on the disk.	Execute the following command: <pre>\$ sudo smartctl -t short /dev/sda</pre> The output on E5-APP-B card would be like: <pre>smartctl 5.43 2012-06-30 r3573 [x86_64-linux-2.6.32-642.6.2.el6prere17.4.0.0.0_88.32.0.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 Sat Feb 25 22:08:20 2017 Use smartctl -X to abort test. Note: Please wait for 5 minutes for the test to complete.</pre>
8. ☐	MPS B: Disk Integrity step. Contact My Oracle Support if the output shows any error/failure.	Execute the following command: <pre>\$ sudo smartctl -l selftest /dev/sda</pre> The output on E5-APP-B card would be like: <pre>smartctl 5.43 2012-06-30 r3573 [x86_64-linux-2.6.32-642.6.2.el6prere17.4.0.0.0_88.32.0.x86_64] (local build) Copyright (C) 2002-12 by Bruce Allen, http://smartmontools.sourceforge.net === START OF READ SMART DATA SECTION === SMART Self-test log structure revision number 1 Num Test_Description Status Remaining LifeTime(hours) LBA_of_first_error # 1 Short offline Completed without error 00% 12435</pre>

Procedure 14: Assess the MPS Server's Readiness for Upgrade

9. ☐	MPS B: Disk Integrity step Contact My Oracle Support if any output shows “Completed: read failure” or “Error: UNC xxx sectors” .	Execute the following command: \$ sudo smartctl -a /dev/sda grep -i LBA The output would be like: <pre> 241 Total_LBAs_Written 0x0032 100 100 000 Old_age Always - 340851 242 Total_LBAs_Read 0x0032 100 100 000 Old_age Always - 1689714 Num Test_Description Status Remaining LifeTime(hours) LBA_of_first_error SPAN MIN_LBA MAX_LBA CURRENT_TEST_STATUS </pre>
10. ☐	MPS B: Disk Integrity Test.	Repeat steps 9 to 11 for the /dev/sdb disk drive on E5-APP-B card:
11. ☐	MPS B: Logout from “admusr”.	Logout from the “admusr” user by executing the following command: \$ exit
12. ☐	MPS A: Repeat checks on Server A.	Repeat steps-1 to 13 on MPS A.
13. ☐	Procedure Complete.	This procedure is complete.
14. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure 15 Preupgrade Backups

Procedure 15: Preupgrade Backups

STEP #	This procedure performs the pre and post upgrade backups.	
	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 UPGRADE ASSISTANCE.	
1. ☐	MPS A: Backup system configuration on MPS A.	Follow Procedure A.3 to backup the system configuration on MPS A.
2. ☐	MPS B: Backup system configuration on MPS B.	Follow Procedure A.3 to backup the system configuration on MPS B.

Procedure 15: Preupgrade Backups

3. ☐	MPS B: Backup RTDB database. Note: If migrating from 17.0.0.x, skip this step.	Perform Procedure A.7 to backup the RTDB database on MPS B. Note: Perform this step only while upgrading Mixed and Non-Prov Nodes.			
4. ☐	MPS A: Backup EuiDB database.. Note: If migrating from 17.0.0.x, skip this step.	Perform Procedure A.8 to backup the EuiDB database on MPS A.			
5. ☐	MPS A: Backup PDB database. Note: Only perform this step if the MPS-A is configured as a Provisionable node. Check the output of Procedure 2 , step 9 to verify if MPS A is provisionable or not.	Case	Source Release	Destination Release	Backup Procedure
		1.	17.0.x 17.1.x	18.x	Procedure A.51
		2.	18.x	18.y	Procedure A.6
Note: 1. In a dual mixed server configuration, if one of the provisioning sites has already been upgraded to EPAP 18.x, take the PDB backup from the GUI of the upgraded provisioning site. The other provisioning site will subsequently be upgraded to the same 18.x release. Hence, the backup from the already upgraded site will be compatible and can be used for this upgrade as well. 2. When upgrading a dual PDBonly or dual Mixed server, if one PDBA site is upgraded to EPAP 18.x, the peer PDBA site should also be upgraded to EPAP 18.x as soon as possible. EPAP 18.0 uses MySQL 8.4.9, which supports backup compatibility only for versions 8.4.3 through 8.4.9. As a result, direct PDB backup/restore from the EPAP GUI is not supported for: EPAP 17.0.0.5 and earlier (MySQL 8.0.35) EPAP 17.0.0.6 and later, and EPAP 17.1.x (MySQL 8.4.0)					

Procedure 15: Preupgrade Backups

		For EPAP 17.0.x and 17.1.x systems, backups must be taken using Procedure A.51 and restored using Procedure A.52 .
6.	Transfer the backup to remote server	Using SFTP (secure-FTP), transfer the backups to a remote, customer-provided computer. Enter “yes” when prompted if you want to continue to connect. <pre>\$ cd /var/TKLC/epap/free</pre> <pre>\$ sftp <IP address of remote computer></pre> 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. 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. <pre>root@<IP address of remote computer>'s password: sftp> cd <target directory> sftp> put backup_file</pre> Note: put backups one by one Uploading backup_file <pre>sftp> bye</pre> If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command: <pre>\$ sudo chmod 666 /var/TKLC/epap/free/<Backup file> \$ su - epapdev \$ scp /var/TKLC/epap/free/<backup file> epapdev@mate:/var/TKLC/epap/free/</pre>
7.	Procedure Complete.	This procedure is complete.

Procedure 16 Preupgrade system time check

Procedure 16: Pre-upgrade System Time Check

S	This procedure performs the pre-upgrade system time check.
T	Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.
E	
P	IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR <u>UPGRADE ASSISTANCE</u> .
#	
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. 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 15 minutes from the real time.	

1. ☐	MPS A: Login as the user "epapdev".	If not already logged-in, then login at MPS A: <hostname> console login: epapdev password: <password>
2. ☐	MPS A: Execute the "date" command.	Execute the "date" command and examine the result. \$ date Sat Feb 25 22:09:58 EDT 2018
3. ☐	MPS B: Login as the user "epapdev".	If not already logged-in, then login at MPS B: <hostname> console login: epapdev password: <password>
4. ☐	MPS B: Execute the "date" command.	Execute the "date" command and examine the result. \$ date Sat Feb 25 22:09:58 EDT 2018
5. ☐	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 15 minutes or less, then this procedure is complete, otherwise if the difference exceeds 15 minutes, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section
6. ☐	Procedure Complete.	This procedure is complete.
7. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure 17 Check 9dig counts before moving to eXtreme architecture

Procedure 17: Check 9dig counts before moving to eXtreme architecture

Note: This step is only required before converting DB architecture from Compact to Extreme

STEP #	This procedure checks the 9dig counts for all DN/IMSI and IMEI.	
	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>UPGRADE ASSISTANCE</u> .	
Verify the PDB data are within 9dig limitation		
Maximum 9dig limit for DN: 65K Maximum 9dig limit for IMSI: 65K Maximum 9dig limit for IMEI: 250K		
1. ☐	MPS A: Login as the user “epapdev” on standalone PDB.	If not already logged-in, then login at MPS A: <hostname> console login: epapdev password: <password>
2. ☐	MPS A: Execute the “parse9Dig” script on standalone PDB.	Execute the “parse9Dig” script and examine the result. Note: Stop the Pdba software before executing this script. \$ /usr/TKLC/epap/config/parse9Dig all c Get reference from the following snapshot: [epapdev@Osorna-1B-PDBOnly config]\$ /usr/TKLC/epap/config/parse9Dig all c This utility will retrieve all digits for DB and parse them into 9Dig entries. ***** Utility Start Time: 06/13/18-20:51:48 Parsing DN digits into 9digits... INFO: DN 9dig count 2. Parsing IMSI digits into 9digits... INFO: IMSI 9dig count: 9. Parsing IMEI digits into 9digits... INFO: IMEI 9dig count: 1. Utility End Time: 06/13/18-20:51:48 [epapdev@Osorna-1B-PDBOnly config]\$ █ If any of the data type from DN/IMSI and IMEI exceeds the 9Dig limit, then DB Architecture cannot be changed to eXtreme.
3. ☐	MPS A: Start Pdba software.	Execute the following command to start Pdba software on EPAP 16.3.1/16.4.1 servers: \$ service Pdba start

		<pre>~~ /etc/init.d/Pdba start ~~</pre> PDBA application start Successful. Exeucte the following command to start Pdba software on EPAP 17.0 servers: \$ systemctl start Pdba
4.	☐ MPS A: Procedure is complete.	This procedure is complete.
5.	☐ Note down the timestamp in log.	Run the following command: \$ date

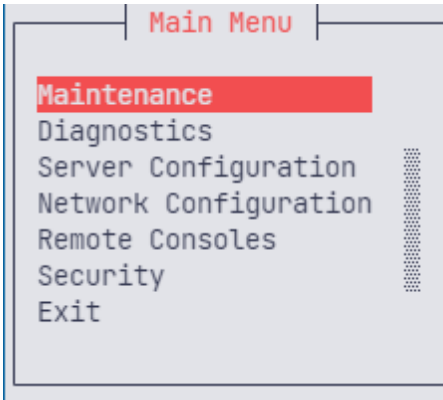
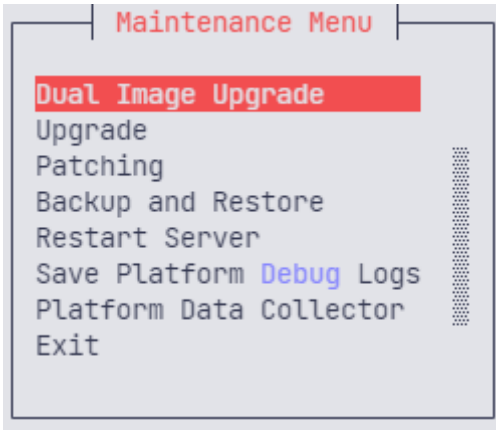
Procedure 18 Dual Image Upgrade Server B

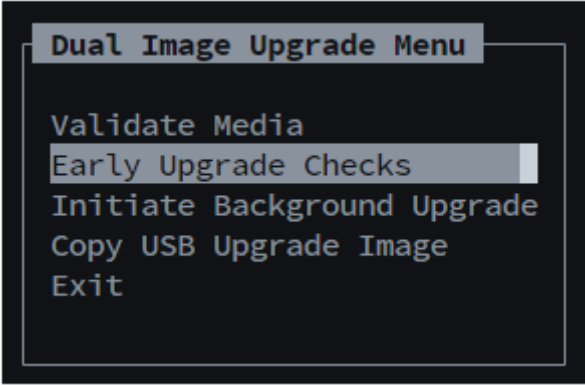
Note: Ensure that the Legacy Upgrade before DIU is accepted, otherwise it might cause an error while initiating background upgrade in DIU.

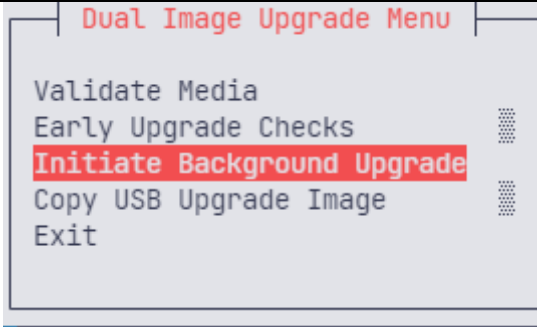
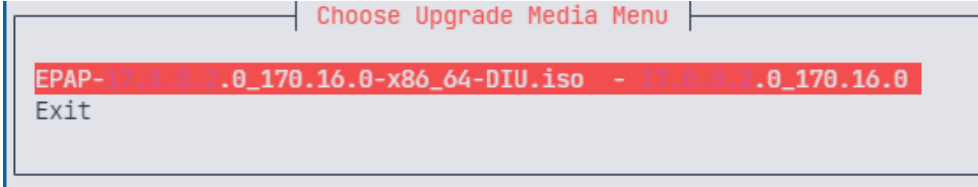
S. No	Steps	This procedure performs Dual Image Upgrade on the server. Check off (✓) each step as it is completed. Boxes have been provided for this purpose beside each step number. If this procedure fails, contact My Oracle Support and ask for ASSISTANCE.
1	MPS B: Login prompt is displayed.	<hostname> console login: Note: Press enter if no login prompt is displayed.
2	MPS B: Log in as "root" user.	[hostname] consolelogin: root password: password
3	MPS B: Copy DIU ISO	Perform the procedure in Procedure A.12 or copy EPAP DIU ISO to /var/TKLC/upgrade directory. Make sure that only the DIU iso and patch is present in the directory.
4	Create a terminal window log in MPS B.	If not already connected, connect to the APPD card via the serial port. For connecting the APPD B card, disconnect the console cable from the serial port on the APPD A card's adapter. The cable should be disconnected at the point where it connects to the serial port labeled 'S1' on the APPD A card's adapter and use it for serial access. Cable part numbers - 830-1220-xx

5	MPS B: Move all custom files and run pre upgrade script	Note: NTP must be configured before starting DIU. NOTE: All custom files, scripts, folders need to be migrated to remote server before the DIU process is started. These need to be restored back to their place after the DIU process is completed. <hostname> console login: root password: Run allowRoot ON both the pairs before running script on mated pairs e.g. [root@MPS-B upgrade]# allowRoot ON /etc/securetty file successfully updated. /etc/ssh/sshd_config file successfully updated. Service sshd has been restarted but existing root ssh sessions will not be terminated. /etc/pam.d/su file successfully updated. Change permission and group of the script downloaded from [root@MPS-B tmp]# chmod +x diuPreUpgrade.sh [root@MPS-B tmp]# chown root:root diuPreUpgrade.sh NOTE:- Before running the pre-upgrade script, ensure the mount point `/var/TKLC/epap/free` is not in active use. Specifically, verify that no interactive shells (e.g., `bash`) or other processes have their current working directory set to `/var/TKLC/epap/free` (or any subdirectory), as this will cause the unmount step to fail with "target is busy." Run the pre-upgrade script [root@MPS-B tmp]# ./diuPreUpgrade.sh [INFO] Setting SPLIT_MIRROR=1 in /usr/TKLC/plat/etc/upgrade/upgrade.conf [INFO] + printf '%s\n' 'SPLIT_MIRROR=1' > /usr/TKLC/plat/etc/upgrade/upgrade.conf [INFO] + cat '/usr/TKLC/plat/etc/upgrade/upgrade.conf' SPLIT_MIRROR=1 [INFO] Comcol folder /var/TKLC/epap/free/comcol does not exist or is empty. [INFO] Parsed: function_output='PDBonly' df_output='' for /vgroot-db [INFO] PDBonly detected in /etc/profile.d/TKLCplat_conf.sh; skipping conditional DB stop block. Created symlink /etc/systemd/system/Pdba.service -> /dev/null. Created symlink /etc/systemd/system/mysqld@pdb.service -> /dev/null.
---	---	---

	<pre> [INFO] Moving comcol to /var/TKLC/epap/logs [INFO] + mv '/var/TKLC/epap/free/comcol' '/var/TKLC/epap/logs/' Proceeding, VG free is only 0G... [INFO] Unmounting /var/TKLC/epap/free if mounted [INFO] + umount '/var/TKLC/epap/free' 2>/dev/null true [INFO] Removing existing LV vgroot/free if present [INFO] + lvremove -y '/dev/mapper/vgroot-free' 2>/dev/null lvremove -y '/dev/vgroot/free' 2>/dev/null true Logical volume "free" successfully removed. [INFO] Querying VG free space for vgroot [INFO] VG free before create: 205.63G (int=205G) [INFO] Allocating LV size xvalue=175G (leaving ~30G VG free) [INFO] + lvcreate --yes -L '175G' --name 'free' 'vgroot' Wiping ext4 signature on /dev/vgroot/free. Logical volume "free" created. [INFO] + mkfs.ext4 -F '/dev/mapper/vgroot-free' mke2fs 1.46.2 (28-Feb-2021) Discarding device blocks: done Creating filesystem with 45875200 4k blocks and 11468800 inodes Filesystem UUID: f672176c-bc7d-45de-b196-443e11979691 Superblock backups stored on blocks: 32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208, 4096000, 7962624, 11239424, 20480000, 23887872 Allocating group tables: done Writing inode tables: done Creating journal (262144 blocks): done Writing superblocks and filesystem accounting information: done [INFO] + mount '/dev/mapper/vgroot-free' '/var/TKLC/epap/free' [INFO] + chown epapdev:epap '/var/TKLC/epap/free' [INFO] Restoring comcol back to /var/TKLC/epap/free [INFO] + mv '/var/TKLC/epap/logs/comcol' '/var/TKLC/epap/free/' [INFO] VG free after create: 30.63G (int=30G). Expected ~30G remaining. [INFO] Completed successfully. [root@MPS-B tmp]# Run vgs to make sure Free space is 30G. (NOTE: In case of APPD, the free space can be more than 30G in vgs ouput) [root@MPS-B tmp]# vgs VG #PV #LV #SN Attr VSize VFree vgroot 1 9 0 wz--n- <442.41g 30.63g </pre>
--	---

6	MPS B: Start platcfg utility.	\$ su – platcfg
7	MPS B: Navigate to the Upgrade menu. **NOTE**: Make sure to select Dual Image Upgrade only.	The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER].  Select the Dual Image Upgrade menu and press [ENTER]. 
8.	MPS B: Validate ISO file.	Validate ISO file using Procedure A.2.
9.	MPS B: Select Early Upgrade Checks	Select the “Early Upgrade Checks” menu to verify that the system is ready for upgrade.

		 NOTE: Please note that the previous upgrade should be accepted before proceeding for DIU upgrade. If the previous upgrade is not accepted, then early upgrade checks will fail with the error that previous upgrade is not yet accepted. If the Early Upgrade Checks fail due to the NTP related alarms, then ignore the NTP alarms using the following commands: • Exit the platcfg menu. • Change to root user using the “su –” command. • vim /usr/TKLC/plat/etc/upgrade/upgrade.conf • Edit the following line to include the NTP related alarms. ○ EARLY_CHECK_ALARM_WHITELIST=TKSPLATMI2 ○ Add the following alarm code to ignore Storage Capacity Problem: TKSPLATMA5 ○ Add the following line for the RAID related alarms: o EARLY_CHECK_ALARM_WHITELIST=TKSPLATMA2 For example – To allowlist the NTP alarm “tpdNTPDaemonNotSynchronizedWarning” which has the alarm code TKLCPLATMI10, the above-mentioned line should be edited as EARLY_CHECK_ALARM_WHITELIST=TKSPLATMI2,TKSPLATMI10 Note: There should not be any space between two alarms i.e. between TKSPLATMI2 and TKSPLATMI10 If the Early Upgrade Checks fail due to “Server Default Route Network Error”, then this alarm shall be allowlisted in upgrade.conf file. To allowlist the alarm which has the alarm code TKSPLATMA14, the above-mentioned line should be edited as: EARLY_CHECK_ALARM_WHITELIST=TKSPLATMA2,TKSPLATMI2,TKSPLATMA5,TKSPLATMI10,TKSPLATMA14,TKSPLATMA28,TKSPLATMI39 Note: Please note that TKSPLATMA5, TKSPLATMA2, TKSPLATMI2 should always be whitelisted.
10	MPS B: Navigate to the Initiate Upgrade menu	Select the Initiate Background Upgrade menu and press [ENTER].

		
11	MPS B: Select the Upgrade Media.	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 as shown in the example below. Select the desired upgrade media and press [ENTER].  In case there is a failure in the upgrade process, then run the following command to verify whether the raid is synced or not: - lsblk Key Points: - Under a healthy, in-sync RAID, both member partitions will show the same md device. - If the RAID is not in sync or missing a member, only one partition will show the md device. <u>Example of lsblk output when raid is in sync,</u>

```

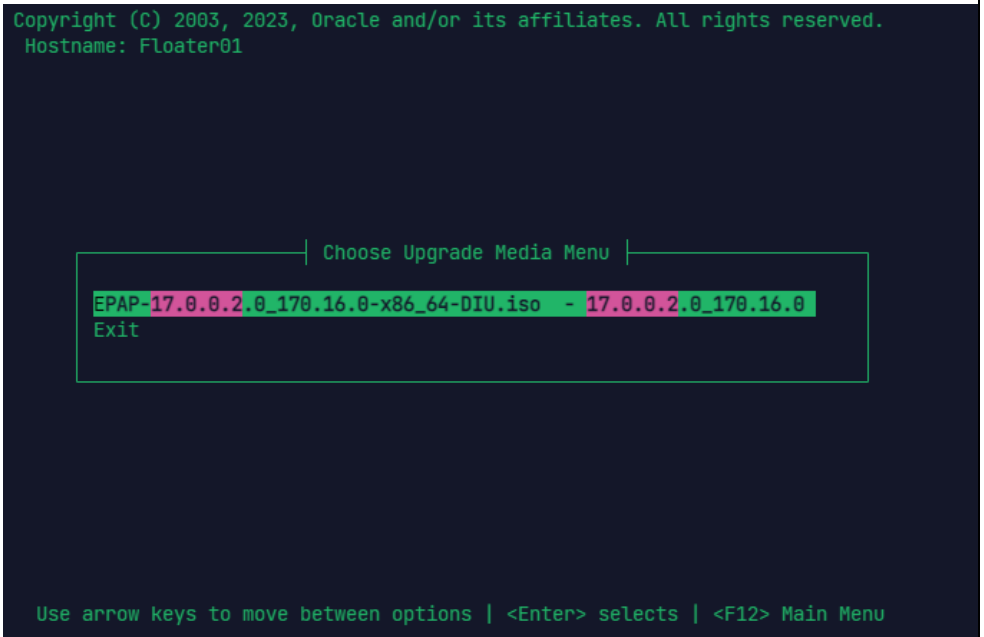
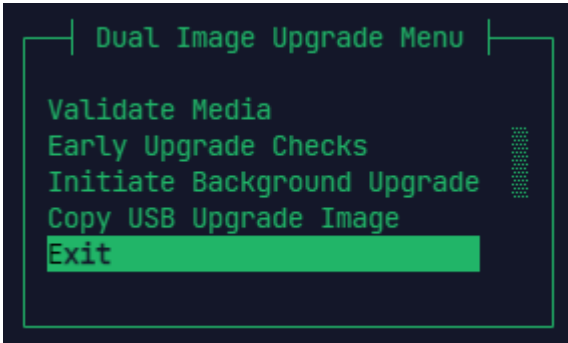
[root@Recife-A upgrade]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE  MOUNTPOINT
sda                                8:0    0 447.1G 0 disk
|-sda1                            8:1    0  512M 0 part
`-sda2                            8:2    0 446.5G 0 part
  `--md1                          9:1    0 446.4G 0 raid1
     |-vgroot-plat_root            253:0    0   4G 0 lvm  /
     |-vgroot-plat_swap            253:1    0   2G 0 lvm  [SWAP]
     |-vgroot-plat_usr             253:2    0  10G 0 lvm  /usr
     |-vgroot-plat_var_tklc        253:3    0   8G 0 lvm  /var/TKLC
     |-vgroot-plat_tmp             253:4    0   1G 0 lvm  /tmp
     |-vgroot-plat_var             253:5    0   2G 0 lvm  /var
     |-vgroot-logs                 253:6    0  20G 0 lvm  /var/TKLC/epap/logs
     |-vgroot-db                   253:7    0 191.8G 0 lvm  /var/TKLC/epap/db
     `--vgroot-free                253:8    0 207.7G 0 lvm  /var/TKLC/epap/free
sdb                                8:16    1  28.9G 0 disk
|-sdb1                            8:17    1   2.8G 0 part
`-sdb2                            8:18    1   9.8M 0 part
sdc                                8:32    0 447.1G 0 disk
|-sdc1                            8:33    0  512M 0 part
`-sdc2                            8:34    0 446.5G 0 part
  `--md1                          9:1    0 446.4G 0 raid1
     |-vgroot-plat_root            253:0    0   4G 0 lvm  /
     |-vgroot-plat_swap            253:1    0   2G 0 lvm  [SWAP]
     |-vgroot-plat_usr             253:2    0  10G 0 lvm  /usr
     |-vgroot-plat_var_tklc        253:3    0   8G 0 lvm  /var/TKLC
     |-vgroot-plat_tmp             253:4    0   1G 0 lvm  /tmp
     |-vgroot-plat_var             253:5    0   2G 0 lvm  /var
     |-vgroot-logs                 253:6    0  20G 0 lvm  /var/TKLC/epap/logs
     |-vgroot-db                   253:7    0 191.8G 0 lvm  /var/TKLC/epap/db
     `--vgroot-free                253:8    0 207.7G 0 lvm  /var/TKLC/epap/free

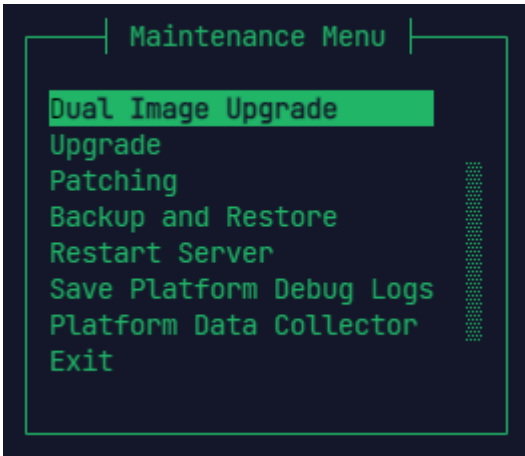
```

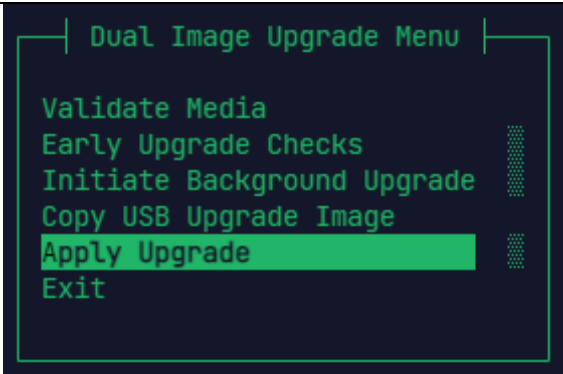
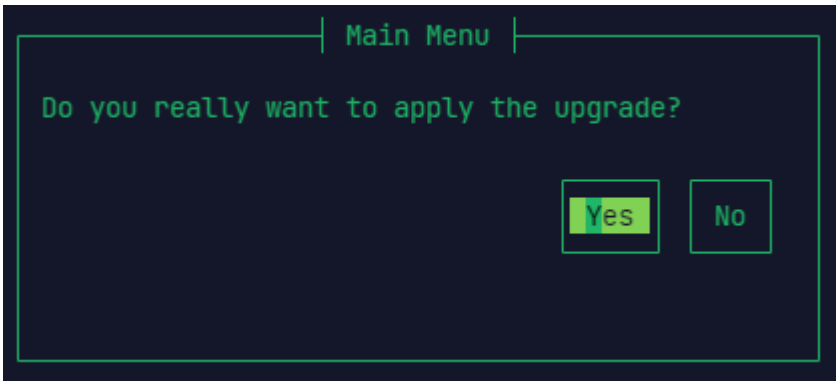
Please note that in the above raid in sync snapshot of lsblk, sdb is for USB as it shows 28.9G while sda and sdc are for HDD which is 447.1G. Hence whenever you run lsblk command, always take a note of which drive is showing USB and which drives are showing HDD.

Raid not in sync example snapshot:

	<pre>[root@Natal-A upgrade]# lsblk NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT sda 8:0 1 28.9G 0 disk `-sda1       8:1  1 28.9G 0 part sdb          8:16 0 894.3G 0 disk  -sdb1       8:17 0 512M 0 part `-sdb2 8:18 0 893.7G 0 part `-md1 9:1 0 893.5G 0 raid1 -vgroot-plat_root_253:0 0 2G 0 lvm / -vgroot-plat_swap_253:1 0 2G 0 lvm [SWAP] -vgroot-plat_usr_253:2 0 8G 0 lvm /usr -vgroot-plat_var_tklc_253:3 0 8G 0 lvm /var/TKLC -vgroot-plat_tmp_253:4 0 1G 0 lvm /tmp -vgroot-plat_var_253:5 0 2G 0 lvm /var -vgroot-rt_253:6 0 68G 0 lvm /var/TKLC/epap/rt -vgroot-logs_253:7 0 20G 0 lvm /var/TKLC/epap/logs -vgroot-db_253:8 0 289.2G 0 lvm /var/TKLC/epap/db `-vgroot-free_253:9 0 204G 0 lvm /var/TKLC/epap/free sdc          8:32 0 894.3G 0 disk  -sdc1       8:33 0 512M 0 part `-sdc2 8:34 0 893.7G 0 part</pre> Please note that in the above raid in sync snapshot of lsblk, sda is for USB as it shows 28.9G while sdb and sdc are for HDD which is 447.1G. Hence whenever you run lsblk command, always take a note of which drive is showing USB and which drives are showing HDD. Here we are saying raid is not in sync because only sdb is showing md1 device but sdc is not showing any md device. If the raid is not in sync, then run the following command: mdadm --add /dev/md1 /dev/sdX where sdX can be any of sda, sdb, or sdc according to LV configurations. Please note that sdX will never be the USB partition. This can be verified using lsblk command. In the above example, sdb and sdc are for hard disk and sda is for USB, here sdc is not in sync as it is not showing the proper md device md1. Hence the command for syncing the above raid not in sync scenario will be like given below. mdadm --add /dev/md1 /dev/sdc The following command can be used to check the status of the sync after running the above command. <pre>[root@Arica-A upgrade]# cat /proc/mdstat Personalities : [raid1] md1 : active raid1 sdb[3] sdc2[2] 468091904 blocks super 1.2 [2/1] [U_]</pre>
--	---

		[==>.....] recovery = 19.1% (89824128/468091904) finish=81.5min speed=77331K/sec bitmap: 4/4 pages [16KB], 65536KB chunk unused devices: <none> Wait till the time recovery is not completed 100%.
12	MPS B: Upgrade proceeds. Apply Upgrade.	Many informational messages appear on the terminal screen as the upgrade proceeds. After the background upgrade is done, the system will return to this screen.  After this, select [EXIT] and press [ENTER]. From the Dual image Upgrade Menu, select [EXIT] and press [ENTER].  Exit from the platcfg menu, verify the status using below command, It should show "Ready to Apply upgrade"

		<pre>/var/TKLC/backout/diUpgrade --status</pre> <pre>[root@MPS-b tmp]# /var/TKLC/backout/diUpgrade --status</pre> State: Ready to Apply Upgrade Status Messages: - Performing early checks - Downloading upgrade data - Verifying image - Performing image pre-install - Configuring images - Identifying resources - Reserving image storage - Installing image - Verifying configuration sanity - Performing image post-install - Image install complete From the platcfg menu-> select maintenance menu, select Dual Image Upgrade and then Press Enter.  From the Dual Image Upgrade Menu, select Apply Upgrade and press [ENTER].
--	--	--

		 Select YES and press ENTER.  When the upgrade process is complete, the server reboots.
13	MPS B: Upgrade completed.	After the final reboot, the screen displays the login prompt as displayed in the example below.

		<pre> [543.047224] diUpgrade[11034]: Creating alarm script: /tmp/OUTopYCjjI [550.076488] diUpgrade[11034]: Image Apply Complete [550.076687] diUpgrade[11034]: ##### [550.076769] diUpgrade[11034]: # APPLY COMPLETE # [550.076846] diUpgrade[11034]: ##### [550.076923] diUpgrade[11034]: Transitioning from 'Applying Upgrade' to [550.219075] systemctl[21188]: Removed /etc/systemd/system/TPD.target.wa [569.958098] completeTasks[21254]: completeTasks started: Fri Oct 27 07 [570.018205] completeTasks[21254]: ID: 1697182349.0 [570.018407] completeTasks[21254]: STATE: COMPLETED [570.018490] completeTasks[21254]: RESULT: SUCCESS [570.018566] completeTasks[21254]: CHECKPOINTS [570.018643] completeTasks[21254]: ----- [570.018725] completeTasks[21254]: main STATE: COMPLETED RESULT: SUCCE [570.018801] completeTasks[21254]: STARTED: 1697182349 ENDED: 169718235 [570.018881] completeTasks[21254]: STATUS LOG [570.018957] completeTasks[21254]: ----- [570.019039] completeTasks[21254]: 0 1697182349 INFO main Checkpoint sta [570.019126] completeTasks[21254]: 1 1697182349 INFO main Checkpoint sta [570.019206] completeTasks[21254]: 2 1697182350 INFO main Checkpoint fin [570.019283] completeTasks[21254]: LOG FILE: /var/TKLC/log/TaskMgr/compl Oracle Linux Server 8.8 Kernel 4.18.0-477.21.1.el8_8.x86_64 on an x86_64 Floater01 login: █ </pre> Make sure to verify that the state is transitioned from “Applying upgrade” to “Upgrade Applied” and we get Completed Result: SUCCESS using below command <pre>/var/TKLC/backout/diUpgrade --status</pre>
14	MPS B: log in as “root” user.	<pre>[hostname] consolelogin: root password: password</pre>
15	MPS B: Check the Upgrade log.	Examine the upgrade logs in the directory /var/TKLC/log/upgrade and verify that no errors and warnings were reported. <pre>\$ grep -i error /var/TKLC/log/upgrade/upgrade.log</pre> Check the output of the upgrade log. Contact My Oracle Support following the instructions on the front page or the instructions on the Appendix E, if the output contains any error except the following: <pre>[root@Salta-B core]# grep -i error /var/TKLC/log/upgrade/upgrade.log</pre>

	<pre> 1673985608::ERROR: run-r1841b65093e14801be5696ea62d92ac2 is not recognized as a systemd187system service! 1673985608::ERROR: Could not stop run- r1841b65093e14801be5696ea62d92ac2! 1673985608::ERROR: service_conf reconfig failed! 1726140936::ERROR: SEQ: 83 UPTIME: 12737 BIRTH: 1726139350 TYPE: SET ALARM: TKSPLATMI2 tpdApplicationProcessError 1.3.6.1.4.1.323.5.3.18.3.1.3.2 32501 Processing Error Software Program Error HOST-RESOURCES- MIB::hrSWRunName:1.3.6.1.2.1.25.4.2.1.2:OCTET_STRING:eaglelog \$ grep -i warning /var/TKLC/log/upgrade/upgrade.log Examine the output of the above command to determine if any warnings were reported. Contact My Oracle Support following the instructions on the front page or the instructions on the Appendix E, if the output contains any warnings beside the following: [root@Salta-B core]# grep -i error /var/TKLC/log/upgrade/upgrade.log 1673985608::ERROR: run-r1841b65093e14801be5696ea62d92ac2 is not recognized as a systemd187system service! 1673985608::ERROR: Could not stop run- r1841b65093e14801be5696ea62d92ac2! 1673985608::ERROR: service_conf reconfig failed! [root@Salta-B core]# grep -i warning /var/TKLC/log/upgrade/upgrade.log 1673985030:* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/free". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/free". 1673985033::useradd: warning: the home directory already exists. 1673985476::2023-01-17T19:57:57.683121Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.683144Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1.1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.808924Z 6 [Warning] [MY-010453] [Server] root@localhost is created with an empty password ! Please consider switching off the ---initialize-insecure option. </pre>
--	--

		1673985551::WARNING: A new file was added to xml alarm files.....reparsing xml... 1673985551::WARNING: FILE: /usr/TKLC/plat/etc/alarms/alarms_mps.xml 1673985571::TKLCepap-HA #####warning: group root} does not existxi-t - using root 1726141389::WARNING: Hostname not changed because it is the same.
16	MPS B: Check that the upgrade completed successfully.	Run the command from the root user: [root@Floater04 ~]\$ /var/TKLC/backout/diUpgrade --status
17	MPS B: Check that the upgrade completed successfully.	Verify that the following output is displayed. If it is not, contact My Oracle Support following the instructions on the front page or the instructions on the Appendix E. <pre> [root@Floater04 ~]# /var/TKLC/backout/diUpgrade --sta State: Upgrade Applied Status Messages: - Performing early checks - Downloading upgrade data - Verifying image - Performing image pre-install - Configuring images - Identifying resources - Reserving image storage - Installing image - Verifying configuration sanity - Performing image post-install - Image install complete - Validating image pre-apply - Performing image pre-apply - Applying image - Performing configuration export - Performing image post-apply - Image Apply Complete </pre>
18	MPS A: Reconfigure Syscheck	Run the following command for reconfiguration of syscheck: \$ syscheck --reconfig
19	Update HTTP/HTTPS variable in EuiDB	Set HTTPS_ENABLED to Yes and HTTP_ENABLED to No as HTTPS is enabled after DIU upgrade by default. If the user wants to change the configuration, they can do it through GUI after completing the DIU upgrade: Run the following command: \$ uiEdit HTTPS_ENABLED Yes \$ uiEdit HTTP_ENABLED No

20	MPS B: Reboot after installation	Reboot the system after the “Apply Complete Process” to finally finish the installation. \$ reboot
21	MPS B: Install Complete.	The installation procedure is complete. If there are any issues in the upgrade, check Procedure A.49 Dual Image Upgrade Known Issues Fix .
22	Note down the timestamp in log.	Run the following command: \$ date
23	Important Note	An internal disk error will be present once upgrade is done, and it will be removed only after accepting the upgrade.

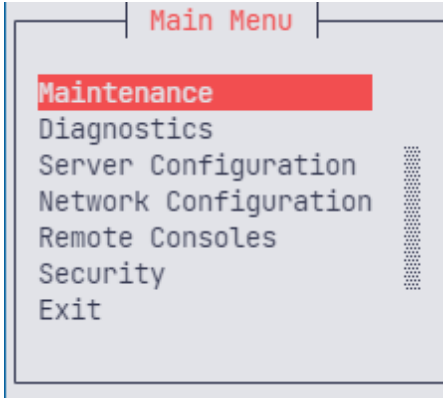
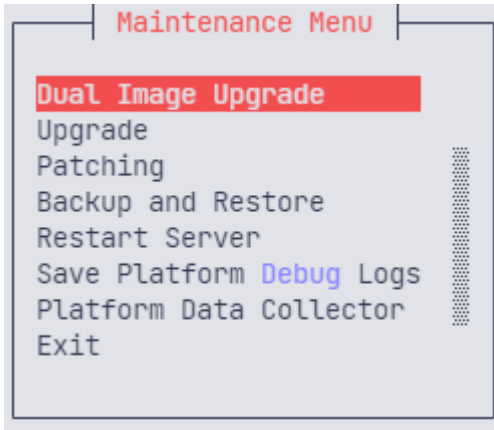
Procedure 19 Dual Image Upgrade server A

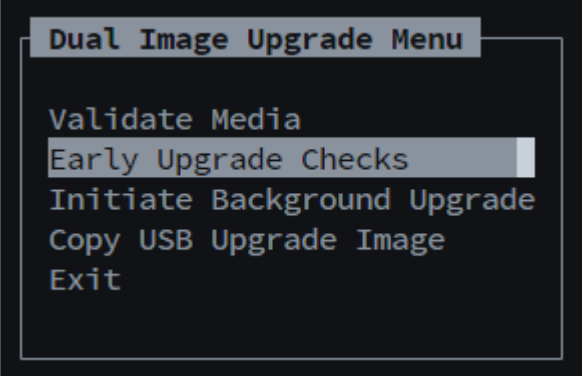
Note: Ensure that the Legacy Upgrade before DIU is accepted, otherwise it might cause an error while initiating background upgrade in DIU.

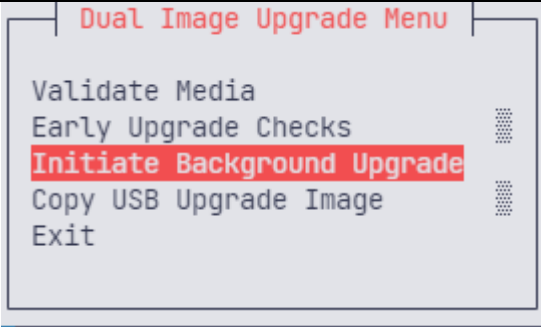
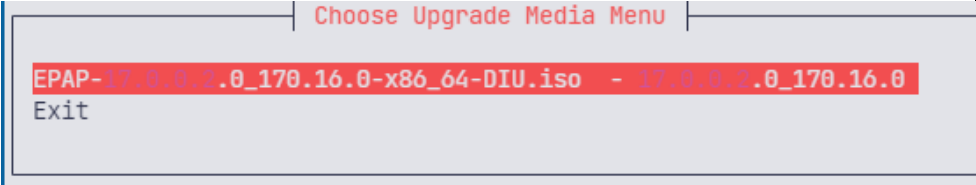
S. No	Steps	This procedure performs Dual Image Upgrade on the server. Check off (✓) each step as it is completed. Boxes have been provided for this purpose beside each step number. If this procedure fails, contact My Oracle Support and ask for ASSISTANCE.
1	MPS A: Login prompt is displayed.	<hostname> console login: Note: Press enter if no login prompt is displayed.
2	MPS A: Log in as “root” user.	[hostname] consolelogin: root password: password
3	MPS A: Copy DIU ISO	Perform the procedure in Procedure A.12 or copy EPAP DIU ISO to /var/TKLC/upgrade directory. Make sure that only the DIU iso and patch is present in the directory.
4	Create a terminal window log in MPS A.	If not already connected, connect to the APPD card via the serial port. For connecting the APPD B card, disconnect the console cable from the serial port on the APPD A card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the APPD A card’s adapter and use it for serial access. Cable part numbers - 830-1220-xx
5	MPS A: Move all custom files and run pre upgrade script	Note: NTP must be configured before starting DIU.

	NOTE: All custom files, scripts, folders need to be migrated to remote server before the DIU process is started. These need to be restored back to their place after the DIU process is completed. <hostname> console login: root password: Run allowRoot ON both the pairs before running script on mated pairs e.g. [root@MPS-A upgrade]# allowRoot ON /etc/securetty file successfully updated. /etc/ssh/sshd_config file successfully updated. Service sshd has been restarted but existing root ssh sessions will not be terminated. /etc/pam.d/su file successfully updated. Change permission and group of the script downloaded from [root@MPS-A tmp]# chmod +x diuPreUpgrade.sh [root@MPS-A tmp]# chown root:root diuPreUpgrade.sh NOTE:- Before running the pre-upgrade script, ensure the mount point `/var/TKLC/epap/free` is not in active use. Specifically, verify that no interactive shells (e.g., `bash`) or other processes have their current working directory set to `/var/TKLC/epap/free` (or any subdirectory), as this will cause the unmount step to fail with "target is busy." Run the pre-upgrade script [root@MPS-A tmp]# ./diuPreUpgrade.sh [INFO] Setting SPLIT_MIRROR=1 in /usr/TKLC/plat/etc/upgrade/upgrade.conf [INFO] + printf '%s\n' 'SPLIT_MIRROR=1' > /usr/TKLC/plat/etc/upgrade/upgrade.conf [INFO] + cat '/usr/TKLC/plat/etc/upgrade/upgrade.conf' SPLIT_MIRROR=1 [INFO] Comcol folder /var/TKLC/epap/free/comcol does not exist or is empty. [INFO] Parsed: function_output='PDBonly' df_output='' for /vgroot-db [INFO] PDBonly detected in /etc/profile.d/TKLCplat_conf.sh; skipping conditional DB stop block. Created symlink /etc/systemd/system/Pdba.service -> /dev/null. Created symlink /etc/systemd/system/mysqld@pdb.service -> /dev/null. [INFO] Moving comcol to /var/TKLC/epap/logs
--	--

		<pre> [INFO] + mv '/var/TKLC/epap/free/comcol' '/var/TKLC/epap/logs/' Proceeding, VG free is only 0G... [INFO] Unmounting /var/TKLC/epap/free if mounted [INFO] + umount '/var/TKLC/epap/free' 2>/dev/null true [INFO] Removing existing LV vgroot/free if present [INFO] + lvremove -y '/dev/mapper/vgroot-free' 2>/dev/null lvremove -y '/dev/vgroot/free' 2>/dev/null true Logical volume "free" successfully removed. [INFO] Querying VG free space for vgroot [INFO] VG free before create: 205.63G (int=205G) [INFO] Allocating LV size xvalue=175G (leaving ~30G VG free) [INFO] + lvcreate --yes -L '175G' --name 'free' 'vgroot' Wiping ext4 signature on /dev/vgroot/free. Logical volume "free" created. [INFO] + mkfs.ext4 -F '/dev/mapper/vgroot-free' mke2fs 1.46.2 (28-Feb-2021) Discarding device blocks: done Creating filesystem with 45875200 4k blocks and 11468800 inodes Filesystem UUID: f672176c-bc7d-45de-b196-443e11979691 Superblock backups stored on blocks: 32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208, 4096000, 7962624, 11239424, 20480000, 23887872 Allocating group tables: done Writing inode tables: done Creating journal (262144 blocks): done Writing superblocks and filesystem accounting information: done [INFO] + mount '/dev/mapper/vgroot-free' '/var/TKLC/epap/free' [INFO] + chown epapdev:epap '/var/TKLC/epap/free' [INFO] Restoring comcol back to /var/TKLC/epap/free [INFO] + mv '/var/TKLC/epap/logs/comcol' '/var/TKLC/epap/free/' [INFO] VG free after create: 30.63G (int=30G). Expected ~30G remaining. [INFO] Completed successfully. [root@Salta-B tmp]# Run vgs to make sure Free space is 30G. (NOTE: In case of APPD, the free space can be more than 30G in vgs ouput) [root@MPS-A tmp]# vgs VG #PV #LV #SN Attr VSize VFree vgroot 1 9 0 wz--n- <442.41g 30.63g </pre>
--	--	---

6	MPS A: Start platcfg utility.	\$ su – platcfg
7	MPS A: Navigate to the Upgrade menu. **NOTE**: Make sure to select Dual Image Upgrade only.	The platcfg Main Menu appears. 2. On the Main Menu, select Maintenance and press [ENTER].  Select the Dual Image Upgrade menu and press [ENTER]. 
8.	MPS A: Validate ISO file.	Validate ISO file using Procedure A.2.
9.	MPS A: Select Early Upgrade Checks	Select the “Early Upgrade Checks” menu to verify that the system is ready for upgrade.

		 NOTE: Please note that the previous upgrade should be accepted before proceeding for DIU upgrade. If the previous upgrade is not accepted, then early upgrade checks will fail with the error that previous upgrade is not yet accepted. If the Early Upgrade Checks fail due to the NTP related alarms, then ignore the NTP alarms using the following commands: • Exit the platcfg menu. • Change to root user using the “su –” command. • vim /usr/TKLC/plat/etc/upgrade/upgrade.conf • Edit the following line to include the NTP related alarms. ○ EARLY_CHECK_ALARM_WHITELIST=TKSPLATMI2 ○ Add the following alarm code to ignore Storage Capacity Problem: TKSPLATMA5 ○ Add the following line for the RAID related alarms: o EARLY_CHECK_ALARM_WHITELIST=TKSPLATMA2 For example – To allowlist the NTP alarm “tpdNTPDaemonNotSynchronizedWarning” which has the alarm code TKLCPLATMI10, the above-mentioned line should be edited as EARLY_CHECK_ALARM_WHITELIST=TKSPLATMI2,TKSPLATMI10 Note: There should not be any space between two alarms i.e. between TKSPLATMI2 and TKSPLATMI10 If the Early Upgrade Checks fail due to “Server Default Route Network Error”, then this alarm shall be allowlisted in upgrade.conf file. To allowlist the alarm which has the alarm code TKSPLATMA14, the above-mentioned line should be edited as: EARLY_CHECK_ALARM_WHITELIST=TKSPLATMA2,TKSPLATMI2,TKSPLATMA5,TKSPLATMI10,TKSPLATMA14,TKSPLATMA28,TKSPLATMI39 Note: Please note that TKSPLATMA5, TKSPLATMA2, TKSPLATMI2 should always be whitelisted.
10	MPS A: Navigate to the Initiate Upgrade menu	Select the Initiate Background Upgrade menu and press [ENTER].

		
11	MPS A: Select the Upgrade Media.	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 as shown in the example below. Select the desired upgrade media and press [ENTER].  In case there is a failure in the upgrade process, then run the following command to verify whether the raid is synced or not: - lsblk Key Points: - Under a healthy, in-sync RAID, both member partitions will show the same md device. - If the RAID is not in sync or missing a member, only one partition will show the md device. <u>Example of lsblk output when raid is in sync,</u>

```

[root@Recife-A upgrade]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE  MOUNTPOINT
sda                                8:0    0 447.1G 0 disk
|-sda1                            8:1    0  512M 0 part
`-sda2                            8:2    0 446.5G 0 part
  `--md1                          9:1    0 446.4G 0 raid1
     |-vgroot-plat_root            253:0    0   4G 0 lvm  /
     |-vgroot-plat_swap            253:1    0   2G 0 lvm  [SWAP]
     |-vgroot-plat_usr              253:2    0  10G 0 lvm  /usr
     |-vgroot-plat_var_tklc         253:3    0   8G 0 lvm  /var/TKLC
     |-vgroot-plat_tmp              253:4    0   1G 0 lvm  /tmp
     |-vgroot-plat_var              253:5    0   2G 0 lvm  /var
     |-vgroot-logs                 253:6    0  20G 0 lvm  /var/TKLC/epap/logs
     |-vgroot-db                   253:7    0 191.8G 0 lvm  /var/TKLC/epap/db
     `--vgroot-free                253:8    0 207.7G 0 lvm  /var/TKLC/epap/free
sdb                                8:16    1  28.9G 0 disk
|-sdb1                            8:17    1   2.8G 0 part
`-sdb2                            8:18    1   9.8M 0 part
sdc                                8:32    0 447.1G 0 disk
|-sdc1                            8:33    0  512M 0 part
`-sdc2                            8:34    0 446.5G 0 part
  `--md1                          9:1    0 446.4G 0 raid1
     |-vgroot-plat_root            253:0    0   4G 0 lvm  /
     |-vgroot-plat_swap            253:1    0   2G 0 lvm  [SWAP]
     |-vgroot-plat_usr              253:2    0  10G 0 lvm  /usr
     |-vgroot-plat_var_tklc         253:3    0   8G 0 lvm  /var/TKLC
     |-vgroot-plat_tmp              253:4    0   1G 0 lvm  /tmp
     |-vgroot-plat_var              253:5    0   2G 0 lvm  /var
     |-vgroot-logs                 253:6    0  20G 0 lvm  /var/TKLC/epap/logs
     |-vgroot-db                   253:7    0 191.8G 0 lvm  /var/TKLC/epap/db
     `--vgroot-free                253:8    0 207.7G 0 lvm  /var/TKLC/epap/free

```

Please note that in the above raid in sync snapshot of lsblk, sdb is for USB as it shows 28.9G while sda and sdc are for HDD which is 447.1G. Hence whenever you run lsblk command, always take a note of which drive is showing USB and which drives are showing HDD.

Raid not in sync example snapshot:

```
[root@Natal-A upgrade]# lsblk
NAME      MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
sda        8:0  1 28.9G 0 disk
`-sda1     8:1  1 28.9G 0 part
sdb        8:16 0 894.3G 0 disk
|-sdb1     8:17 0 512M 0 part
`-sdb2     8:18 0 893.7G 0 part
`-md1      9:1  0 893.5G 0 raid1
|-vgroot-plat_root_253:0 0 2G 0 lvm /
|-vgroot-plat_swap_253:1 0 2G 0 lvm [SWAP]
|-vgroot-plat_usr_253:2 0 8G 0 lvm /usr
|-vgroot-plat_var_tk1c 253:3 0 8G 0 lvm /var/TKLC
|-vgroot-plat_tmp_253:4 0 1G 0 lvm /tmp
|-vgroot-plat_var_253:5 0 2G 0 lvm /var
|-vgroot-rt_253:6 0 68G 0 lvm /var/TKLC/epap/rt
|-vgroot-logs_253:7 0 20G 0 lvm /var/TKLC/epap/logs
|-vgroot-db_253:8 0 289.2G 0 lvm /var/TKLC/epap/db
`-vgroot-free_253:9 0 204G 0 lvm /var/TKLC/epap/free
sdc        8:32 0 894.3G 0 disk
|-sdc1     8:33 0 512M 0 part
`-sdc2     8:34 0 893.7G 0 part
```

Please note that in the above raid in sync snapshot of lsblk, sda is for USB as it shows 28.9G while sdb and sdc are for HDD which is 447.1G. Hence whenever you run lsblk command, always take a note of which drive is showing USB and which drives are showing HDD. Here we are saying raid is not in sync because only sdb is showing md1 device but sdc is not showing any md device.

If the raid is not in sync, then run the following command:

```
mdadm --add /dev/md1 /dev/sdX
```

where sdX can be any of sda, sdb, or sdc according to LV configurations. Please note that sdX will never be the USB partition. This can be verified using lsblk command. In the above example, sdb and sdc are for hard disk and sda is for USB, here sdc is not in sync as it is not showing the proper md device md1. Hence the command for syncing the above raid not in sync scenario will be like given below.

```
mdadm --add /dev/md1 /dev/sdc
```

The following command can be used to check the status of the sync after running the above command.

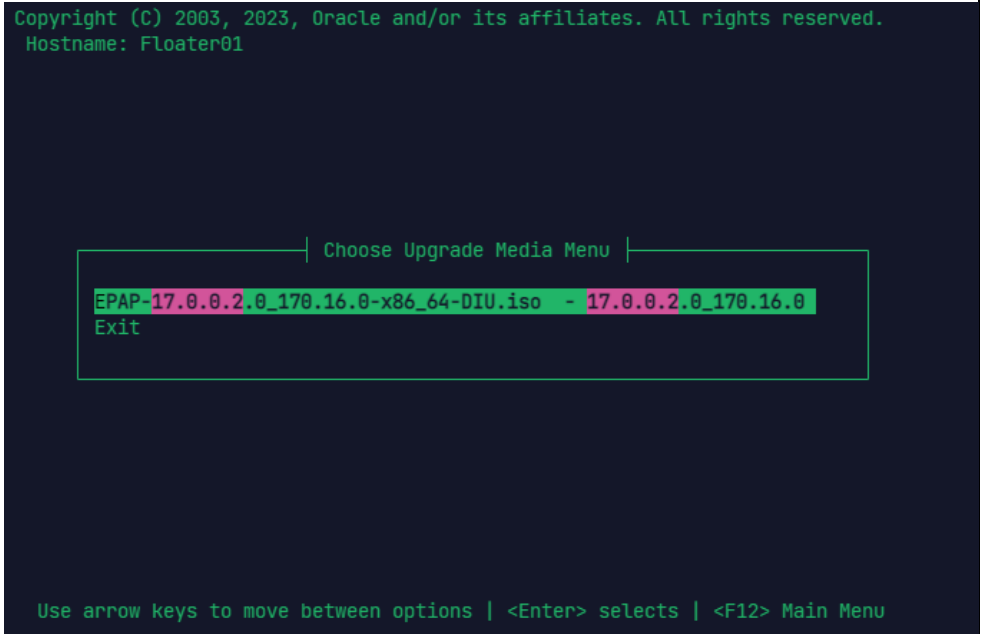
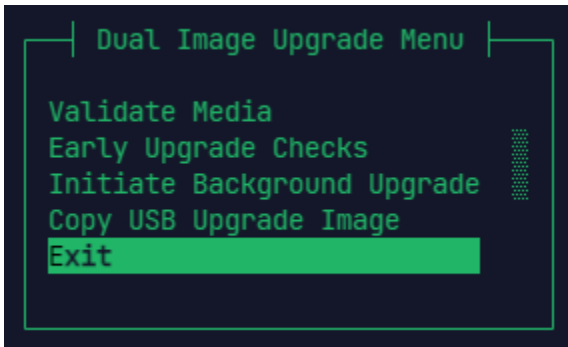
```
[root@Arica-A upgrade]# cat /proc/mdstat
```

```
Personalities : [raid1]
```

```
md1 : active raid1 sdb[3] sdc2[2]
```

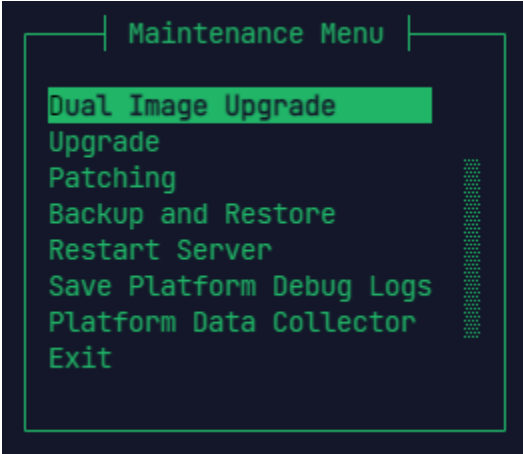
```
468091904 blocks super 1.2 [2/1] [U_]
```

```
[==>.....] recovery = 19.1% (89824128/468091904) finish=81.5min
speed=77331K/sec
```

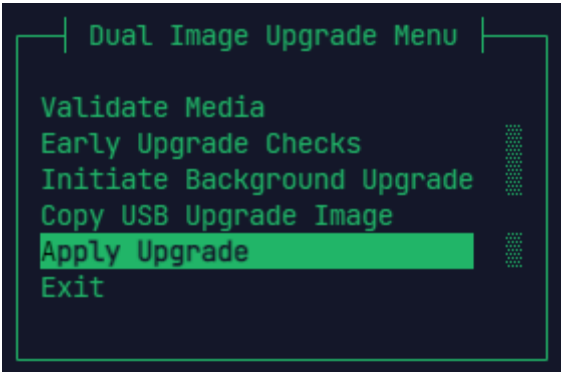
		bitmap: 4/4 pages [16KB], 65536KB chunk unused devices: <none> Wait till the time recovery is not completed 100%.
12	MPS A: Upgrade proceeds. Apply Upgrade.	Many informational messages appear on the terminal screen as the upgrade proceeds. After the background upgrade is done, the system will return to this screen.  After this, select [EXIT] and press [ENTER]. From the Dual image Upgrade Menu, select [EXIT] and press [ENTER].  Exit from the platcfg menu and verify the status using below command, It should show "Ready to Apply upgrade" /var/TKLC/backout/diUpgrade -status

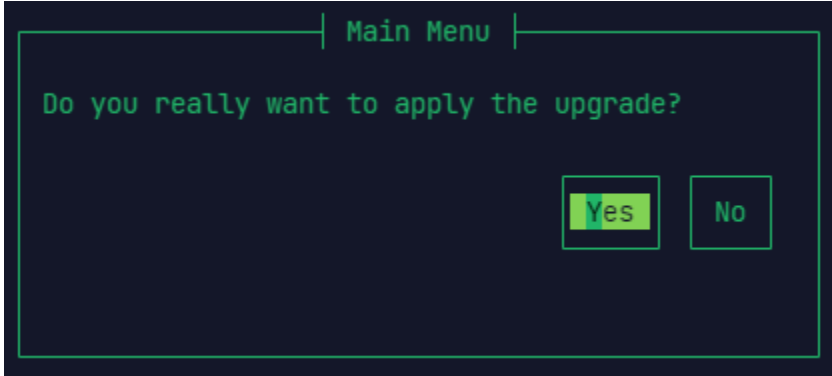
```
[root@Arica-a tmp]# /var/TKLC/backout/diUpgrade --status
State: Ready to Apply Upgrade
Status Messages:
- Performing early checks
- Downloading upgrade data
- Verifying image
- Performing image pre-install
- Configuring images
- Identifying resources
- Reserving image storage
- Installing image
- Verifying configuration sanity
- Performing image post-install
- Image install complete
```

From the platcfg menu->select maintenance menu, select Dual Image Upgrade and then Press Enter.



From the Dual Image Upgrade Menu, select Apply Upgrade and press [ENTER]].



		Select YES and press ENTER.  When the upgrade process is complete, the server reboots.
13	MPS A: Upgrade completed.	After the final reboot, the screen displays the login prompt as displayed in the example below. <pre>[543.047224] diUpgrade[11034]: Creating alarm script: /tmp/OUTopYCjjI [550.076488] diUpgrade[11034]: Image Apply Complete [550.076687] diUpgrade[11034]: ##### [550.076769] diUpgrade[11034]: # APPLY COMPLETE # [550.076846] diUpgrade[11034]: ##### [550.076923] diUpgrade[11034]: Transitioning from 'Applying Upgrade' to [550.219075] systemctl[21188]: Removed /etc/systemd/system/TPD.target.wa [569.958098] completeTasks[21254]: completeTasks started: Fri Oct 27 07 [570.018205] completeTasks[21254]: ID: 1697182349.0 [570.018407] completeTasks[21254]: STATE: COMPLETED [570.018490] completeTasks[21254]: RESULT: SUCCESS [570.018566] completeTasks[21254]: CHECKPOINTS [570.018643] completeTasks[21254]: ----- [570.018725] completeTasks[21254]: main STATE: COMPLETED RESULT: SUCCE [570.018801] completeTasks[21254]: STARTED: 1697182349 ENDED: 169718235 [570.018881] completeTasks[21254]: STATUS LOG [570.018957] completeTasks[21254]: ----- [570.019039] completeTasks[21254]: 0 1697182349 INFO main Checkpoint sta [570.019126] completeTasks[21254]: 1 1697182349 INFO main Checkpoint sta [570.019206] completeTasks[21254]: 2 1697182350 INFO main Checkpoint fin [570.019283] completeTasks[21254]: LOG FILE: /var/TKLC/log/TaskMgr/compl Oracle Linux Server 8.8 Kernel 4.18.0-477.21.1.el8_8.x86_64 on an x86_64 Floater01 login: █</pre> Make sure to verify that the state is transitioned from “Applying upgrade” to “Upgrade Applied” and we get Completed Result: SUCCESS using below command.

		<pre> 1673985030:* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/free". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/db". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/logs". 1673985031:* write: WARNING:: Could not find configured path "/var/TKLC/epap/free". 1673985033::useradd: warning: the home directory already exists. 1673985476::2023-01-17T19:57:57.683121Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.683144Z 0 [Warning] [MY-013746] [Server] A deprecated TLS version TLSv1.1 is enabled for channel mysql_main 1673985478::2023-01-17T19:57:57.808924Z 6 [Warning] [MY-010453] [Server] root@localhost is created with an empty password ! Please consider switching off the ---initialize-insecure option. 1673985551::WARNING: A new file was added to xml alarm files.....reparsing xml... 1673985551::WARNING: FILE: /usr/TKLC/plat/etc/alarms/alarms_mps.xml 1673985571::TKLCepap-HA #####warning: group root} does not existxi-t - using root 1726141389::WARNING: Hostname not changed because it is the same. </pre>
16	MPS A: Check that the upgrade completed successfully.	<pre> Run the command from the root user: [root@Floater04 ~]\$ /var/TKLC/backout/diUpgrade --status </pre>
17	MPS A: Check that the upgrade completed successfully.	<pre> Verify that the following output is displayed. If it is not, contact My Oracle Support following the instructions on the front page or the instructions on the Appendix E. </pre>

		<pre>[root@Floater04 ~]# /var/TKLC/backout/diUpgrade --stat State: Upgrade Applied Status Messages: - Performing early checks - Downloading upgrade data - Verifying image - Performing image pre-install - Configuring images - Identifying resources - Reserving image storage - Installing image - Verifying configuration sanity - Performing image post-install - Image install complete - Validating image pre-apply - Performing image pre-apply - Applying image - Performing configuration export - Performing image post-apply - Image Apply Complete</pre>
18	MPS A: Unmask and Start service on mate server. NOTE- This step will be performed only on mate node for mixed and non-prov server. Skip this step in case of PDBonly server.	This step will be performed on Mixed and Non-Prov server where mate node exists. Skip this step in case of PDBonly server. Run the following commands for unmasking and starting the Epap and Pdba services: 1. SSH to EPAP 1B. For Mixed and Nonprov setups : <pre>[root@Osorna-A epapall]# ssh admusr@mate [admusr@Osorna-B ~]\$ su - Password: Last login: Fri Mar 6 05:12:08 EST 2026 on pts/0 [root@Osorna-B ~]#</pre> 2. Unmask, Restart and verify the status of the services: <u>For Mixed EPAP, run below commands</u> <pre>[root@Osorna-B ~]# systemctl unmask Epap Pdba mysqld@app mysqld@pdb crond runGsConn [root@Osorna-B ~]# systemctl restart mysqld@pdb mysqld@app Epap Pdba crond runGsConn [root@Osorna-B ~]# systemctl status mysqld@pdb mysqld@app Epap Pdba crond runGsConn</pre>

		Check if, PDBA Proxy feature is enabled on Mixed EPAP: [root@Manaus-b epapall]# uiEdit grep PDBA_PROXY_ENABLED "PDBA_PROXY_ENABLED" is set to "YES" If the PDBA_PROXY_ENABLED is set to YES, then run the below commands else skip running below commands on Mixed EPAP: [root@Osorna-B ~]# systemctl unmask TKLCha TKLCharsync [root@Osorna-B ~]# systemctl restart TKLCha TKLCharsync [root@Osorna-B ~]# systemctl status TKLCha TKLCharsync <u>For Non-Prov EPAP, run below commands</u> [root@Osorna-B ~]# systemctl unmask Epap mysqld@app crond [root@Osorna-B ~]# systemctl restart mysqld@app Epap crond [root@Osorna-B ~]# systemctl status mysqld@app Epap crond 3. Exit from mate node back to MPS - A [root@Osorna-B ~]# exit logout [admusr@Osorna-B ~]\$ exit logout Connection to mate closed. [root@Osorna-A epapall]#
19	MPS A: Reconfigure Syscheck	Run the following command for reconfiguration of syscheck: \$ syscheck --reconfig
20	Update HTTP/HTTPS variable in EuiDB	Set HTTPS_ENABLED to Yes and HTTP_ENABLED to No as HTTPS is enabled after DIU upgrade by default. If the user wants to change the configuration, they can do it through GUI after completing the DIU upgrade: Run the following command: \$ uiEdit HTTPS_ENABLED Yes \$ uiEdit HTTP_ENABLED No
21	MPS A: Reboot after installation	Reboot the system after the "Apply Complete Process" to finally finish the installation. \$ reboot
22	MPS A: Install Complete.	The installation procedure is complete. If there are any issues in the upgrade, check Procedure A.49 Dual Image Upgrade Known Issues Fix .
23	Note down the timestamp in log.	Run the following command: \$ date

24	Important Note	An internal disk error will be present once upgrade is done, and it will be removed only after accepting the upgrade.
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Procedure 20 Run RTDB Converter

Procedure 18: Run RTDB Converter

S T E P #	This procedure runs RTDB converter to update rtdb database as per new schema. This procedure should not be run on PDBonly setup. 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>UPGRADE ASSISTANCE</u>. **Note: This step can be run simultaneously on MPS A and MPS B	
1. ☐	MPS A and B: Log in to the server as the user "epapdev".	<code><hostname> console login: epapdev password: <password></code>
2.	MPS A and B: Switch to root user.	<code>[epapdev@Ithaca-a ~]\$ su - Password: <password></code>
3. ☐	MPS A and B: Start EPAP Services	<code>\$ systemctl start Epap ~~ /etc/init.d/Epap start ~~</code> "EPAP_RELEASE" is set to "0.617" EPAP application start Successful.
4. ☐	MPS A and B: Run RTDB converter script Note: RTDB softwares need to be running on MPS A & B in order to run the converter.	<code>\$ cd /usr/TKLC/epap/bin</code> If system is in compact architecture as noted in step 10 of 0 run below command: <code>\$./ rtdbEpap164CompactToCompactConvertTool</code> If system is in extreme as noted in step 10 of 0 architecture run below command: <code>\$./ rtdbEpap164ExtremeToExtremeConvertTool</code> Many informational Messages will be displayed on screen. If this script fails contact My Oracle Support.
5. ☐	Reboot Eagle cards.	Perform the steps in Procedure 21 on the Eagle STP connected to the EPAP servers to reload SM cards.
6. ☐	Procedure is complete	Procedure is complete.

Procedure 18: Run RTDB Converter

7. ☐	Note down the timestamp in log.	Run the following command: \$ date
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Procedure 21 Reboot EAGLE Cards

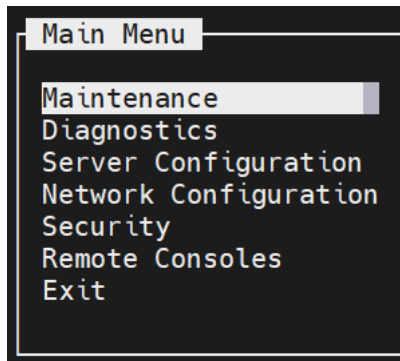
Procedure 19: Reboot EAGLE Cards

	This procedure reboots EAGLE cards to reload new RTDB. 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 UPGRADE ASSISTANCE.	
	EAGLE: reboot all SM cards to reload new RTDB.	Note: Before rebooting EAGLE cards, check whether the EPAP software is running or not. If EPAP software is not running then start it manually by below commands. Execute the below steps on EPAP: \$ systemctl status Epap Start the EPAP software, if the above command shows that software is not running. If service EPAP shows that software is running, there is no need to run next command. \$ systemctl start Epap ~~ /etc/init.d/Epap start ~~ EPAP application started. Login onto the connected EAGLE. Reboot 1 SM card on the EAGLE and verify that it comes back to an IS-NR/Active state. Then boot the rest of the EAGLE SM cards over 4 batches (booting 1/4 of the cards at a single time).
	Procedure is complete	Procedure is complete.
	Note down the timestamp in log.	Run the following command: \$ date

Procedure 22 Accept Upgrade

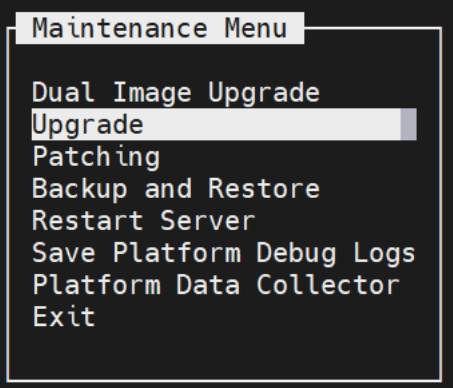
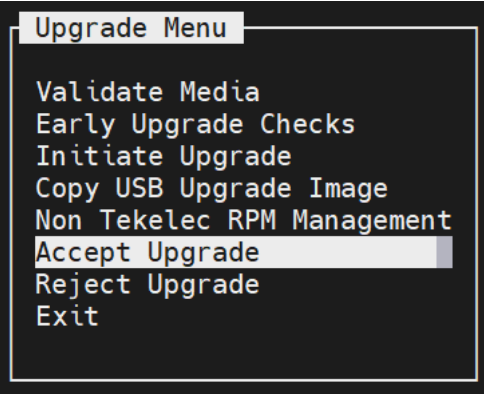
Note: If the upgrade is accepted, Backout cannot be performed.

Procedure 20 : Accept upgrade

S T E P #	This procedure accept the upgrade to perform the upgrade process. 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>UPGRADE ASSISTANCE</u> .	
8. ☐	MPS: Login as admusr.	Login as admusr if not already logged in. <hostname> login: admusr Password: Note: The console logon may preced by many lines of reboot output.
9. ☐	MPS: Verify if alarmMgr process running.	\$ sudo ls /var/run/alarmMgr If the file exists, proceed to the next step. If the file does not exist, contact Oracle Customer Service.
10. ☐	MPS: Execute the platcfg menu.	\$ sudo su – platcfg
11. ☐	MPS: Select the Maintenance submenu.	The platcfg Main Menu appears. On the Main Menu , select Maintenance and press [ENTER].  A screenshot of a terminal window titled 'Main Menu'. It displays a list of options: Maintenance, Diagnostics, Server Configuration, Network Configuration, Security, Remote Consoles, and Exit. The 'Maintenance' option is highlighted with a white bar.
12. ☐	MPS: Select the Upgrade submenu.	Select the Upgrade menu and press [ENTER].

Note: If the upgrade is accepted, Backout cannot be performed.

Procedure 20 : Accept upgrade

			 A screenshot of a terminal window titled "Maintenance Menu". The menu options are: Dual Image Upgrade, Upgrade (highlighted with a white bar), Patching, Backup and Restore, Restart Server, Save Platform Debug Logs, Platform Data Collector, and Exit.
13. ☐	MPS: Select the Upgrade submenu.	If you have not already accepted the upgrade, do so now, otherwise skip this step.	 A screenshot of a terminal window titled "Upgrade Menu". The menu options are: Validate Media, Early Upgrade Checks, Initiate Upgrade, Copy USB Upgrade Image, Non Tekelec RPM Management, Accept Upgrade (highlighted with a white bar), Reject Upgrade, and Exit.

Note: If the upgrade is accepted, Backout cannot be performed.

Procedure 20 : Accept upgrade

		<pre>Setting POST_UPGRADE_ACTION to ACCEPT in upgrade info. Cleaning backout directory. Cleaning Upgrade Accept/Reject alarm. Cleaning message from MOTD. No patch pending alarm on server so no MOTD update. Cleaning up RPM config backup files ... Checking / Checking /usr Checking /tmp Checking /var Checking /var/TKLC Checking /var/TKLC/epap/rt Checking /var/TKLC/epap/logs Checking /var/TKLC/epap/db Checking /var/TKLC/epap/free Starting cleanup of RCS repository. INFO: Removing '/etc/my.cnf.d/client.cnf' from RCS repository INFO: Removing '/etc/pam.d/system-auth' from RCS repository INFO: Removing '/etc/pam.d/password-auth' from RCS repository PRESS ANY KEY TO RETURN TO THE PLATCFG MENU.</pre> Note: If you still observe the accept upgrade message even after the disks get mirrored properly after accepting the upgrade for the first time, follow the steps mentioned in APPENDIX A.30 to remove the false accept upgrade alarm from the system.
14. ☐	Procedure is complete	Procedure is complete.
15. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure 23 Keys exchange between active and standby PDB

Procedure 21: Keys exchange between active PDB and standby PDB

STEP #	This procedure Exchange the keys between active and remote PDB. 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>UPGRADE ASSISTANCE</u>.	
1.	MPS A: Login to Active PDB EPAP as the user "epapdev".	If not already logged-in, then login at MPS A of active PDB EPAP: <hostname> console login: epapdev password: <password>
2. ☐	MPS A: Verify that PDB entry are present in known_hosts file.	Execute following command to verify that pdb entry present in known_hosts file: \$ cat .ssh/known_hosts If entry is present skip next step
3. ☐	MPS A: Exchange the keys from Active PDB	Execute the following command on Active PDB: \$ ssh epapdev@<remote PDB IP> Are you sure you want to continue connecting (yes/no)? <yes> Password: Snapshot for reference: <pre>[epapdev@Recife-A ~]\$ ssh epapdev@10.75.141.104 FIPS integrity verification test failed. The authenticity of host '10.75.141.104 (10.75.141.104)' can't be established. RSA key fingerprint is d4:d5:94:c6:57:1a:30:25:bc:b0:67:f9:f7:07:c6:68. Are you sure you want to continue connecting (yes/no)? yes Warning: Permanently added '10.75.141.104' (RSA) to the list of known hosts. epapdev@10.75.141.104's password:</pre>
4.	MPS A: Login to Standby PDB EPAP as the user "epapdev".	If not already logged-in, then login at MPS A of standby PDB EPAP: <hostname> console login: epapdev password: <password>
5. ☐	MPS: Exchange the keys from Standby PDB	Repeat the step 2 and step3 to exchange the keys from standby PDB as well.
6. ☐	Procedure is complete	Procedure is complete.
7. ☐	Note down the timestamp in log.	Run the following command:

Procedure 21: Keys exchange between active PDB and standby PDB

		\$ date
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THIS COMPLETES THE UPGRADE

8 SOFTWARE RECOVERY PROCEDURES

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

8.1 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.

My Oracle 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.

8.2 Perform Backout

No matter the initial cause of the 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. Refer to [section 2.2](#) and [section 2.4](#) for the Backout process overview.

Procedure 24 Server B Backout

Procedure 22: Server B Backout

S T E P #	This procedure provides instructions to perform backout on MPS B server.	
	Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.	
	Note: Execute this procedure if only MPS B has been upgraded successfully and MPS A is still at the pre-upgrade release.	
	Note: If the upgrade has been accepted, this procedure cannot be executed.	
1. ☐	Terminate all previous connections (ssh).	If not already connected, connect to the APPD card via the serial port. For connecting the APPD B card, disconnect the console cable from the serial port on the APPD A card's adapter. The cable should be disconnected at the

Procedure 22: Server B Backout

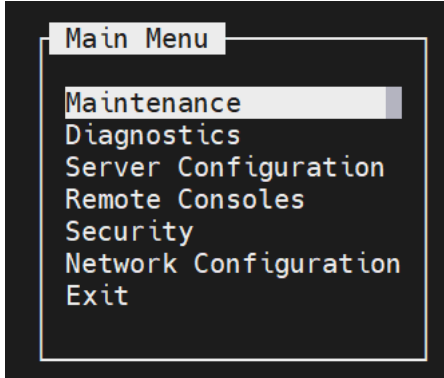
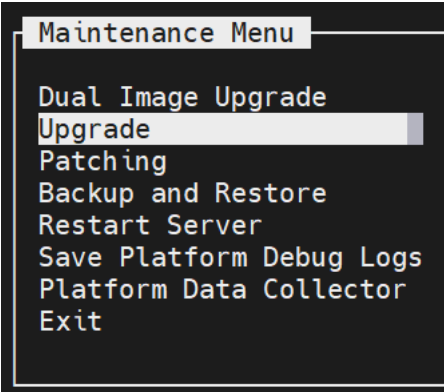
		point where it connects to the serial port labeled 'S1' on the APPD A cards adapter and use it for serial access. Cable part numbers - 830-1220-xx Skip to step 5, if connected through serial console.
2. ☐	Create a terminal window and establish a connection by logging into MPS A. Log in to MPS A.	In a newly created terminal window labeled "MPS B – from MPS A", connect directly into MPS A. # ssh admusr@<MPS A> Password: <password>
3. ☐	MPS A: Verify that the state of PDBA Proxy Feature is No. Note: Skip this step for Non-Prov and PDBonly EPAP.	# sudo su - epapconfig warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.

	<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit \-----/ </pre> Enter Choice: 1 <pre> EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 EPAP B HTTP SuExec Port = 8001 EPAP A Banner Connection Port = 8473 EPAP B Banner Connection Port = 8473 </pre>
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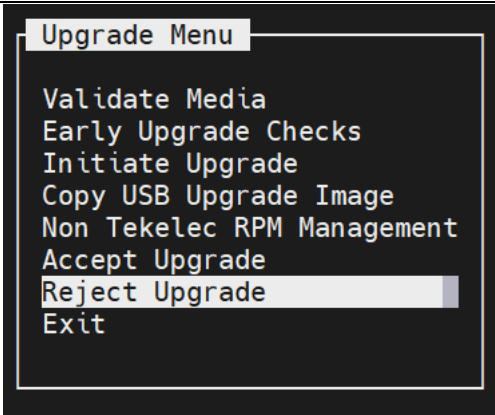
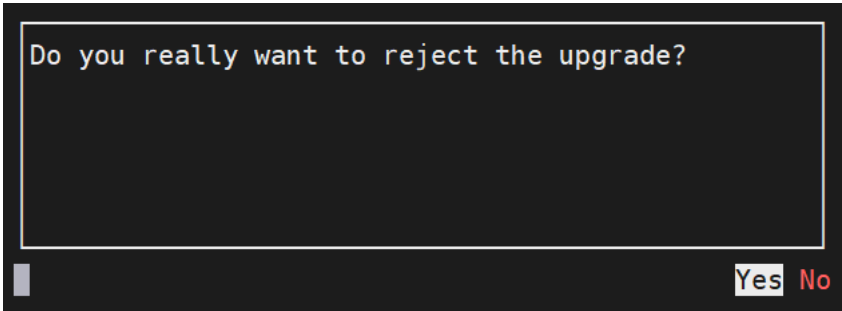
Procedure 22: Server B Backout

		EPAP A Static NAT Address = Not configured EPAP B Static NAT Address = Not configured PDBI Port = 5873 Remote MPS A Static NAT Address = Not configured Remote MPS A HTTP Port = 80 Local Provisioning VIP = 192.168.15.152 Remote Provisioning VIP = 192.168.15.172 Local PDBA Address = 192.168.15.115 Remote PDBA Address = 192.168.16.115 Remote PDBA B Address = 192.168.16.116 Time Zone = America/New_York PDB Database = Exists Preferred PDB = Standby Allow updates from alternate PDB = Yes Auto DB Recovery Enabled = Yes PDBA Proxy Enabled = Yes If PDBA Proxy Enabled = Yes then Follow Procedure A.19 on both PDBA Active and Standby for dual PDBA setup to disable EPAP VIP and PDBA proxy features. Otherwise, if PDBA Proxy Enabled = No, then proceed with the next step.
4.	☐ MPS A: Clear PDB replication logs	If PDBA Proxy Enabled = Yes then Execute Procedure A.26 to clear replication logs Otherwise, if PDBA Proxy Enabled = No, then skip this step.
5.	☐ MPS A: Start screen session MPS A: Connect to the console of MPS B.	Execute the following commands to start screen and establish a console session to MPS B. \$ screen -L Execute the following command on APPD: \$ sudo minicom mate If above command fails then refer to Procedure A.24
6.	☐ MPS B: Login prompt is displayed.	<hostname> console login: Note: Hit enter if no login prompt is displayed.
7.	☐ MPS B: Log in to the server as user "admusr".	If not already logged-in, then log in. <hostname> console login: admusr Password: <password>

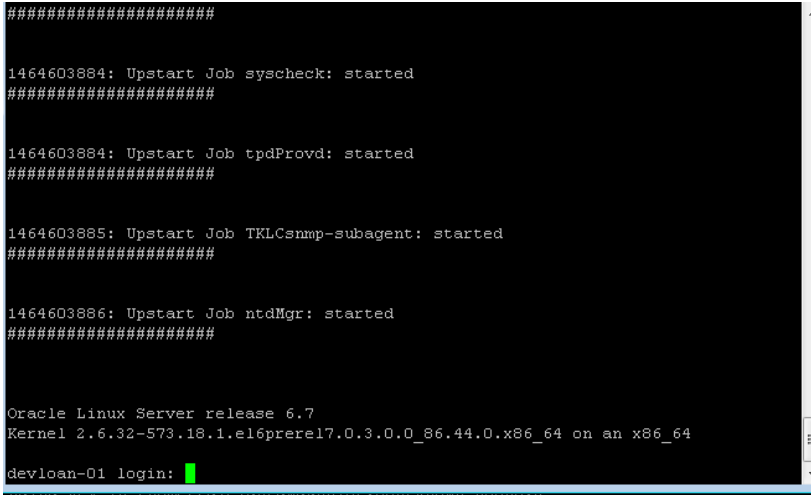
Procedure 22: Server B Backout

8. ☐	MPS B: Execute the platcfg menu	\$ sudo su - platcfg
9. ☐	MPS B: Select the Maintenance / Upgrade submenu	The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER]. Then select Upgrade menu and press [ENTER].  
10. ☐	MPS B: Reject Upgrade	Select the “Reject Upgrade” menu and press [ENTER].

Procedure 22: Server B Backout

		  Note: USB should be removed before initiating the backout on the server otherwise the system will not recover properly and will indicate a drive failure during backout.
11. ☐	MPS B: Backout proceeds.	Many informational messages will come across the terminal screen as the backout proceeds. Finally, after backout is complete, a message will be displayed stating that a reboot is required. 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.
12. ☐	MPS B: Verify the Backout	Examine the upgrade logs in the directory <code>/var/TKLC/log/upgrade</code> and verify that no errors were reported. <pre># grep -i error /var/TKLC/log/upgrade/upgrade.log</pre> Examine the output of the above commands to determine if any errors were reported. Refer to Section 3.1.16 to know more about logging.

Procedure 22: Server B Backout

13. ☐	MPS B: Verify the Backout.	If the backout was not successful and errors were recorded in the logs, then contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section for further instructions. If the backout was successful, then continue with the following step.
14. ☐	MPS B: Reboot the MPS.	Perform the following commands to reboot the MPS: <pre># sudo init 6</pre>
15. ☐	MPS B: Reboot completed.	After the reboot, the screen will display the login prompt, as shown in the example below.  The screenshot shows a terminal window with the following text: <pre>##### 1464603884: Upstart Job syscheck: started ##### 1464603884: Upstart Job tpdProvcd: started ##### 1464603885: Upstart Job TKLCsmmp-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>
16. ☐	MPS B: Verify Health of MPS B.	Follow Procedure A.1 on MPS B to verify the health of MPS B.
17. ☐	MPS B: Sync the time on both MPS A and MPS B.	Sync the time on both MPS A and B if it is different. Login to MPS A: <hostname> console login: epapdev Password: <password> Check date time on MPS A using following command: \$ date Sat Jul 7 01:35:18 EDT 2018 Login to MPS B: <hostname> console login: epapdev Password: <password> Check date time on MPS B using following command:

Procedure 22: Server B Backout

		\$ date Sat Jul 7 01:35:18 EDT 2018 If both are not same then set the date time value on MPS B same as of MPS A. Use following command: First switch user to root: \$ su – root Password: Execute command to set date on MPS B as bellow: # date -s <data-time of MPS A> <pre>[root@Natal-B ~]# date -s "Sat Jul 7 02:05:41 EDT 2018" Sat Jul 7 02:05:41 EDT 2018 [root@Natal-B ~]#</pre> Done.
18. ☐	MPS B: Clear MySQL replication error banner message, if any	Execute the following command to check for MySQL replication error: \$ manageBannerInfo -l Examine the output of the above command to determine if any errors were reported related to MySQL replication such as: MySQL data replication error detected; Attempting to restart Attempt to restart MySQL replication failed Execute the following command to copy the EuiDB database from B server to A server to clear any of the above observed MySQL replication error. Note: This utility should be executed only with epapdev user. \$ /usr/TKLC/epap/config/resetReplication Resetting MySql Replication This script will fix EuiDB replication by copying the database from one side of the pair to the other side and then resetting the MySql replication pointers. Are you sure you want to reset replication? (y/n) y Which side do you want to copy FROM? (A/B) [B]: B Copy the EuiDB from B to A? (y/n) y Removing the index and info files from EPAP A Replication files successfully removed from the mate server.

Procedure 22: Server B Backout

		Connecting to local DB Connecting to mate DB Copying EuiDB to mate Stopping local slave Stopping mate slave Resetting local master Resetting mate master Resetting local slave Resetting mate slave Starting local slave Starting mate slave Resetting MySQL Replication Completed If there is a failure in resetReplication, execute following commands: <pre>\$ mysql -uroot -p<MySQL_root_password> -e "GRANT ALL ON EuiDB.* to elapdev@localhost"</pre> <pre>\$ mysql -uroot -p<MySQL_root_password> -e "GRANT ALL ON EuiDB.* to elapdev@mate"</pre> Execute the following command to verify that the banner messages related to the replication error are cleared after some time. <pre># manageBannerInfo -l</pre>
19. ☐	MPS B: Verify Health of MPS B	Execute Procedure A.1 on MPS B to verify the health of MPS B. If backout of major upgrade was performed, the syscheck utility will report the "3000000000000002 – Server Internal Disk Error" alarm as the disk mirroring is in progress. The alarm will be cleared after the completion of disk mirroring. May also report the following: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code. * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged!
20. ☐	Reconnect console cable.	On APPD card, reconnect the console cable between the serial port labeled 'S0' on APPD B card's adapter and the serial port labeled 'S1' on the APPD A card's adapter. Cable part numbers - 830-1220-xx
21. ☐	Procedure complete.	This procedure is complete.

Procedure 22: Server B Backout

22. ☐	Note down the timestamp in log.	Run the following command: \$ date
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The application should now be running at the original software release level

Procedure 25 Backout both Server A and B

Procedure 23: Backout both MPS A and B

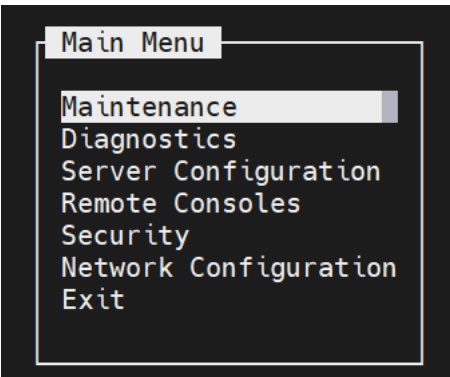
S T E P #	This procedure provides instructions to perform backout on both MPS A and MPS B servers. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. Note: Execute this procedure only if both MPS A and MPS B have been upgraded or partially upgraded and you wish to backout both servers to the previous version. Note: If the upgrade has been accepted, this procedure cannot be performed. Note: Database changes post upgrade and before backout might be lost after performing backout procedure	
1. ☐	Terminate all previous connections (ssh).	If not already connected, connect to the APPD card via the serial port. For connecting the APPD A card, disconnect the console cable from the serial port on the APPD B card's adapter. The cable should be disconnected at the point where it connects to the serial port labeled 'S1' on the APPD B card's adapter and use it for serial access. Cable part numbers - 830-1220-xx Skip to step 6, if connected through serial console.
2. ☐	Create a terminal window and establish a connection by logging into MPS B. Log into MPS B.	In a newly created terminal window labeled "MPS A – from MPS B", connect directly into MPS B. # ssh admusr@<MPS B> Password: <password>
3. ☐	MPS B: Start screen session. MPS B: Connect to the console of MPS A.	Execute the following commands to start screen and establish a console session to MPS A. \$ screen -L Execute the following command on APPD: \$ sudo minicom mate

Procedure 23: Backout both MPS A and B

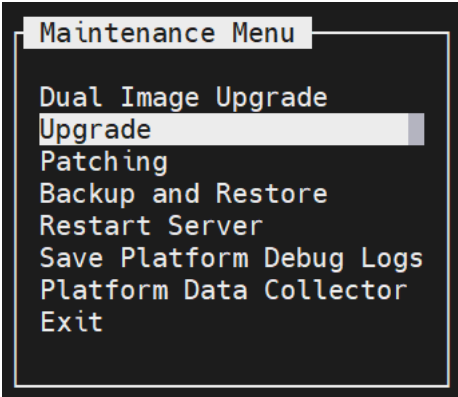
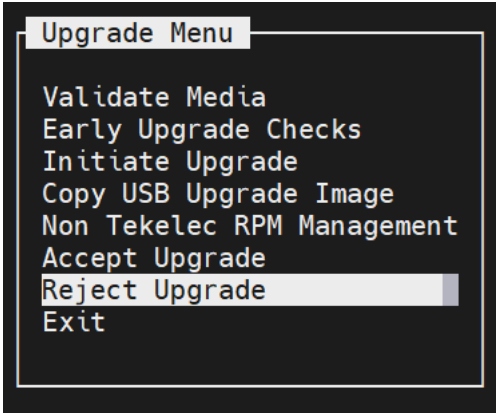
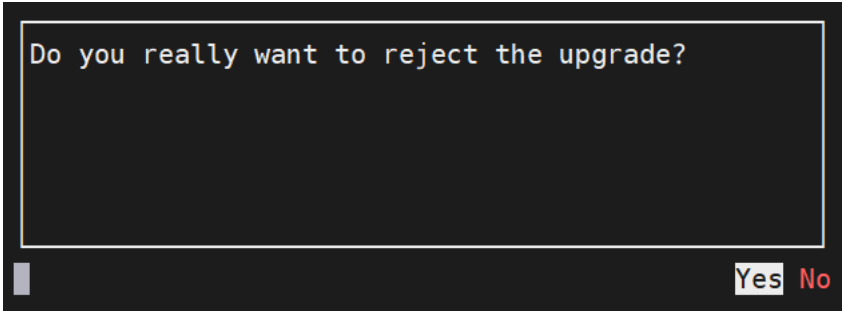
		If above command fails then refer to Procedure A.24.
4. ☐	MPS A: Login prompt is displayed.	<code><hostname> console login:</code> Note: Hit enter if no login prompt is displayed.
5. ☐	MPS A: Log in to the server as user "admusr".	Log in as 'admusr' <code><hostname> console login: admusr</code> <code>Password: <password></code>
6. ☐	MPS A: Verify that the state of PDBA Proxy Feature is No. Note: Skip this step for Non-Prov and PDBonly EPAP.	<code># sudo su - epapconfig</code> warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.

	<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit \-----/ </pre> Enter Choice: 1 <pre> EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 EPAP B HTTP SuExec Port = 8001 EPAP A Banner Connection Port = 8473 EPAP B Banner Connection Port = 8473 </pre>
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Procedure 23: Backout both MPS A and B

		EPAP A Static NAT Address = Not configured EPAP B Static NAT Address = Not configured PDBI Port = 5873 Remote MPS A Static NAT Address = Not configured Remote MPS A HTTP Port = 80 Local Provisioning VIP = 192.168.15.152 Remote Provisioning VIP = 192.168.15.172 Local PDBA Address = 192.168.15.115 Remote PDBA Address = 192.168.16.115 Remote PDBA B Address = 192.168.16.116 Time Zone = America/New_York PDB Database = Exists Preferred PDB = Standby Allow updates from alternate PDB = Yes Auto DB Recovery Enabled = Yes PDBA Proxy Enabled = Yes If PDBA Proxy Enabled = Yes then Execute Procedure A.19 on both PDBA Active and Standby for dual PDBA setup to disable EPAP VIP and PDBA proxy features. Otherwise, if PDBA Proxy Enabled = No, then proceed with the next step.
7. ☐	MPS A: Clear PDB replication logs	If PDBA Proxy Enabled = Yes then Execute Procedure A.26 to clear replication logs Otherwise, if PDBA Proxy Enabled = No, then skip this step.
8. ☐	MPS A: Execute the platcfg menu	\$ sudo su - platcfg
9. ☐	MPS A: Select the Maintenance / Upgrade submenu	The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER]. Then select Upgrade menu and press [ENTER]. 

Procedure 23: Backout both MPS A and B

		 <pre> Maintenance Menu Dual Image Upgrade Upgrade Patching Backup and Restore Restart Server Save Platform Debug Logs Platform Data Collector Exit </pre>
10. ☐	MPS A: Reject Upgrade	Select the "Reject Upgrade" menu and press [ENTER].  <pre> Upgrade Menu Validate Media Early Upgrade Checks Initiate Upgrade Copy USB Upgrade Image Non Tekelec RPM Management Accept Upgrade Reject Upgrade Exit </pre>  <pre> Do you really want to reject the upgrade? Yes No </pre> Note: USB should be removed before initiating the backout on the server otherwise the system will not recover properly and will indicate a drive failure during backout.
11. ☐	MPS A: Backout proceeds.	Many informational messages will come across the terminal screen as the backout proceeds.

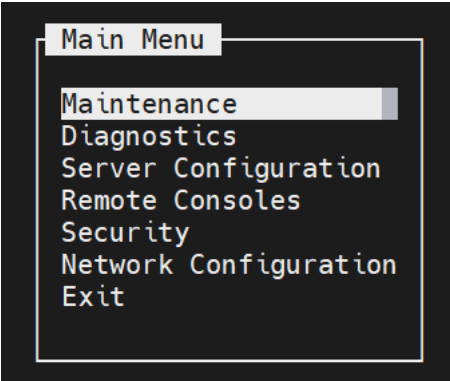
Procedure 23: Backout both MPS A and B

		Finally, after backout is complete, a message will be displayed stating that a reboot is required. 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.
12. ☐	MPS A: Verify the Backout.	Examine the upgrade logs in the directory <code>/var/TKLC/log/upgrade</code> and verify that no errors were reported. <pre># grep -i error /var/TKLC/log/upgrade/upgrade.log # grep -i error /var/TKLC/log/upgrade/ugwrap.log</pre> Examine the output of the above commands to determine if any errors were reported. Refer to section 3.7 to know more about logging.
13. ☐	MPS A: Verify the Backout.	If the backout was not successful and errors were recorded in the logs, then contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section for further instructions. If the backout was successful, then enter continue with the following steps:
14. ☐	MPS A: Reboot the MPS.	Perform this step only on a backout of an incremental upgrade. Perform the following commands to reboot the MPS: <pre># init 6</pre>
15. ☐	MPS A: Backout completed.	After the reboot, the screen will display the login prompt, as shown in the example below.

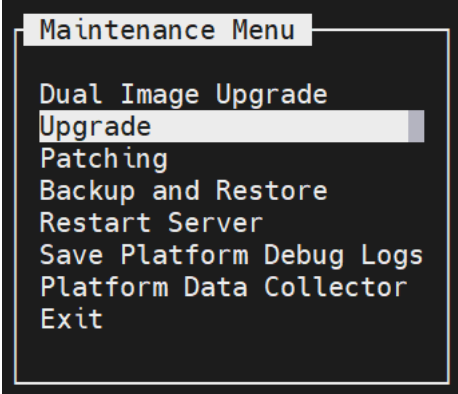
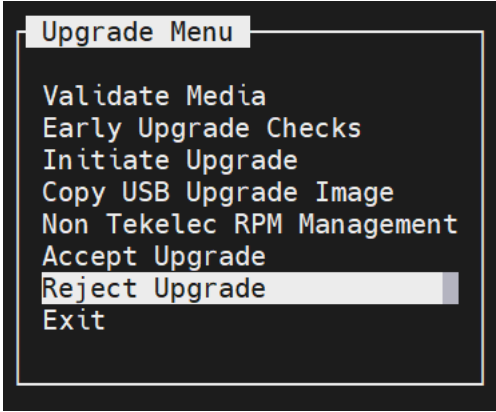
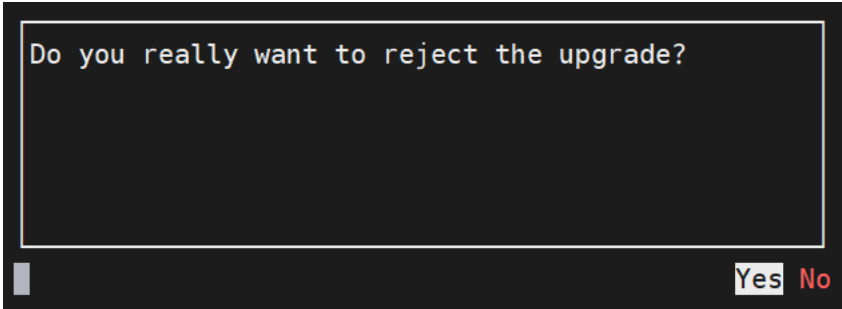
Procedure 23: Backout both MPS A and B

		<pre> ##### 1464603884: Upstart Job syscheck: started ##### 1464603884: Upstart Job tpdProvd: 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>
16. ☐	MPS A: Verify Health of MPS A.	Execute Procedure A.1 on MPS A to verify the health of MPS A The syscheck utility may report the “5000000000000002 - Server Application Process Error” for PDBA, if the pdba software is not running. May also report following error: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code. * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged!
17. ☐	Terminate all previous connections (ssh).	If not already connected, connect to the APPD card via the serial port. For connecting the APPD B card, disconnect the console cable from the serial port on the APPD A card’s adapter. The cable should be disconnected at the point where it connects to the serial port labeled ‘S1’ on the APPD A cards adapter and use it for serial access. Skip to step 21, if connected through serial console.
18. ☐	Create a terminal window and establish a connection by logging into MPS A. Log into MPS A.	In a newly created terminal window labeled “MPS B – from MPS A”, connect directly into MPS A. <pre> # ssh epapdev@<MPS A> Password: <password> </pre>

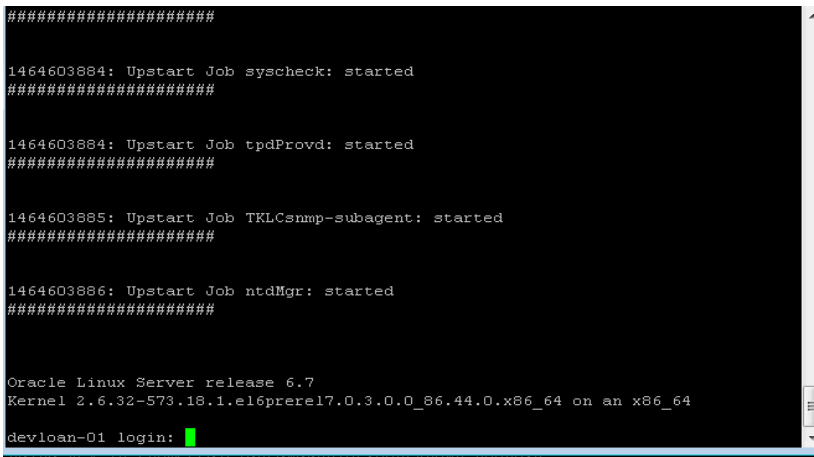
Procedure 23: Backout both MPS A and B

19. ☐	MPS A: Start screen session. MPS A: Connect to the console of MPS B.	Execute the following commands to start screen and establish a console session to MPS B. <pre>\$ screen -L</pre> Execute the following command on APPD: <pre>\$ sudo minicom mate</pre> If above command fails then refer to Procedure A.24.
20. ☐	MPS B: Login prompt is displayed.	<pre><hostname> console login:</pre> Note: Hit enter if no login prompt is displayed.
21. ☐	MPS B: Log in to the server as user "epapdev".	<pre><hostname> console login: admusr Password: <password></pre>
22. ☐	MPS B: Execute the platcfg menu	<pre>\$ sudo su - platcfg</pre>
23. ☐	MPS B: Select the Maintenance / Upgrade submenu	The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER]. Then select Upgrade menu and press [ENTER].  The screenshot shows a terminal window titled 'Main Menu'. Inside, there is a list of options: Maintenance, Diagnostics, Server Configuration, Remote Consoles, Security, Network Configuration, and Exit. The 'Maintenance' option is highlighted with a white bar.

Procedure 23: Backout both MPS A and B

		 Maintenance Menu - Dual Image Upgrade - Upgrade - Patching - Backup and Restore - Restart Server - Save Platform Debug Logs - Platform Data Collector - Exit
24. ☐	MPS B: Reject Upgrade	Select the "Reject Upgrade" menu and press [ENTER].  Upgrade Menu - Validate Media - Early Upgrade Checks - Initiate Upgrade - Copy USB Upgrade Image - Non Tekelec RPM Management - Accept Upgrade - Reject Upgrade - Exit  Do you really want to reject the upgrade? Yes No Note: USB should be removed before initiating the backout on the server otherwise the system will not recover properly and will indicate a drive failure during backout.
25. ☐	MPS B: Backout proceeds.	Many informational messages will come across the terminal screen as the backout proceeds.

Procedure 23: Backout both MPS A and B

		Finally, after backout is complete, a message will be displayed stating that a reboot is required. 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.
26. ☐	MPS B: Verify the Backout.	Examine the upgrade logs in the directory <code>/var/TKLC/log/upgrade</code> and verify that no errors were reported. <pre># grep -i error /var/TKLC/log/upgrade/upgrade.log # grep -i error /var/TKLC/log/upgrade/ugwrap.log</pre> Examine the output of the above commands to determine if any errors were reported. Refer to section 3.7 to know more about logging.
27. ☐	MPS B: Verify the Backout.	If the backout was not successful and errors were recorded in the logs, then contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section for further instructions. If the backout was successful, then enter continue with the following steps:
28. ☐	MPS B: Reboot the MPS.	Perform the following commands to reboot the MPS: <pre>\$ init 6</pre>
29. ☐	MPS B: Login to MPS B.	After the reboot, the screen will display the login prompt, as shown in the example below.  <pre>##### 1464603884: Upstart Job syscheck: started ##### 1464603884: Upstart Job tpdProvcd: started ##### 1464603885: Upstart Job TKLCsmmp-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>

Procedure 23: Backout both MPS A and B

30. ☐	Create a terminal window and establish a connection by logging into MPS A. Log into MPS A	In a newly created terminal window labeled “MPS B – from MPS A”, connect directly into MPS A. <pre># ssh epapdev@<MPS A> Password: <password></pre>
31. ☐	MPS A: Rejoin previous screen session on MPS B	Execute the following command to disconnect and then rejoin previous screen session: <pre>\$ screen -dr</pre>
32. ☐	MPS B: Sync the time on both MPS A and MPS B.	Sync the time on both MPS A and B if it is different. Login to MPS A: <pre><hostname> console login: epapdev Password: <password></pre> Check date time on MPS A using following command: <pre>\$ date Sat Jul 7 01:35:18 EDT 2018</pre> Login to MPS B: <pre><hostname> console login: epapdev Password: <password></pre> Check date time on MPS B using following command: <pre>\$ date Sat Jul 7 01:35:18 EDT 2018</pre> If both are not same then set the date time value on MPS B same as of MPS A. Use following command: First switch user to root: <pre>\$ su - root Password:</pre> Execute command to set date on MPS B as bellow: <pre># date -s <data-time of MPS A></pre> <pre>[root@Natal-B ~]# date -s "Sat Jul 7 02:05:41 EDT 2018" Sat Jul 7 02:05:41 EDT 2018 [root@Natal-B ~]#</pre> Done.

Procedure 23: Backout both MPS A and B

33. ☐	MPS B: Log in to the server as user "epapdev".	<pre><hostname> console login: epapdev Password: <password></pre>
34. ☐	MPS B: Clear MySQL replication error banner message, if any	Execute the following command to check for MySQL replication error: <pre>\$ manageBannerInfo -l</pre> Examine the output of the above command to determine if any errors were reported related to MySQL replication such as: MySQL data replication error detected; Attempting to restart Attempt to restart MySQL replication failed Execute the following command to copy the EuiDB database from B server to A server to clear any of the above observed MySQL replication error. Note: This utility should be executed only with epapdev user <pre>\$ /usr/TKLC/epap/config/resetReplication</pre> Resetting MySql Replication This script will fix EuiDB replication by copying the database from one side of the pair to the other side and then resetting the MySql replication pointers. Are you sure you want to reset replication? (y/n) y Which side do you want to copy FROM? (A/B) [B]: B Copy the EuiDB from B to A? (y/n) y Removing the index and info files from EPAP A Replication files successfully removed from the mate server. Connecting to local DB Connecting to mate DB Copying EuiDB to mate Stopping local slave Stopping mate slave Resetting local master Resetting mate master Resetting local slave Resetting mate slave Starting local slave Starting mate slave Resetting MySql Replication Completed If there is a failure in resetReplication, execute following commands: <pre>\$ mysql -uroot -p<MySQL_root_password> -e "GRANT ALL ON EuiDB.* to elapdev@localhost IDENTIFIED by '<password>'"</pre> <pre>\$ mysql -uroot -p<MySQL_root_password> -e "GRANT ALL ON EuiDB.* to elapdev@mate IDENTIFIED by '<password>'"</pre> Execute the following command to verify that the banner messages related to the replication error are cleared after some time. <pre>\$ manageBannerInfo -l</pre>

Procedure 23: Backout both MPS A and B

35. ☐	MPS B: Verify Health of MPS B	Execute Procedure A.1 on MPS B to verify the health of MPS B.
36. ☐	MPS A: Check if RTDB and PDBA databases are synchronized. - update this Note: Skip this step for PDBonly setup.	Execute the following command to check the RTDB and PDB database levels: \$ sudo dbstattool The outlook may look like: <pre> DBSTATTOOL Platform=EPAP ----- pdb_birthdate = 1399621904 (Fri May 9 03:51:44 2014) pdb_level = 1 rtdb_pdb_birthdate = 1399621904 (Fri May 9 03:51:44 2014) rtdb_begin_dsm_level = 1 rtdb_end_dsm_level = 1 rtdb_dsm_birthdate = 1400784912 (Thu May 22 14:55:12 2014) rtdb_dsm_status = 1 rtdb_load_state = 0 EAGLE_fmt_pdb_birthdate = 2152386348 (EAGLE format - be careful!) EAGLE_fmt_rtdb_pdb_birthdate = 1981720860 (EAGLE format - be careful!) EAGLE_fmt_rtdb_dsm_birthdate = 4003650604 (EAGLE format - be careful!) pdba_last_upd_ipaddr = 0 pdba_last_upd_timestamp = 0 (Wed Dec 31 19:00:00 1969) dbstattool_pad1 = 0 dbstattool_pad2 = 0 dbstattool_pad3 = 0 dbstattool_pad4 = 0 dbstattool_timestamp = 0 (Wed Dec 31 19:00:00 1969) rtdb_version = 4 </pre> Note down the RTDB and PDBA database levels. If they are not the same prior to backout, an RTDB reload from PDBA must be performed after backout!
37. ☐	Reboot EAGLE Cards.	If the DB levels on EPAP and EAGLE matches and there is no alarm on EAGLE related to “RTDB reload is required”, go to step 37. Reboot 1 SM card on the EAGLE and verify that it comes back to an IS-NR/Active state. If this is a Non-Provisionable EPAP, boot the rest of the EAGLE SM cards over 4 batches (booting 1/4 of the cards at a single time). If this is a Provisionable(mixed EPAP or PDBonly) EPAP, and the second MPS A on which backout has been executed, reboot the rest of the cards on both local and remote sides over 4 batches (booting 1/4 of the cards at a single time).
38. ☐	Procedure is complete.	This procedure is complete.
39. ☐	Note down the timestamp in log.	Run the following command: \$ date

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

Procedure 26 Stop the Pdba software

Procedure 24: Stop the PDBA Software

STEP #	This procedure stop the PDBA software before major 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 <u>UPGRADE ASSISTANCE</u> .	
If backout has been performed, then execute this procedure ONLY after backout on all MPS servers in the entire set of EPAP systems. Otherwise, skip this procedure until all MPS servers have been backed out.		
1. ☐	MPS A: Log in to the server as user "epapdev".	<hostname> console login: epapdev Password: <password>
2. ☐	MPS A: Verify Health of MPS A.	If not done already, execute Procedure A.1 on MPS A to verify the health of MPS A. Expect that the syscheck utility will report the 'Server Application Process Error' alarm for the fact that the PDBA software is not running. Besides the PDBA not running alarm, verify that no other abnormalities are noted. May also report following error: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code. * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged!
3. ☐	MPS A: Verify that Pdba software running or not.	Execute the command below to find if the pdba is running or not: \$ ps -aef grep pdba grep -v "grep" If the output contains an entry for the pdba, as shown below, then move to the next step. [epapdev@MPS A ~]\$ ps -eaf grep "pdba" grep -v "grep" epapdev 14165 11068 0 02:59 ? 00:00:07 /opt/TKLCappl/bin/pdba

Procedure 24: Stop the PDBA Software

		Otherwise, skip the next step as Pdba software already stopped.
4. ☐	MPS A: Turn off the PDBA_REMOTE_PDBI_ALLOWED flag to stop provisioning during upgrade. Note: This step must be performed in case of upgrade and PDBA software needs to be restarted, for this change to take effect.	Execute the command below to find the current status of PDBA_REMOTE_PDBI_ALLOWED flag. <pre>[epapdev@Natal-A ~]\$ uiEdit grep -i PDBA_REMOTE_PDBI_ALLOWED</pre> Skip this step if output of the above command is "PDBA_REMOTE_PDBI_ALLOWED" is set to "OFF". Turn off the PDBA_REMOTE_PDBI_ALLOWED flag by running below command if output of previous command is blank or not set to "OFF" <pre>[epapdev@Natal-A ~]\$ uiEdit PDBA_REMOTE_PDBI_ALLOWED OFF</pre> "PDBA_REMOTE_PDBI_ALLOWED" is set to "OFF"
5. ☐	MPS A: Stop the Pdba software.	Run the following command: <pre>[epapdev@Natal-A ~]\$ service Pdba stop</pre> ~~ /etc/init.d/Pdba stop ~~ PDBA application stopped.
6. ☐	MPS A: Verify that Pdba software running or not	Repeat above step 3.
7. ☐	Procedure complete.	This procedure is complete.
8. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure 27 Restart PDBA Software (Post-Backout and Post-Upgrade)

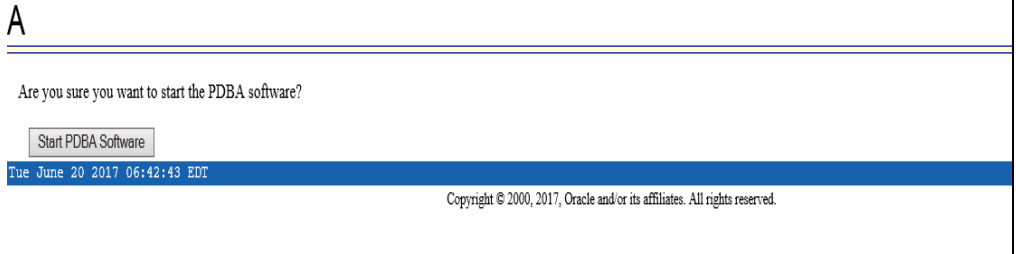
When upgrade is initiated on the first MPS-B, the PDBA software process is stopped on the MPS-A servers configured as **Provisionable**(mixed-EPAP or PDBonly). The PDBA software is intentionally left stopped, and so the operator performing the upgrade must restart the PDBA software after all MPS servers in a set of EPAP systems have been upgraded.

WARNING: If a backout of the MPS A and B units is conducted sometime after an upgrade has successfully completed and after Provisioning has been re-enabled, then the only method of PDB restoration is from backup file. In this case, any new data provisioned since the successful completion of the upgrade will be lost and will need to be re-provisioned.

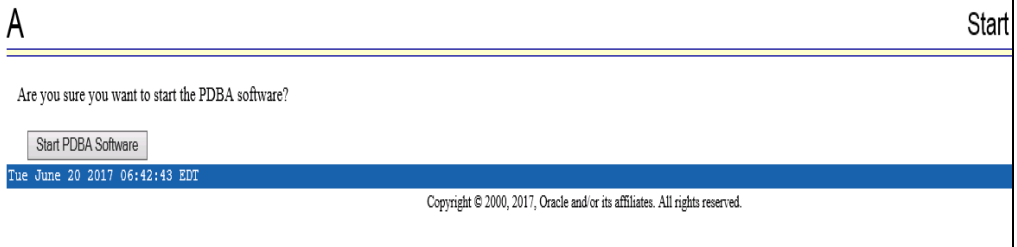
Procedure 25: Restart the PDBA Software Post-Backout and Post-Upgrade

STEP #	This procedure restarts the PDBA software after upgrade of all associated MPS systems has been completed.	
	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>UPGRADE ASSISTANCE</u> .	
If backout has been performed, then follow this procedure ONLY after backout on all MPS servers in the entire set of EPAP systems. Otherwise, skip this procedure until all MPS servers have been backed out.		
1. ☐	Local MPS A: Log in to the server as user "epapdev".	<hostname> console login: epapdev Password: <password>
2. ☐	Local MPS A: Verify Health of MPS A.	If not done already, execute Procedure A.1 on MPS A to verify the health of MPS A. Expect that the syscheck utility will report the 'Server Application Process Error' alarm for the fact that the PDBA software is not running. Besides the PDBA not running alarm, verify that no other abnormalities are noted. May also report following error: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code. * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged!
3. ☐	MPS A: Turn on the PDBA_REMOTE_PDBI_ALLOWED flag to enable PDB to accept updates from remote PDBI. Note: This step must be performed in case of upgrade and PDBA software needs to be restarted, for this change to take effect.	Execute the command below to find the current status of PDBA_REMOTE_PDBI_ALLOWED flag. [epapdev@Natal-A ~]\$ uiEdit grep -i PDBA_REMOTE_PDBI_ALLOWED Turn on the PDBA_REMOTE_PDBI_ALLOWED flag. Skip this step if output of the above command is "PDBA_REMOTE_PDBI_ALLOWED" is set to "ON" or no output is displayed [epapdev@Natal-A ~]\$ uiEdit PDBA_REMOTE_PDBI_ALLOWED ON "PDBA_REMOTE_PDBI_ALLOWED" is set to "ON"

Procedure 25: Restart the PDBA Software Post-Backout and Post-Upgrade

4.	Move back the pdba binary from pdba_stopped to pdba	<pre>[root@Quito-a bin]# mv pdba_stopped pdba [root@Quito-a bin]#</pre>
5. ☐	Local MPS A: Restart the PDBA software. On the menu, click PDBA->Process Control->Start PDBA software	Execute the command below to find if the pdba is running or not: \$ ps -aef grep pdba grep -v "grep" If the output contains an entry for the pdba, as shown below, then skip to the next step. <pre>[epapdev@MPS A ~]\$ ps -aef grep pdba grep -v "grep" epapdev 23890 10248 0 Apr07 ? 00:01:18 /opt/TKLCAppl/bin/pdba</pre> Otherwise, Login to EPAP GUI by uiadmin user and start PDBA software. 
6. ☐	Local MPS A: Verify PDBA is running.	Execute Procedure A.1 on MPS A to verify the health of MPS A Verify that syscheck does not show that the PDBA is not running. May also report following error: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code.
7. ☐	Remote MPS A: Log in to the server as user "epapdev".	<hostname> console login: epapdev Password: <password>
8. ☐	Remote MPS A: Verify Health of MPS A.	Execute Procedure A.1 on MPS A to verify the health of MPS A. Expect that the syscheck utility will alarm the fact that the PDBA software is not running. This will appear as a "5000000000000002 -- Server Application Process Error" alarm. Besides the PDBA not running alarm, verify that no other abnormalities are noted. May also report following error: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code.

Procedure 25: Restart the PDBA Software Post-Backout and Post-Upgrade

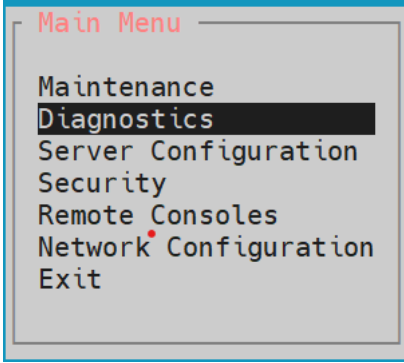
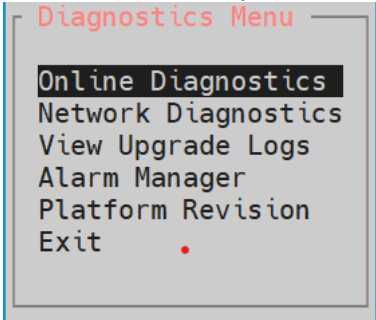
		* defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged!
9. ☐	Remote MPS A: Restart the PDBA software. On the menu, click PDBA->Process Control->Start PDBA software	Execute the command below to find if the pdba is running or not: <pre>\$ ps -aef grep pdba grep -v "grep"</pre> If the output contains an entry for the pdba, as shown below, then skip to the next step. <pre>epapdev 23890 10248 0 Apr07 ? 00:01:18 /opt/TKLCappl/bin/pdba</pre> Otherwise, Login to EPAP GUI by uiadmin user and start PDBA software. 
10. ☐	Remote MPS A: Verify PDBA is running.	Execute Procedure A.1 on MPS A to verify the health of MPS A. Verify that syscheck does <i>not</i> show that the PDBA is <i>not</i> running. May also report following error: * defaultroute: FAILURE:: MINOR::50000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged
11. ☐	Procedure complete.	This procedure is complete.
12. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

THIS COMPLETES THE BACKOUT

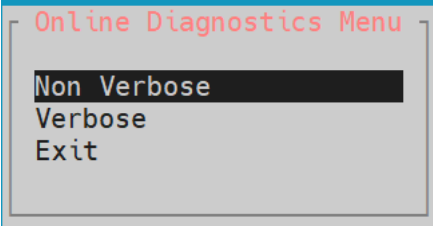
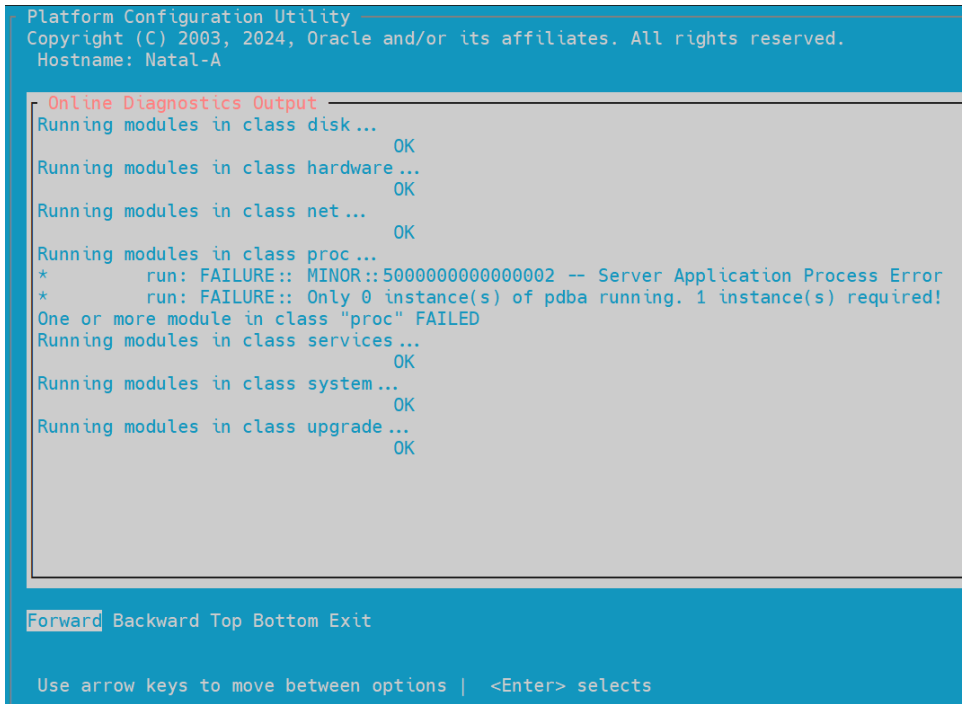
APPENDIX A GENERIC PROCEDURES

Procedure A.1 Perform System Health Check

Appendix A.1 Perform System Health Check

S T E P #	This procedure performs a system health check on any MPS server. 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>UPGRADE ASSISTANCE</u>.	
1. ☐	Log in as the admusr user.	<pre><hostname> console login: admusr Password: <password></pre>
2. ☐	Execute the platcfg menu.	<pre>\$ sudo su - platcfg</pre>
3. ☐	Select the Diagnostics submenu.	The platcfg Main Menu appears. On the Main Menu, select Diagnostics and press [ENTER]. 
4. ☐	Select the Online Diagnostics submenu.	Select the Online Diagnostics submenu and press [ENTER]. 
5. ☐	Select the Non-Verbose option.	Select the Non-Verbose option and press [ENTER].

Appendix A.1 Perform System Health Check

		
6. ☐	Examine the output of the Online Diagnostics.	Example output shown below. Examine the actual output of the Online Diagnostics. 
7. ☐	System Check Successful. System Check Failure.	Exit from the above menu. If the System Check was successful, return to the procedure that you came here from. If the “Server Disk Space Shortage Error” was there in the output, proceed to step 8 to clean up the ‘/’ directory. syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::50000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code

Appendix A.1 Perform System Health Check

		* defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged If any other failures were detected by System Check, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section .
8. ☐	Server clean-up to create space.	Execute the following command: <pre>\$ df -h /var/TKLC</pre> The output may look like: <pre>[root@Quito-a core]# df -h /var/TKLC Filesystem Size Used Avail Use% Mounted on /dev/mapper/vgroot-plat_var_tklc 7.8G 2.3G 5.1G 31% /var/TKLC</pre> Verify that there is at least 600M in the Avail column. If not, clean up files until there is space available. 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 images for any length of time as they can get purged. Also, execute the following command to check space in '/lib/module' directory. <pre>\$ df -h /lib/modules</pre> <pre>[root@Quito-a core]# df -h /lib/modules Filesystem Size Used Avail Use% Mounted on /dev/mapper/vgroot-plat_usr 7.8G 4.7G 2.8G 64% /usr [root@Quito-a core]#</pre> Verify that the Use% column does not exceed the value 80%.
9. ☐	Disk Space Check	Switch to root user <pre>\$ su - <root password></pre>

Appendix A.1 Perform System Health Check

		Run the command on both Active and Standby PDB: <code>[root@Arice-A epapa11]# fdisk -l</code> Disk /dev/sda: 1.8 TiB, 1920383410176 bytes, 3750748848 sectors Units: sectors of 1 * 512 = 512 bytes Sector size (logical/physical): 512 bytes / 4096 bytes I/O size (minimum/optimal): 4096 bytes / 4096 bytes
10. ☐	Procedure complete.	Return to the procedure that you came here from.
11. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.2 Validate Upgrade Media

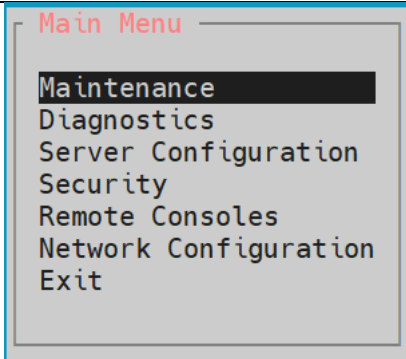
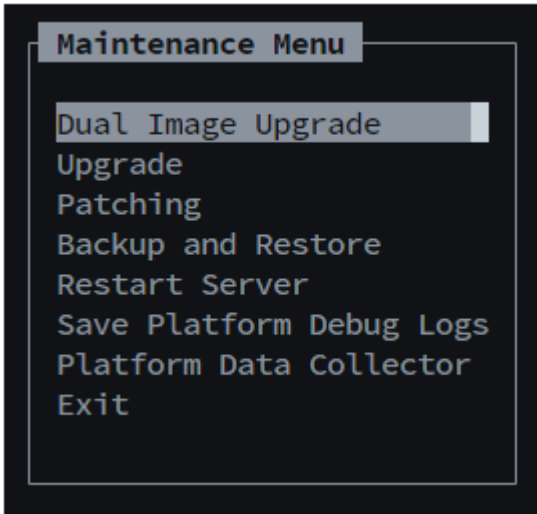
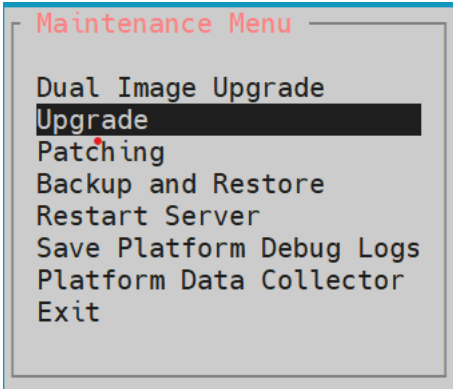
This procedure is used to execute a validation of the Upgrade Media (typically an ISO image) separately from executing an upgrade. The upgrade process automatically validates the upgrade media. However, sometime the user may wish to perform just a validation before proceeding with upgrade, thus the reason for this separate process.

Validation could be performed on MPS A or B, however, this procedure specifies MPS X for simplicity.

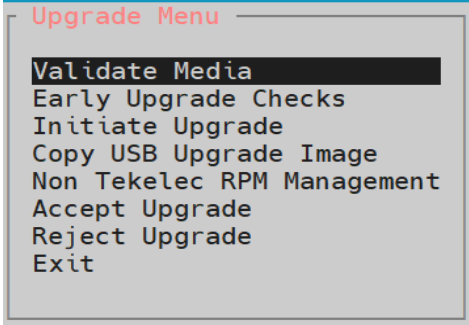
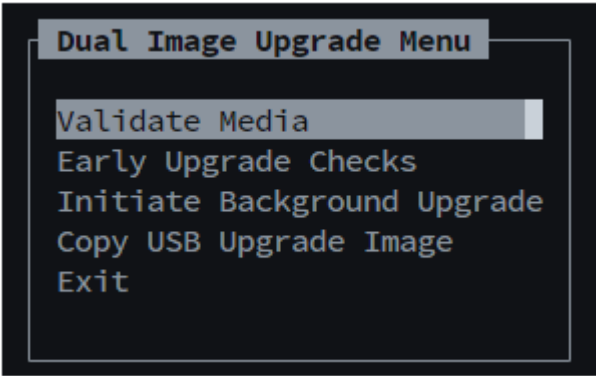
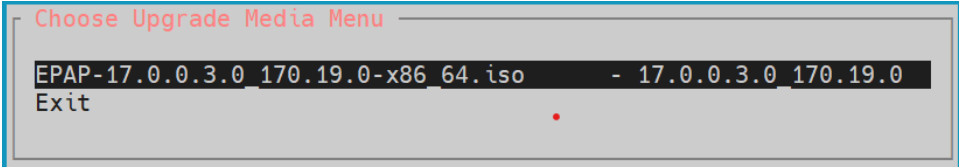
Appendix A.2 Validate the Upgrade Media

S T E P #	This procedure provides instructions to perform a validation of the upgrade media on the MPS X server. This procedure assumes that the APPD card IPM procedure has been executed and the user has an EPAP Upgrade ISO image available. 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>UPGRADE ASSISTANCE</u>.	
	1. ☐	MPS X: If necessary, log in to the server as the user "admusr". If not already logged in to the MPS server, then login as user "admusr". <hostname> console login: admusr password: <password>
	2. ☐	MPS X: Execute the platcfg menu. \$ sudo su - platcfg
	3. ☐	MPS X: Select the Maintenance submenu. The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER].

Appendix A.2 Validate the Upgrade Media

		 In case of Dual Image Upgrade, Select the Dual Image upgrade menu and press [ENTER] 
4. ☐	MPS X: Select the Upgrade/Dual Image Upgrade submenu based on the type of Installation.	In case of fresh install, select the Upgrade menu and press [ENTER]. 

Appendix A.2 Validate the Upgrade Media

5. ☐	MPS X: Select the Validate Media selection.	Select the Validate Media menu and press [ENTER]. In case of Fresh install, you will see the below menu:  In case of Dual Image Upgrade you will see the below menu: 
6. ☐	MPS X: Output from the Validate Media selection.	The screen will display a message that it is searching for upgrade media. Once the upgrade media is found, an Upgrade Media selection menu will be displayed similar to the example shown below. If the upgrade media is not found, follow Procedure A.12 to copy the upgrade ISO. 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 My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section. 

Appendix A.2 Validate the Upgrade Media

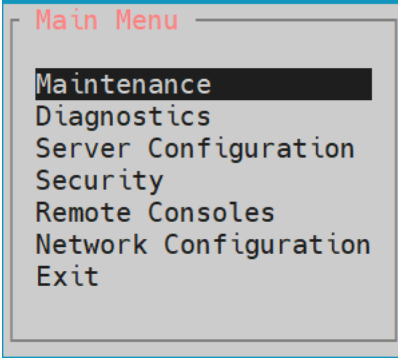
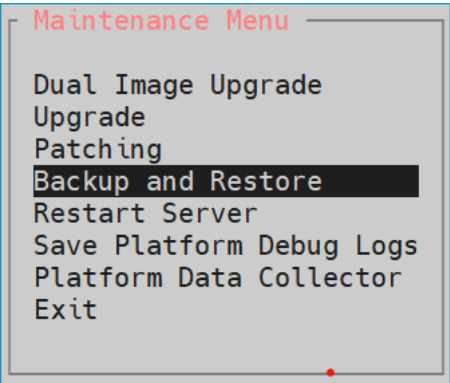
[illegible]

Appendix A.2 Validate the Upgrade Media

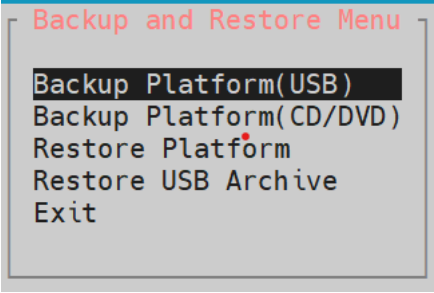
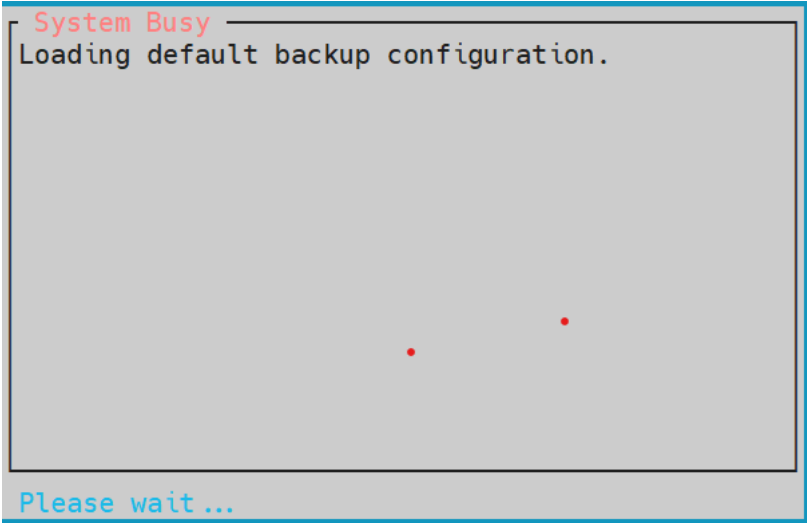
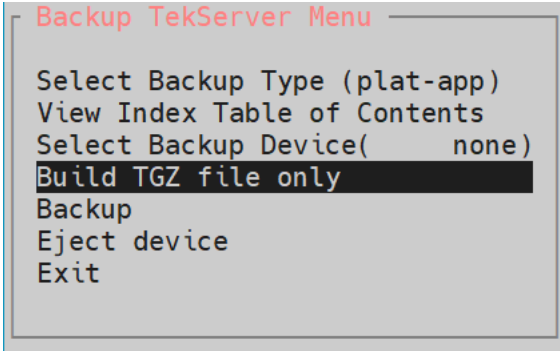
10. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.3 System Configuration Backup

Appendix A.3 System Configuration Backup

S T E P #	This procedure performs configuration backup on an MPS Server. 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>UPGRADE ASSISTANCE</u>.	
1. ☐	MPS X: If necessary, log in to the server as the user "epapdev".	If not already logged in to the MPS server, then login as user "admusr". <pre><hostname> console login: admusr password: <password></pre>
2. ☐	MPS X: Execute the platcfg menu.	<pre>\$ sudo su - platcfg</pre>
3. ☐	MPS X: Select the Maintenance submenu.	The platcfg Main Menu appears. On the Main Menu, select Maintenance and press [ENTER].  <pre> Main Menu ----- Maintenance Diagnostics Server Configuration Security Remote Consoles Network Configuration Exit </pre>
4. ☐	MPS X: Select the Backup Platform submenu.	Select the Backup and Restore menu and press [ENTER]. .  <pre> Maintenance Menu ----- Dual Image Upgrade Upgrade Patching Backup and Restore Restart Server Save Platform Debug Logs Platform Data Collector Exit </pre>
5. ☐	MPS X: Select the Backup Platform submenu.	Select the Backup Platform (USB) submenu and press [ENTER].

Appendix A.3 System Configuration Backup

		
6. ☐	MPS X: Backup continues.	The backup continues. The following busy screen may appear. 
7. ☐	MPS X: Select the Build TGZ file only selection.	Select the Build TGZ file only selection and press [ENTER]. 
8. ☐	MPS X: Backup complete – select exit.	Once the TGZ has been created, the “Backup TekServer Menu” will be displayed again. Select the Exit option, and keep selecting the Exit option, until you reach the command line prompt.

Appendix A.3 System Configuration Backup

9. ☐	MPS X: Transfer the backup file.	The backup file is in the /var/TKLC/bkp directory and will have a name like <hostname>-plat-app-[date][time].tgz Execute the following command to view the backup file: <pre>\$ ls -l /var/TKLC/bkp</pre> <pre>[admusr@Recife-a bkp]\$ ls -l /var/TKLC/bkp/</pre> <pre>total 5836</pre> <pre>-rw-rw---- 1 root sys 5972128 Sep 11 09:04 Recife-a-plat-app-201809110904.tgz</pre>
10. ☐	MPS X: Transfer file to remote machine.	Using SFTP (secure-FTP), transfer the ISO to a remote, customer-provided computer. Enter “yes” when prompted if you want to continue to connect. <pre>\$ cd /var/TKLC/bkp</pre> <pre>\$ sftp <IP address of remote computer></pre> 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. 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 <hostname>-plat-app-[date][time].tgz Uploading <hostname>-plat-app-[date][time].tgz to <hostname>-plat-app-[date][time].tgz sftp> bye If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command: <pre>\$ sudo chmod 666 /var/TKLC/bkp/<TGZ file></pre> <pre>\$ su - epapdev</pre> <pre>\$ scp /var/TKLC/bkp/<TGZ file> epapdev@remoteIP:<Remote IP Path></pre>
11. ☐	Procedure complete.	Return to the procedure that you came here from.
12. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.4 Execute parse9Dig script

Appendix A.4 Execute parse9Dig script

S	This procedure performs the Execution of parse9Dig script.
T	
E	Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.
P	IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR <u>UPGRADE ASSISTANCE</u> .

#		
1. ☐	MPS A: Login as the user "epapdev" on standalone PDB.	If not already logged-in, then login at MPS A: <hostname> console login: epapdev password: <password>
2.	MPS A: Check if "parse9Dig" script is present on setup.	Check whether "parse9Dig" script is present on setup or not. Execute following command: \$ ls -lrt /usr/TKLC/epap/config/parse9Dig [epapdev@Natal-a-PDBonly ~]\$ ls -lrt /usr/TKLC/epap/config/parse9Dig -rwxr-xr-x 1 epapdev epap 12162 Oct 10 16:23 /usr/TKLC/epap/config/parse9Dig If output is same as above then proceed to step 4 otherwise proceed with following step.
3. ☐	MPS A: Execute the "parse9Dig" script on standalone PDB.	Note: Stop the Pdba software before executing this script. Execute the "parse9Dig" script and examine the result. \$/usr/TKLC/epap/config/parse9Dig all u [epapdev@Osorna-1B-PDBonly config]\$ /usr/TKLC/epap/config/parse9Dig all u This utility will retrieve all digits for DB and parse them into 9Dig entries. ***** Utility Start Time: 06/13/18-21:24:31 Parsing DN digits into 9digits... INFO: DN 9dig count 2. REPLACE INTO dn9dig VALUES (UNHEX("050000000000"),1),(UNHEX("060000000000"),1); Parsing IMSI digits into 9digits... INFO: IMSI 9dig count: 9. REPLACE INTO imsi9dig VALUES (UNHEX("0D001234567"),3),(UNHEX("060000000000"),1),(UNHEX("070000000099"),1),(UNHEX("080000000044"),1),(UNHEX("080000000023"),2),(UNHEX("050000000000"),1),(UNHEX("08000000077"),1),(UNHEX("080000000099"),1),(UNHEX("080000000088"),1); Parsing IMEI digits into 9digits... INFO: IMEI 9dig count: 1. REPLACE INTO imei9dig VALUES (UNHEX("0E012345678"),2); Utility End Time: 06/13/18-21:24:31 _
4. ☐	MPS A: Procedure is complete.	This procedure is complete.
5. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.5 Increase rtVolume size for Non-prov

Appendix A.5 Increase rtVolume size for Non-prov

STEP #	This procedure increase rtVolume size for Non-prov.	
	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>UPGRADE ASSISTANCE</u> .		
Note: Skip this procedure for mixed EPAP and standalone EPAP.		
1. ☐	MPS A: Log in to the server.	If not already logged-in, then login at MPS A: <hostname> console login: epapdev Password: <password>
2. ☐	MPS A: Execute “rtdir_300gb” script for E5-APP-B cards with 300GB drive modules.	If EPAP is running on an E5-APP-B card with 300GB drive modules, execute this step. If instead, EPAP is running on an E5-APP-B card with 480GB drive modules, skip this step and go to step 3. Download the rtdir_300gb script zip file from My Oracle Support(MOS) (https://support.oracle.com). The zip file is available on MOS under Oracle Communications EAGLE Application Processor 16.3.0.0.0. Place the zip file in the /tmp directory. Unzip the file: \$ unzip <zip file name from MOS> \$ cat Readme.txt Follow the directions in the Readme.txt file. Execute the following script: \$ sudo /usr/TKLC/epap/bin/rtdir_300gb Warning: This utility would increase rtVolume for non-prov setup and this action is irreversible. Are you sure you want to continue?[Yes/No]: Yes INFO: Increasing rt volume size for Non-provisionable EPAP. Please wait... INFO: db space increased on 'A'. INFO: Stopping Epap, mysqlapp and mysqlpdb services... Done. INFO: Starting Epap, mysqlapp and mysqlpdb services... Done. INFO: Successfully configured Non-provisionable EPAP. Following error related to MyISAM table shall be observed on CLI while executing rtdir script:

Appendix A.5 Increase rtVolume size for Non-prov

		<pre> myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/pdb/mysql/columns_priv.MYI' myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/pdb/mysql/columns_priv.MYI' myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/pdb/mysql/db.MYI' e2fsck 1.43-WIP (20-Jun-2013) File descriptor 7 (socket:[102707]) leaked on lvreduce invocation. Parent PID 25006: sh resize2fs 1.43-WIP (20-Jun-2013) File descriptor 7 (socket:[102707]) leaked on vgdisplay invocation. Parent PID 25350: sh File descriptor 7 (socket:[102707]) leaked on lvextend invocation. Parent PID 25359: sh resize2fs 1.43-WIP (20-Jun-2013) File descriptor 7 (socket:[102707]) leaked on vgdisplay invocation. Parent PID 25410: sh File descriptor 7 (socket:[102707]) leaked on lvextend invocation. Parent PID 25416: sh myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/appconfig/EuiDB/alarmInfo.MYI' myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/appconfig/EuiDB/alarmInfo.MYI' myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/appconfig/EuiDB/bannerinfo.MYI' . FIPS integrity verification test failed. FIPS integrity verification test failed. . .WARNING: Reducing active logical volume to 8.00 GiB. THIS MAY DESTROY YOUR DATA (filesystem etc.). Skip step 3 and continue with step 4. </pre>
3. ☐	MPS A: Execute “rtdir” script for E5-APP-B cards with 480GB drive modules.	If EPAP is running on an E5-APP-B card with 300GB drive modules, do not execute this step. Instead, execute step 2. If EPAP is running on an E5-APP-B card with 480GB drive modules, execute this step. Execute the following script: <pre>\$ sudo /usr/TKLC/epap/bin/rtdir</pre> Warning: This utility would increase rtVolume for non-prov setup and this action is irreversible. Are you sure you want to continue?[Yes/No]: Yes <pre> INFO: Increasing rt volume size for Non-provisionable EPAP. Please wait... INFO: db space increased on 'A'. INFO: Stopping Epap, mysqlapp and mysqlpdb services... Done. INFO: Starting Epap, mysqlapp and mysqlpdb services... Done. INFO: Successfully configured Non-provisionable EPAP. </pre> Following error related to MyISAM table shall be observed on CLI while executing rtdir script: <pre> myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/pdb/mysql/columns_priv.MYI' </pre>

Appendix A.5 Increase rtVolume size for Non-prov

		<pre> myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/pdb/mysql/columns_priv.MYI' myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/pdb/mysql/db.MYI' e2fsck 1.43-WIP (20-Jun-2013) File descriptor 7 (socket:[102707]) leaked on lvreduce invocation. Parent PID 25006: sh resize2fs 1.43-WIP (20-Jun-2013) File descriptor 7 (socket:[102707]) leaked on vgdisplay invocation. Parent PID 25350: sh File descriptor 7 (socket:[102707]) leaked on lvextend invocation. Parent PID 25359: sh resize2fs 1.43-WIP (20-Jun-2013) File descriptor 7 (socket:[102707]) leaked on vgdisplay invocation. Parent PID 25410: sh File descriptor 7 (socket:[102707]) leaked on lvextend invocation. Parent PID 25416: sh myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/appconfig/EuiDB/alarmInfo.MYI' myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/appconfig/EuiDB/alarmInfo.MYI' myisamchk: error: 140 when opening MyISAM-table '/var/TKLC/epap/db/appconfig/EuiDB/bannerInfo.MYI' . . FIPS integrity verification test failed. FIPS integrity verification test failed. . .WARNING: Reducing active logical volume to 8.00 GiB. THIS MAY DESTROY YOUR DATA (filesystem etc.). </pre>
4. ☐	MPS A: Verify rtVolume size using command “df -h”.	<pre> [epapdev@Arica-1A ~]\$ df -h Filesystem Size Used Avail Use% Mounted on /dev/mapper/vgroot-plat_root 976M 288M 637M 32% / tmpfs 3.9G 0 3.9G 0% /dev/shm /dev/md1 244M 40M 192M 18% /boot /dev/mapper/vgroot-plat_tmp 976M 2.0M 923M 1% /tmp /dev/mapper/vgroot-plat_usr 3.9G 2.5G 1.2G 68% /usr /dev/mapper/vgroot-plat_var 976M 206M 720M 23% /var /dev/mapper/vgroot-plat_var_tklc 3.9G 1.8G 1.9G 49% /var/TKLC /dev/mapper/vgroot-db 5.8G 4.3G 1.2G 79% /var/TKLC/epap/db /dev/mapper/vgroot-free 320G 5.3G 298G 2% /var/TKLC/epap/free /dev/mapper/vgroot-logs 20G 89M 19G 1% /var/TKLC/epap/logs /dev/mapper/vgroot-rt 82G 3.3G 75G 5% /var/TKLC/epap/rt [epapdev@Arica-1A ~]\$ </pre> Vgroot-rt size should be greater than 80G.
5. ☐	MPS B: Execute "rtdir" or "rtdir_300gb" script.	After successfully converted rtVolume size on MPS A, repeat steps 2, 3, and 4 on MPS B.

Appendix A.5 Increase rtVolume size for Non-prov

6. ☐	MPS B: Procedure completed.	This procedure is completed.
7. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.6 PDB Backup

Appendix A.6 PDB Backup

S T E P #	This procedure performs a PDB backup on the EPAP server configured as a Provisionable (mixed-EPAP or PDBonly) node. This procedure should only be performed on the active PDBA. Note: Only one PDB Backup is allowed, to be stored. In case another backup is required, workaround is to setup the remote transfer of the existing pdb backup and then delete it. 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 UPGRADE ASSISTANCE.	
1. ☐	MPS A: Log in to the server.	If not already logged-in, then login at MPS A: <hostname> console login: epapdev Password: <password>
2. ☐	Run syscheck.	Switch to root user \$ su - Password:<root password> Execute the following Command: \$ syscheck Note: syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged
3. ☐	Verify the System Check executed successfully. In particular, verify that the PDBA process is running by noting that syscheck does not	Running modules in class disk... OK Running modules in class net... OK Running modules in class proc... OK Running modules in class system... OK

Appendix A.6 PDB Backup

	generate an alarm against the PDBA process.	Running modules in class hardware... OK The log is available at: -->/var/TKLC/log/syscheck/fail_log If the syscheck utility reports the "5000000000000002 – Server Application Process Error" alarm, restart the PDBA and execute syscheck again. The above alarm should be removed. If the above alarm is not removed, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section
4. ☐	System Check Verifies that PDBA is running.	If the syscheck does not report any errors, proceed to the next step. Otherwise, if any other failures were detected by System Check, contact My Oracle Support following the instructions on the front page or the instructions in the My Oracle Support section. Note: syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::50000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged
5. ☐	Log into epapconfig.	\$ su - epapconfig Warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.
6. ☐	Main menu is displayed. Select Platform Menu.	Menu for mixed-EPAP: <pre> /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed </pre>

Appendix A.6 PDB Backup

		<pre> 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit -----/ </pre> Enter Choice: 6
7. ☐	Platform menu is displayed. Select PDB Backup.	Menu for standard EPAP designation: <pre> /-----EPAP Platform Menu-\ /-----/ 1 Initiate Upgrade ----- 2 Reboot MPS ----- 3 MySQL Backup ----- 4 RTDB Backup ----- 5 PDB Backup ----- e Exit -----/ </pre> Enter Choice: 5 Menu for PDB-only designation: <pre> /-----EPAP Platform Menu-\ /-----/ 1 Initiate Upgrade ----- 2 Reboot MPS ----- 3 MySQL Backup ----- 4 PDB Backup ----- e Exit -----/ </pre> Enter Choice: 4
8. ☐	Menu will prompt for a "yes" to continue. Enter a Y.	<pre> Are you sure you want to backup the PDB to /var/TKLC/epap/free/pdbBackup_DBExpPdbOnly_20180613055813_DBBirthd ate_20180613072847GMT_DBLevel_6507_v7.50.bkp.tar.gz? [N]: </pre>
9. ☐	While the backup is begin performed, the following output will be displayed to the screen. Note: Only one PDB Backup is allowed, to be stored.	<pre> Successfully started backup of PDB. Status will be displayed on the GUI banner. Press return to continue... Note: If following error is displayed instead of success, then you need to delete all pdbBackup from free directory in order to schedule new pdbBackup. E1058: An internal error in the EPAP occurred: pdbBackup already exists in free directory. Press return to continue... </pre>

Appendix A.6 PDB Backup

10. ☐	Exit this menu and return to the login prompt.	Enter Choice: e Note: If this menu is not exited properly, then the SSH login with root shall remain enabled.
11. ☐	Monitor GUI banner.	Monitor the GUI banner. When the backup has completed successfully, continue to the next step.
12. ☐	Use SFTP to transfer the backup file to a remote customer provided computer.	Using SFTP (secure-FTP), transfer the PDB backup file to a remote, customer-provided computer. Enter “yes” when prompted if you want to continue to connect. <pre>\$ cd /var/TKLC/epap/free</pre> <pre>\$ 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. 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 pdbBackup_<hostname>_20140530151806_DBBirthdate_ 20140530144717GMT_DBLLevel_<DBLevel>.bkp.tar.gz Uploading pdbBackup_<hostname>_20140530151806_DBBirthdate_ 20140530144717GMT_DBLLevel_<DBLevel>.bkp.tar.gz to pdbBackup_<hostname>_ 20140530151806_DBBirthdate_20140530144717GMT_DBLLevel_<DBLevel>.bkp .tar.gz sftp> bye</pre> If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command <pre>\$ su - epapdev</pre> <pre>\$ scp /var/TKLC/epap/free/<pdb backup file> epapdev@mate:/var/TKLC/epap/free/</pre>
13. ☐	Procedure complete.	Return to the procedure that you came here from.
14. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.7 RTDB Backup

Note: Skip this procedure for PDBonly setup.

Appendix A.7 RTDB Backup

S T E P #	This procedure performs an RTDB backup on the EPAP server. 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 UPGRADE ASSISTANCE.	
1. ☐	MPS : Log in to the server.	If not already logged-in, then login to the MPS server. <hostname> console login: admusr Password: <password>
2. ☐	Enter the epapconfig menu.	Execute the following command: \$ sudo su - epapconfig Warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.
3. ☐	Main menu is displayed. Select Platform Menu.	<pre> /-----EPAP 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 Security ----- ----- 9 SNMP Configuration ----- ----- 10 Configure Alarm Feed ----- ----- 11 Configure SNMP Agent Community ----- ----- 12 Mate Disaster Recovery ----- ----- e Exit \-----/ </pre> Enter Choice: 6
4. ☐	Platform menu is displayed. Select RTDB Backup.	<pre> /-----EPAP Platform Menu-\ /-----\ </pre>

Appendix A.7 RTDB Backup

		<pre> 1 Initiate Upgrade ----- 2 Reboot MPS ----- 3 MySQL Backup ----- 4 RTDB Backup ----- 5 PDB Backup ----- e Exit \-----/ Enter Choice: 4 </pre>
5. ☐	The Application software must be stopped.	If the EPAP application software is running, you will be prompted to stop the software for the RTDB backup. Select with a “Y”. EPAP software is running. Stop it? [N]: Y
6. ☐	Menu will prompt for a “yes” to continue. Enter a Y.	<pre>Are you sure you want to backup the PDB to /var/TKLC/epap/free/ rtddbBackup_Recife-A_20140530151806.tar.gz? [N]:</pre>
7. ☐	While the backup is begin performed, the following output will be displayed to the screen.	Successfully started backup of RTDB. Status will be displayed on the GUI banner. Press return to continue...
8. ☐	Exit this menu and return to the login prompt. Continue exiting until you get to the login prompt.	Enter Choice: e Enter Choice: e Note: If this menu is not exited properly, then the SSH login with root shall remain enabled.
9. ☐	Monitor GUI banner.	Monitor the GUI banner. When the backup has completed successfully, continue to the next step. Note: On performing RTDB backup following two error were observed in cgi.dbg file although rtdb backup is getting completed ERROR: Invalid numbr of argument. Number of argument must be 3 to update RTDB backup DB level properly in pdb. Error: Couldn't able to run the script on Remote Prov with IP (0.0.0.0) having procRc = 255, signal = 0, core = 0.
10. ☐	Restart the EPAP Software.	Restart the EPAP application software. \$ sudo /etc/init.d/Epap start

Appendix A.7 RTDB Backup

11. ☐	Use SFTP to transfer the backup file to a remote customer provided computer.	Using SFTP (secure-FTP), transfer the RTDB backup file to a remote, customer-provided computer. Enter “yes” when prompted if you want to continue to connect. <pre>\$ cd /var/TKLC/epap/free</pre> <pre>\$ sftp <IP address of remote computer></pre> 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. 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>_20140530151806.tar.gz Uploading rtdbBackup_<hostname>_20140530151806.tar.gz to rtdbBackup_<hostname>_20140530151806.tar.gz sftp> bye If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command <pre>\$ su - epapdev</pre> <pre>\$ scp /var/TKLC/epap/free/<rtdb backup file> epapdev@mate:/var/TKLC/epap/free</pre>
12. ☐	Procedure complete.	Return to the procedure that you came here from.
13. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.8 EuiDB Backup

Appendix A.8 EuiDB Backup

S T E P #	This procedure performs a backup of the User database on the MPS server.	
	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>UPGRADE ASSISTANCE</u> .	
1. ☐	MPS A: Log in to the server as user “admusr”.	<hostname> console login: admusr Password: <password>
2. ☐	Enter the epapconfig menu.	Execute the following Command: <pre>\$ sudo su - epapconfig</pre>

		Warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.
3. ☐	Master menu is displayed. Select Platform Menu.	<pre> /-----EPAP 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 PDB Configuration Menu ---- ----- 9 Security ---- ----- 10 SNMP Configuration ---- ----- 11 Configure Alarm Feed ---- ----- 12 Configure Query Server ---- ----- 13 Configure Query Server Alarm Feed ---- ----- 14 Configure SNMP Agent Community ---- ----- 15 Mate Disaster Recovery ---- ----- e Exit \-----/ </pre> Enter Choice: 6
4. ☐	Platform menu is displayed. Select MySQL Backup.	<pre> /-----EPAP Platform Menu-\ /-----\ 1 Initiate Upgrade ---- ----- 2 Reboot MPS ---- ----- 3 MySQL Backup ---- ----- 4 RTDB Backup ---- ----- 5 PDB Backup ---- ----- e Exit \-----/ </pre>

Appendix A.8

EuiDB Backup

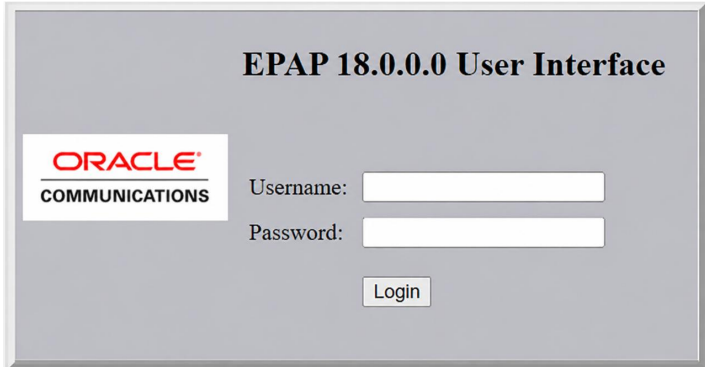
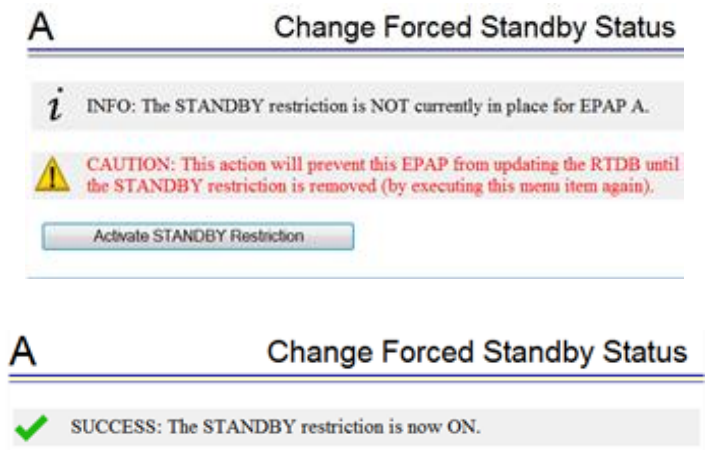
		Enter Choice: 3
5. ☐	You will then be prompted to verify that you want to backup the MySQL Database.	Are you sure you want to backup the MySQL database on MPS A? [N]:
6. ☐	Type "Y" and press enter.	Press Y
7. ☐	While the backup is begin performed, the following output will be displayed to the screen.	NPDB Backed up Successfully to /var/TKLC/appl/free/<file name>
8. ☐	Exit this menu and return to the Unix login prompt. Continue exiting until you get to the Unix login prompt.	Enter Choice: e Note: If this menu is not exited properly, then the SSH login with root shall remain enabled.
9. ☐	Use SFTP to transfer the backup file to a remote customer provided computer.	Using SFTP (secure-FTP), transfer the NPDB backup file to a remote, customer-provided computer. Enter "yes" when prompted if you want to continue to connect. \$ cd /var/TKLC/epap/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. 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>_20140530151806.sql.gz Uploading npdbBackup_<hostname>_20140530151806.sql.gz to npdbBackup_<hostname>_20140530151806.sql.gz sftp> bye If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command \$ su - epapdev \$ scp /var/TKLC/epap/free/<npdb backup file> epapdev@mate:/var/TKLC/epap/free
10. ☐	Procedure complete.	Return to the procedure that you came here from.

Appendix A.8 EuiDB Backup

11. ☐	Note down the timestamp in log.	Run the following command: \$ date
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Procedure A.9 RTDB Reload from PDBA

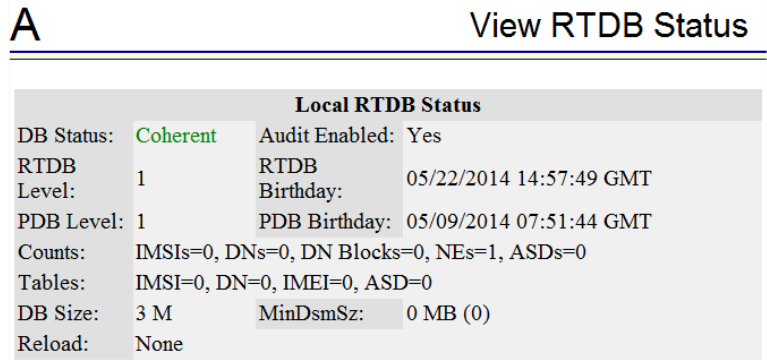
Appendix A.9 RTDB Reload from PDBA

S T E P #	This procedure provides instructions to reload RTDB from PDBA. 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. ☐	EPAP A: Log in to the web GUI as user "uiadmin".	
2. ☐	EPAP A: Put EPAP in Force Standby Mode. Expand the "Maintenance" Folder. Expand the "Force Standby" Folder. Select the "Change Status" link. Click on "Activate STANDBY Restriction" Button.	

Appendix A.9 RTDB Reload from PDBA

3. ☐	EPAP A: Reload RTDB from PDBA. Expand the “RTDB” Folder. Expand the “Maintenance” Folder. Select the “Reload from PDBA” link. Click on the “Reload” Button. Observe the “SUCCESS” Status.	A Reload RTDB from PDBA  CAUTION: This action will cause the selected RTDB to be completely reloaded from the PDBA. Once the action is started, the RTDB will be unusable until the reload is completed. It is necessary for this EPAP to be in Forced Standby mode to ensure that it will not attempt to become ACTIVE while the reload is in progress. Continue with the reload only if you are sure. Reload A Reload RTDB from PDBA  SUCCESS: The reload has been initiated. You can check its progress by viewing the RTDB status. Also, an informational message has been added to the Banner. The message will be cleared when the reload is complete.
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Appendix A.9 RTDB Reload from PDBA

	Click on "Remove STANDBY Restriction" Button.	
6. ☐	EPAP A: Verify RTDB status. Expand the "RTDB" Folder. Select the "View RTDB Status" link.	 The RTDB Status must be Coherent. Note: RTDB Reload from PDBA completed banner message will not be observed and same is not pegged in cgi.dbg. Completion of RTDB Reload from PDBA is completed when PRD-RTDB parameter sync is observed
7. ☐	Procedure complete.	Return to the procedure that you came here from.
8. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.10 RTDB Restore

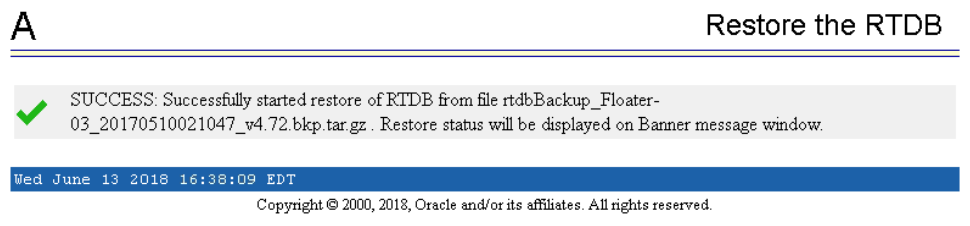
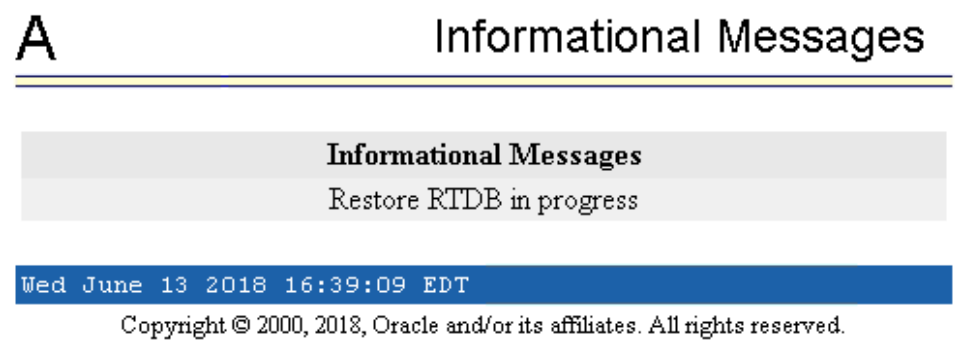
Appendix A.10 RTDB Restore

S T E P #	This procedure provides instructions to restore RTDB from a backup file. 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. ☐	EPAP A: Log in to the web GUI as user "uiadmin".	

Appendix A.10 RTDB Restore

2.	EPAP A: Stop Software. On the menu, click Process Control->Stop Software. Click “Stop EPAP Software” Button	EPAP A: uiaadmin Process Control Start Software Stop Software Maintenance RTDB Debug Platform PDBA User Administration Change Password Logout A CAUTION: This action will stop all EPAP software processes, and will prevent the selected EPAP from updating the RTDB until the EPAP software is re-started (by executing the Start Software menu item). ☒ Check if you want the software to automatically start on reboot. PDBA ☐ Check if you want to stop the PDBA software along with the EPAP software. ☐ Check if you want the PDBA software to automatically start on reboot. Are you sure you want to stop the EPAP software? Stop EPAP Software Stop EPAP Software SUCCESS: The EPAP Software has been stopped. Tue January 06 2015 10:29:53 EST Copyright © 2000, 2014, Oracle and/or its affiliates. All rights reserved.												
3.	EPAP A: Restore RTDB. On the menu, click RTDB->Maintenance->Restore RTDB Select the backup file, then click “Restore RTDB from the Selected File” Button Click “Confirm RTDB Restore” Button	EPAP A: uiaadmin Process Control Start Software Stop Software Maintenance RTDB Debug Platform PDBA User Administration Change Password Logout A Please specify the sub directory (default is /var/TKLC/epap/free) File Path OK Wed June 24 2026 02:57:19 EDT Copyright © 2000, 2026, Oracle and/or its affiliates. All rights reserved. Restore the RTDB CAUTION: This action will restore the RTDB from the specified file on the selected EPAP. The EPAP software must be stopped on the selected EPAP in order for the restore to be allowed. <table><tr><th>Select</th><th>Type</th><th>Originating Host</th><th>File Name</th><th>File Size</th><th>Creation Time</th></tr><tr><td>☒</td><td>rtdbBackup</td><td>Recife-A</td><td>rtdbBackup_Recife-A...</td><td>577K bytes</td><td>Tue January 06 2015 10:25:35 EST</td></tr></table> Restore RTDB from the Selected File. Restore the RTDB CAUTION: This backup file may be incompatible with your system. Are you sure that you want to restore the RTDB from the file rtdbBackup_Cusco-A_20181128103003_DBBirthdate_20141015030619GMT_DBLLevel_78687002_v4.72.bkp.tar.gz ? Confirm RTDB Restore	Select	Type	Originating Host	File Name	File Size	Creation Time	☒	rtdbBackup	Recife-A	rtdbBackup_Recife-A...	577K bytes	Tue January 06 2015 10:25:35 EST
Select	Type	Originating Host	File Name	File Size	Creation Time									
☒	rtdbBackup	Recife-A	rtdbBackup_Recife-A...	577K bytes	Tue January 06 2015 10:25:35 EST									

Appendix A.10 RTDB Restore

		NOTE: Caution message regarding “incompatible file” is displayed in above snapshot as the backup file is taken on RTDB version 4 and is being restored on RTDB version 5. Restore successfully started:  The screenshot shows a banner with the title 'Restore the RTDB' and a success message: 'SUCCESS: Successfully started restore of RTDB from file rtdbBackup_Floater-03_20170510021047_v4.72.bkp.tar.gz . Restore status will be displayed on Banner message window.' The timestamp is 'Wed June 13 2018 16:38:09 EDT' and the copyright notice is 'Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.'
4. ☐ EPAP A: Make EPAP down. An IM alarm should be observed with informational message on EPAP GUI confirming that restore RTDB is in progress. An IM alarm should be observed with informational message on EPAP GUI confirming that restore RTDB completed successfully. Click “Confirm RTDB Restore” Button		Confirming that Restore RTDB in progress:  The screenshot shows a banner with the title 'Informational Messages' and the message 'Restore RTDB in progress'. The timestamp is 'Wed June 13 2018 16:39:09 EDT' and the copyright notice is 'Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.'

Appendix A.10 RTDB Restore

		Confirming that Restore RTDB is completed successfully: A Informational Messages Informational Messages Restore RTDB completed successfully Fri Jun 15 2018 00:30:27 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.
5. ☐	EPAP A: RTDB converter is started. An IM alarm should be observed with informational message on EPAP GUI confirming that RTDB Conversion in progress. An IM alarm should be observed with informational message on EPAP GUI confirming that RTDB Conversion completed successfully.	This step is performed only to support EAGLE release 46.7.0.0.0 (On the setup where DB Architecture is eXtreme): A Informational Messages Informational Messages RTDB Conversion in progress Wed Jun 13 2018 16:55:42 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.

Appendix A.10 RTDB Restore

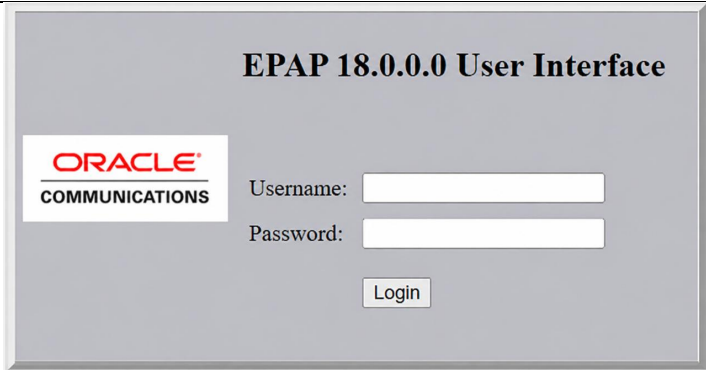
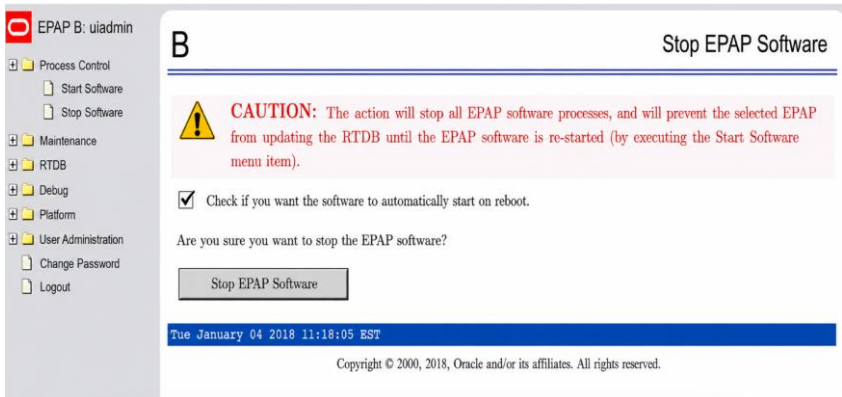
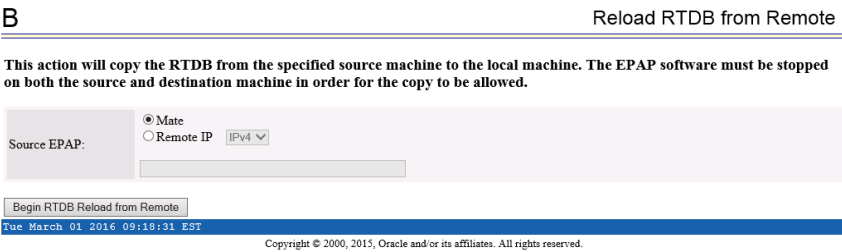
		A Informational Messages Informational Messages RTDB conversion completed successfully Fri June 15 2018 00:37:57 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved. Note: On performing RTDB Restore following two error were observed in cgi.dbg file although rtdb restore is getting completed ERROR: Invalid numbr of argument. Number of argument must be 3 to update RTDB backup DB level properly in pdb. Error: Couldn't run the script on Remote Prov with IP (0.0.0.0) having procRc = 255, signal = 0, core = 0.
6.	Procedure complete.	Return to the procedure that you came here from.
7.	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.11 RTDB Reload from Remote

Appendix A.11 RTDB Reload from Remote

S T E P #	This procedure provides instructions to restore RTDB from a backup file. 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.	☐ EPAP B: Log in to the web GUI as user "uiadmin".	

Appendix A.11 RTDB Reload from Remote

		
2. ☐	EPAP B: Stop Software. On the menu, click Process Control->Stop Software. Click “Stop EPAP Software” Button	 B Stop EPAP Software CAUTION: The action will stop all EPAP software processes, and will prevent the selected EPAP from updating the RTDB until the EPAP software is re-started (by executing the Start Software menu item). ☒ Check if you want the software to automatically start on reboot. Are you sure you want to stop the EPAP software? Stop EPAP Software Tue January 04 2018 11:18:05 EST Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.
3. ☐	EPAP B: Reload RTDB from Remote. On the menu, click RTDB->Maintenance->Reload from Remote Select Mate. Click “Begin RTDB Reload from Remote” Button Click “Confirm RTDB Reload from Remote” Button	NOTE: If reload is attempted from a remote Non-Prov site, kindly exchange the keys between this Non-Prov and the Non-Prov from where reload is being attempted. If reload is from mate, no need to do anything.  B Reload RTDB from Remote This action will copy the RTDB from the specified source machine to the local machine. The EPAP software must be stopped on both the source and destination machine in order for the copy to be allowed. Source EPAP: ☒ Mate ☐ Remote IP IPv4 Begin RTDB Reload from Remote Tue March 01 2016 09:18:31 EST Copyright © 2000, 2015, Oracle and/or its affiliates. All rights reserved.

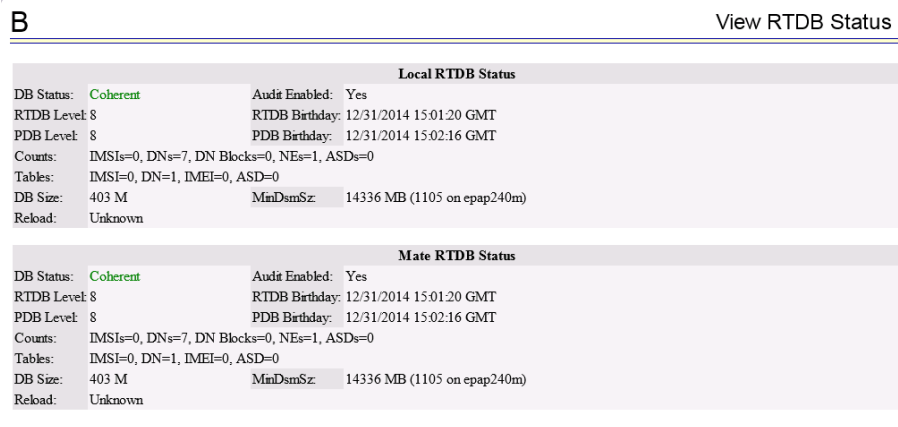
Appendix A.11 RTDB Reload from Remote

		B Reload RTDB from Remote Are you sure that you want to reload the RTDB from the mate? Confirm RTDB Reload from Remote
4. ☐	EPAP B: Reload RTDB from Mate An IM alarm should be observed with informational message on EPAP GUI confirming the start of the reload process An informational alarm should be displayed with informational message when the reload is complete	B Informational Messages Informational Messages Reload RTDB from mate in progress Tue June 12 2018 18:57:47 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved. B Informational Messages Informational Messages Reload RTDB from mate completed successfully Tue June 12 2018 19:01:21 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.
5. ☐	MPS A and B: Restart the GUI Server process.	Login to EPAP cli as root user: Login: root Password: <root_password> Run following commands to restart GUI server process \$ pkill gs

Appendix A.11 RTDB Reload from Remote

6. ☐	MPS A and B: Start the Epap software on EPAP A and B.	Execute the following command on EPAP 18.0 Servers: <pre>\$ [epapdev@Manaus-a ~]\$ service Epap start ~~ /etc/init.d/Epap start ~~ EPAP application started.</pre> <pre>\$ \$ [epapdev@Manaus-a ~]\$ ssh mate \$ \$ [epapdev@Manaus-b ~]\$ service Epap start ~~ /etc/init.d/Epap start ~~ EPAP application started.</pre> <pre>\$ [epapdev@Manaus-b ~]\$ exit logout</pre> Execute the following command on EPAP 17.0 to start EPAP Services: <pre>[epapdev@Manaus-a logs]# systemctl start Epap [epapdev@Manaus-a ~]\$ ssh mate</pre> <pre> ===== This system has been upgraded but the upgrade has not yet been accepted or rejected. Please accept or reject the upgrade soon. ===== </pre> <pre>Last login: Fri Jan 20 03:50:19 2023 [epapdev@Manaus-b ~]\$ systemctl start Epap [epapdev@Manaus-b ~]\$ exit logout Connection to mate closed. ==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ==== Authentication is required to start 'Epap.service'. Authenticating as: epapdev user (epapdev) Password: ==== AUTHENTICATION COMPLETE ====</pre>
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Appendix A.11 RTDB Reload from Remote

		[epapdev@Manaus-a ~]\$
7. ☐	MPS A: Checking the RTDB Status Log onto the GUI of the A server and select RTDB, View RTDB Status. Verify that the DB status for the local and the mate is Coherent	
8. ☐	Procedure complete.	Procedure Complete.
9. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.12 ISO Image download from Oracle Software Delivery Cloud

This procedure defines the step to download the ISO from OSDC and copy to the test server at specific path.

Appendix A.12 ISO Image download from OSDC

S T E P #	This procedure provides instructions to download an ISO image from OSDC and copy to the required server.	
	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 UPGRADE ASSISTANCE.	
1.	MPS X: Log in to the server as the “admusr” user.	[hostname] console login: admusr password: <admusr_password>
2.	MPS X: Run syscheck to make sure there is no error.	Execute the following command: \$ sudo syscheck The output should look like: <pre>[admusr@hostname ~]\$ syscheck Running modules in class disk... OK Running modules in class hardware...</pre>

Appendix A.12 ISO Image download from OSDC

		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 Note: syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged						
3.	MPS X: Verify ISO image doesn't already exist.	Execute the following command to perform directory listing: <pre>\$ ls -alrt /var/TKLC/upgrade</pre> The output should look like as follows (There is no ISO is present in following example): <pre>[admusr@Osorna-B-PDBonly ~]\$ ls -alrt /var/TKLC/upgrade/ total 12 drwxrwxr-x. 3 root admgrp 4096 Feb 19 21:43 . dr-xr-xr-x. 22 root root 4096 Jun 15 2018 ..</pre> If an ISO image exists, remove it by executing the following command: <pre>\$ rm -f /var/TKLC/upgrade/<ISO image></pre>						
4.	☐ Download the ISO image from OSDC.	Download the ISO image from OSDC(Oracle Software Delivery Cloud). In case of DIU upgrade, please make sure to download the diuPreUpgrade.sh script along with the respective ISO. <table border="1"> <thead> <tr> <th>SI No</th><th>Destination Plat type</th><th>DIU ISO name</th></tr> </thead> <tbody> <tr> <td>1</td><td>Mixed</td><td>EPAP-18.0.0.0.0_180.4.0-x86_64-Mixed-</td></tr> </tbody> </table>	SI No	Destination Plat type	DIU ISO name	1	Mixed	EPAP-18.0.0.0.0_180.4.0-x86_64-Mixed-
SI No	Destination Plat type	DIU ISO name						
1	Mixed	EPAP-18.0.0.0.0_180.4.0-x86_64-Mixed-						

Appendix A.12 ISO Image download from OSDC

				NonProv-APPD-DIU.iso
		2	Non-Prov	EPAP-18.0.0.0.0_180.4.0-x86_64-Mixed-NonProv-APPD-DIU.iso
		3	PDBonly Single	EPAP-18.0.0.0.0_180.4.0-x86_64-PDBonly-APPD-DIU.iso
		4	PDBonly Segmented	EPAP-18.0.0.0.0_180.4.0-x86_64-PDBonly-APPD-DIU.iso
5.	☐ Copy the ISO from source path to destination path.	NOTE: Skip this step if same ISO is already present on destination folder. Copy the ISO image from source path to destination path using scp/ftp command. Execute the following command on destination server: \$ sudo scp <source_username>@<source_server_IP>:/<source_path>/xyz.iso /var/TKLC/upgrade Password: <enter source userpassword> OR, Execute the following command on source server: \$ scp /<source_path>/<xyz.iso> admusr@<destination_server_IP>:/var/TKLC/upgrade Password: <Enter admusr password>		
6.	In case of DIU Upgrade, copy the	NOTE: Skip this step if same script is already present on destination folder.		

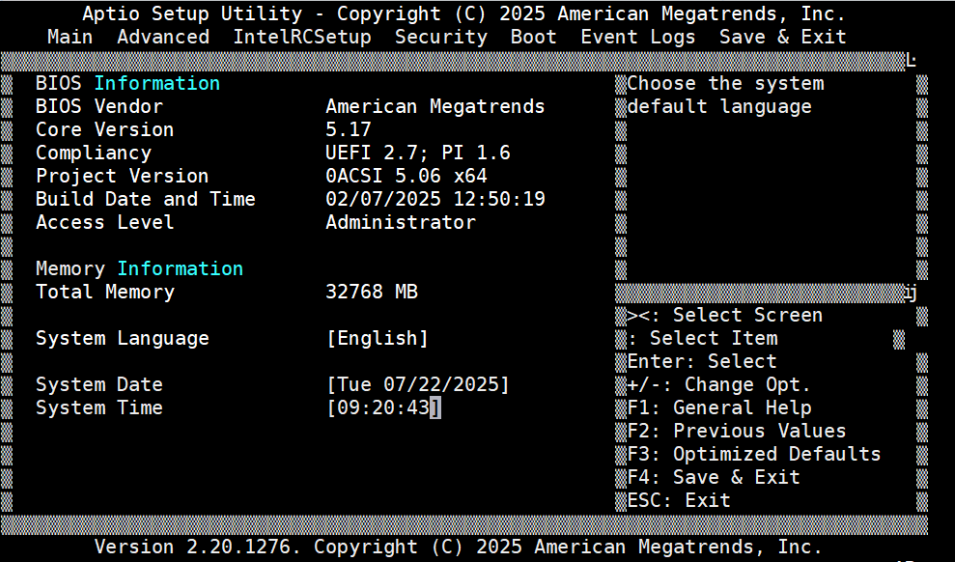
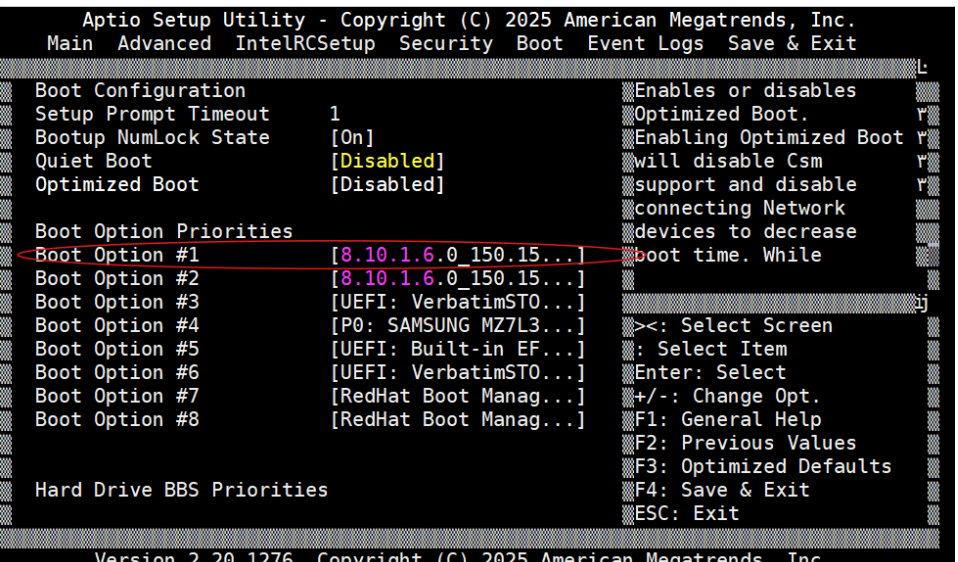
Appendix A.12 ISO Image download from OSDC

	diuPreUpgrade.sh, else skip this step.	Copy the diuPreUpgrade.sh from source path to destination path using scp/ftp command. Run the following command on destination server: <pre>\$ sudo scp <source_username>@<source_server_IP>:/<source_path>/diuPreUpgrade.sh /tmp</pre> Password: <enter source userpassword> OR, Run the following command on source server: <pre>\$ scp /<source_path>/<diuPreUpgrade.sh> admusr@<destination_server_IP>:/tmp Password: <Enter admusr password></pre>
7. ☐	MPS X: Verify ISO image copied on destination path.	NOTE: Skip this step if same script is already present on destination folder. Run the following command to perform directory listing: <pre>\$ ls -alrt /var/TKLC/upgrade</pre> The output should look like: <pre>[admusr@hostname ~]\$ ls -alrt /var/TKLC/upgrade total 1599016 -r--r----- 1 root root 925388800 Aug 23 02:15 EPAP-16.3.0.0.0_163.12.0-x86_64.iso dr-xr-xr-x. 22 root root 4096 Aug 23 02:31 .. drwxrwxr-x. 3 root admgrp 4096 Sep 11 04:38 .</pre> Repeat this procedure from step 1 if EPAP ISO file is not as expected.
8.	MPS X: Validate ISO file.	Validate ISO file using Procedure A.2.
9.	Procedure complete.	This procedure is complete.
10.	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

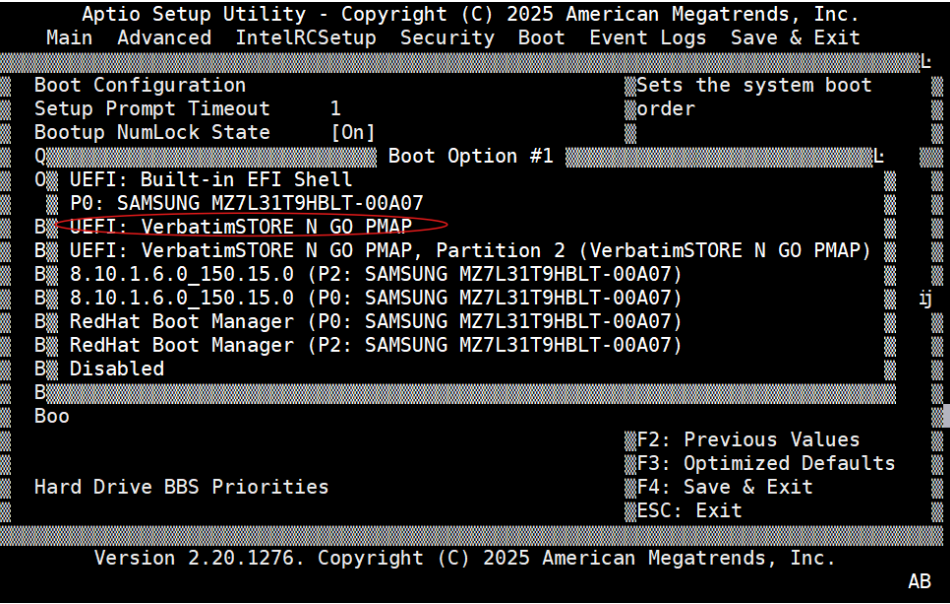
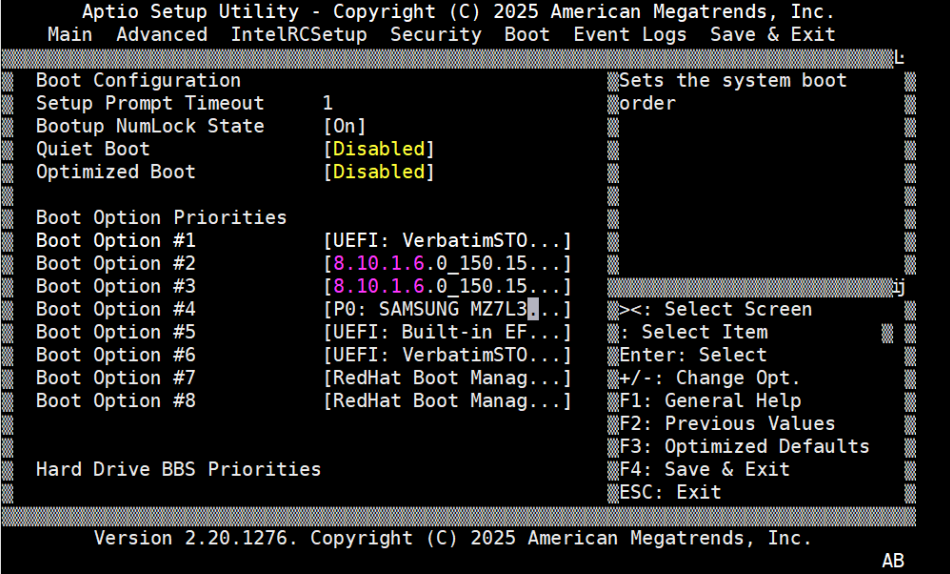
Procedure A.13 IPM APPD MPS Server with TPD 8.10.0

Note: Both the MPS-A and MPS-B servers can be IPM'ed at the same time.

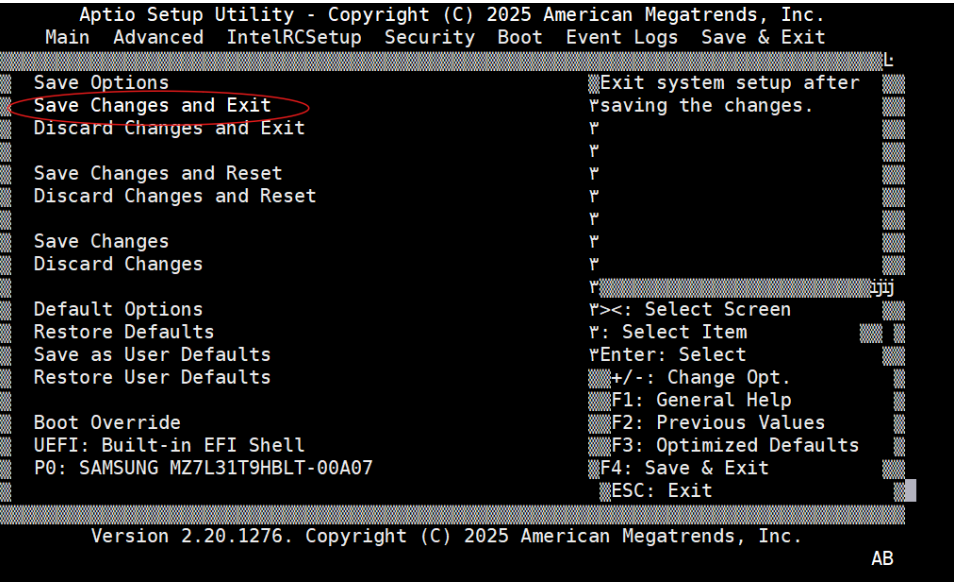
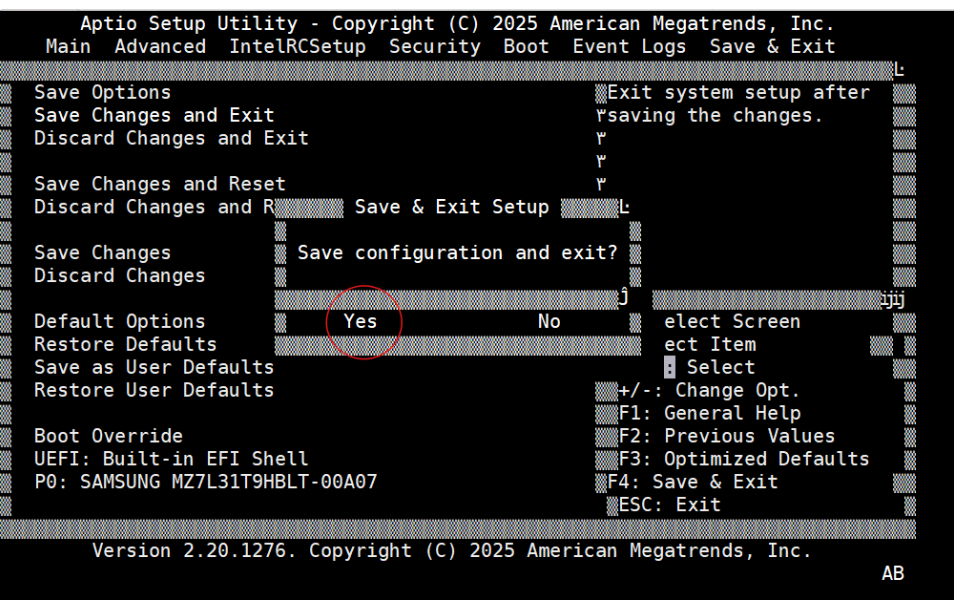
Appendix A.13 IPM with TPD 8.10.0

STEP #	This procedure will IPM the APPD Server. 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>UPGRADE ASSISTANCE</u> .	
1. ☐	MPS X: Insert TPD 8.10.0 USB media into the USB port (APPD)	Reboot server # reboot
2. ☐	MPS X: Press 'del' key to enter the BIOS, set System Time to GMT time, and System Date.	 Aptio Setup Utility - Copyright (C) 2025 American Megatrends, Inc. Main Advanced IntelRCSetup Security Boot Event Logs Save & Exit BIOS Information BIOS Vendor American Megatrends Core Version 5.17 Compliancy UEFI 2.7; PI 1.6 Project Version 0ACSI 5.06 x64 Build Date and Time 02/07/2025 12:50:19 Access Level Administrator Memory Information Total Memory 32768 MB System Language [English] System Date [Tue 07/22/2025] System Time [09:20:43] Choose the system default language ><: Select Screen : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit Version 2.20.1276. Copyright (C) 2025 American Megatrends, Inc.
3. ☐	MPS X: Select <i>Boot Menu</i> → Boot Option Priorities → Boot Option #1 → Press enter on Boot Option #1	 Aptio Setup Utility - Copyright (C) 2025 American Megatrends, Inc. Main Advanced IntelRCSetup Security Boot Event Logs Save & Exit Boot Configuration Setup Prompt Timeout 1 Bootup NumLock State [On] Quiet Boot [Disabled] Optimized Boot [Disabled] Boot Option Priorities Boot Option #1 [8.10.1.6.0_150.15...] Boot Option #2 [8.10.1.6.0_150.15...] Boot Option #3 [UEFI: VerbatimST0...] Boot Option #4 [P0: SAMSUNG MZ7L3...] Boot Option #5 [UEFI: Built-in EF...] Boot Option #6 [UEFI: VerbatimST0...] Boot Option #7 [RedHat Boot Manag...] Boot Option #8 [RedHat Boot Manag...] Hard Drive BBS Priorities Enables or disables Optimized Boot. Enabling Optimized Boot will disable Csm support and disable connecting Network devices to decrease boot time. While ><: Select Screen : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit Version 2.20.1276. Copyright (C) 2025 American Megatrends, Inc.

Appendix A.13 IPM with TPD 8.10.0

4. ☐	MPS X: Press 'Enter' key on Boot Option #1 and choose "UEFI: Verbatim N GO PMAP"	 Aptio Setup Utility - Copyright (C) 2025 American Megatrends, Inc. Main Advanced IntelRCSetup Security Boot Event Logs Save & Exit Boot Configuration Sets the system boot order Setup Prompt Timeout 1 Bootup NumLock State [On] Boot Option #1 UEFI: Built-in EFI Shell P0: SAMSUNG MZ7L31T9HBLT-00A07 UEFI: VerbatimSTORE N GO PMAP UEFI: VerbatimSTORE N GO PMAP, Partition 2 (VerbatimSTORE N GO PMAP) 8.10.1.6.0_150.15.0 (P2: SAMSUNG MZ7L31T9HBLT-00A07) 8.10.1.6.0_150.15.0 (P0: SAMSUNG MZ7L31T9HBLT-00A07) RedHat Boot Manager (P0: SAMSUNG MZ7L31T9HBLT-00A07) RedHat Boot Manager (P2: SAMSUNG MZ7L31T9HBLT-00A07) Disabled Hard Drive BBS Priorities F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit Version 2.20.1276. Copyright (C) 2025 American Megatrends, Inc.
5. ☐	MPS X: Press 'Esc' key and verify that Boot Option #1 is set to USB	 Aptio Setup Utility - Copyright (C) 2025 American Megatrends, Inc. Main Advanced IntelRCSetup Security Boot Event Logs Save & Exit Boot Configuration Sets the system boot order Setup Prompt Timeout 1 Bootup NumLock State [On] Quiet Boot [Disabled] Optimized Boot [Disabled] Boot Option Priorities Boot Option #1 [UEFI: VerbatimSTORE N GO PMAP] Boot Option #2 [8.10.1.6.0_150.15.0] Boot Option #3 [8.10.1.6.0_150.15.0] Boot Option #4 [P0: SAMSUNG MZ7L31T9HBLT-00A07] Boot Option #5 [UEFI: Built-in EFI Shell] Boot Option #6 [UEFI: VerbatimSTORE N GO PMAP] Boot Option #7 [RedHat Boot Manager] Boot Option #8 [RedHat Boot Manager] Hard Drive BBS Priorities ><: Select Screen : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit Version 2.20.1276. Copyright (C) 2025 American Megatrends, Inc.

Appendix A.13 IPM with TPD 8.10.0

6. ☐	MPS X: Go to <i>Save & Exit</i> → <i>Select Save Changes and Exit</i> option	
7. ☐	MPS X: Select [OK] to save the configuration changes. The server will reboot and TPD boot prompt will appear.	
8. ☐	MPS X:	Start the IPM process by choosing the TPD\vmUEFI command at the boot prompt.

Appendix A.13 IPM with TPD 8.10.0

	Start the IPM process by selecting "TPDlvmUEFI" from the menu  If the following errors are observed while running the "TPDlvmUEFI" command, perform the "TPDlvm scrub": There is a problem with your existing storage configuration or your initial settings, for example a kickstart file. You must resolve this before the installation can proceed. There is a shell available for use which you can access by pressing ctrl-alt-f1 and then ctrl-b 2. Once you have resolved the issue, you can retry the storage scan. If you do not fix it, you will have to exit the installer. Duplicate UUID '00015466-01' found for devices: 'sdc1' and 'sda1' This is usually caused by cloning the device image resulting in duplication of the UUID value, which should be unique. In that case you can either disconnect one of the devices or reformat it. Press ENTER to exit: [[[11~^B^B^B^B2^H^H^H^H^H^[^[[11~[anaconda root@localhost ~]#
9. ☐	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.

Appendix A.13 IPM with TPD 8.10.0

		<pre> 14.651402] ata3.00: configured for UDMA/133 14.656875] ata1.00: supports DRM functions and may not be fully accessible 14.678982] ata1.00: configured for UDMA/133 14.683381] scsi 1:0:0:0: Direct-Access ATA SAMSUNG MZ7L31T9 304Q PQ: 0 ANSI: 5 14.699071] scsi 3:0:0:0: Direct-Access ATA SAMSUNG MZ7L31T9 304Q PQ: 0 ANSI: 5 14.717257] scsi 1:0:0:0: Attached scsi generic sg0 type 0 14.730647] scsi 3:0:0:0: Attached scsi generic sg1 type 0 14.747219] sd 3:0:0:0: [sdb] 3750748848 512-byte logical blocks: (1.92 TB/1.75 TiB) 14.750360] sd 1:0:0:0: [sda] 3750748848 512-byte logical blocks: (1.92 TB/1.75 TiB) 14.755003] sd 3:0:0:0: [sdb] 4096-byte physical blocks 14.762765] sd 1:0:0:0: [sda] 4096-byte physical blocks 14.771569] sd 1:0:0:0: [sda] Write Protect is off 14.785019] sd 1:0:0:0: [sda] Write cache: enabled, read cache: enabled, doesn't support DPO or FUA 14.803038] sd 3:0:0:0: [sdb] Write Protect is off 14.810904] sda: sda1 sda2 sda3 sda4 14.814868] sd 1:0:0:0: [sda] Attached SCSI disk 14.816160] sd 3:0:0:0: [sdb] Write cache: enabled, read cache: enabled, doesn't support DPO or FUA 14.862103] sdb: sdb1 sdb2 sdb3 sdb4 14.874312] sd 3:0:0:0: [sdb] Attached SCSI disk [OK] Started cancel waiting for multipath siblings of sda. 15.360885] scsi 0:0:0:0: Direct-Access Verbatim STORE N GO PMAP PQ: 0 ANSI: 6 15.377177] sd 0:0:0:0: Attached scsi generic sg2 type 0 15.382883] sd 0:0:0:0: [sdc] 60628992 512-byte logical blocks: (31.0 GB/28.9 GiB) 15.398134] sd 0:0:0:0: [sdc] Write Protect is off 15.403370] sd 0:0:0:0: [sdc] No Caching mode page found 15.408701] sd 0:0:0:0: [sdc] Assuming drive cache: write through 15.433539] sdc: sdc1 sdc2 15.445463] sd 0:0:0:0: [sdc] Attached SCSI removable disk [OK] Started cancel waiting for multipath siblings of sdb. 17.101284] Copying live image to RAM... 17.105268] (this may take a minute) </pre> CTRL-A Z for help 115200 8N1 NOR Minicom 2.7.1 VT102 Offline ttyS5 <pre> Setting up com_redhat_kdump addon Setting up org_fedora_oscaps addon .. Configuring storage Creating disklabel on /dev/sdb Creating mdmember on /dev/sdb1 Creating ext4 on /dev/sdb2 Creating biosboot on /dev/sdb3 Creating mdmember on /dev/sdb4 Creating disklabel on /dev/sda Creating mdmember on /dev/sda1 Creating lvmpv on /dev/md/2 Creating ext4 on /dev/mapper/vgroot-plat_var_tk1c Creating ext4 on /dev/mapper/vgroot-plat_tmp Creating ext4 on /dev/mapper/vgroot-plat_usr Creating ext4 on /dev/mapper/vgroot-plat_var Creating swap on /dev/mapper/vgroot-plat_swap Creating ext4 on /dev/mapper/vgroot-plat_root Creating ext4 on /dev/sda2 Creating biosboot on /dev/sda3 Creating mdmember on /dev/sda4 Creating efi on /dev/md/1 </pre>
10. ☐	MPS X:	

Appendix A.13 IPM with TPD 8.10.0

	Once the drive formatting and file system creation steps are complete, the screen at right will appear indicating that the package installation step has started.	<pre>Installing python3-dateutil.noarch (626/1525) Installing python3-pyudev.noarch (627/1525) Installing libXft.x86_64 (628/1525) Installing tk.x86_64 (629/1525) Installing cronie-noanacron.x86_64 (630/1525) Installing cronie.x86_64 (631/1525) Installing crontabs.noarch (632/1525) Installing iputils.x86_64 (633/1525) Installing kernel-uek-core.x86_64 (634/1525) Installing gstreamer1.x86_64 (635/1525) Installing json-glib.x86_64 (636/1525) Installing openssh.x86_64 (637/1525) Installing virt-what.x86_64 (638/1525) Installing libsolv.x86_64 (639/1525) Installing bind-export-libs.x86_64 (640/1525) Installing bind-libs-lite.x86_64 (641/1525) Installing e2fsprogs.x86_64 (642/1525) Installing dhcp-libs.x86_64 (643/1525) Installing pulseaudio-libs.x86_64 (644/1525) Installing binutils.x86_64 (645/1525) Installing gcc.x86_64 (646/1525) Installing genisoimage.x86_64 (647/1525)</pre>
11. ☐	MPS X: Once the installation of packages is done. Post installation setup tasks will be done.	<pre>Installing words.noarch (1515/1525) Installing umvt-validation.x86_64 (1516/1525) Installing rootfiles.noarch (1517/1525) Installing man-pages.x86_64 (1518/1525) Installing NetworkManager-config-server.noarch (1519/1525) Installing gcc-toolset-14-gcc.x86_64 (1520/1525) Installing gcc-toolset-14-gcc-c++.x86_64 (1521/1525) Installing gcc-toolset-12-gcc.x86_64 (1522/1525) Installing gcc-toolset-12-gcc-c++.x86_64 (1523/1525) Installing clang-libs.x86_64 (1524/1525) Installing gcc-toolset-14-annobin-plugin-gcc.x86_64 (1525/1525) Performing post-installation setup tasks Configuring gcc-toolset-14-annobin-plugin-gcc.x86_64 Configuring linux-firmware-core.noarch Configuring filesystem.x86_64 Configuring glibc-all-langpacks.x86_64 Configuring grub2-common.noarch Configuring copy-jdk-configs.noarch Configuring crypto-policies-scripts.noarch Configuring ca-certificates.noarch Configuring systemd.x86_64 Configuring kernel-uek-core.x86_64</pre>

Appendix A.13 IPM with TPD 8.10.0

		<pre> Verifying ypbind.x86_64 (1519/1525) Verifying yum.noarch (1520/1525) Verifying yum-utils.noarch (1521/1525) Verifying zip.x86_64 (1522/1525) Verifying zlib.x86_64 (1523/1525) Verifying zlib-devel.x86_64 (1524/1525) Verifying zstd.x86_64 (1525/1525) . Installing boot loader .. Performing post-installation setup tasks . Configuring installed system Writing network configuration . Creating users Configuring addons Executing com_redhat_kdump addon Executing org_fedora_oscaps addon .. Generating initramfs █ . </pre>
12. □	MPS X: After the TPD process is complete the console will come to the screen at the right. Press enter to continue.	<pre> MPOINT: Media already mounted. DEV: /dev/sdc MPOINT: Media already mounted. DEV: /dev/sdc MPOINT: Media already mounted. DEV: /dev/sdc MPOINT: Pulling ISO Metadata file from: /run/install/repo//.isometadata Copying ISO metadata file to system DIR: /mnt/sysimage/var/TKLC/log/ipm Copying ISO metadata file to prodinfo DIR: /mnt/sysimage/usr/TKLC/plat/etc/prodinfo Changing default target to application.target .evoke root ssh access Installation complete Use of this product is subject to the license agreement found at: /usr/share/oraclelinux-release/EULA Installation complete. Press ENTER to quit: █ </pre>

Appendix A.13 IPM with TPD 8.10.0

13. ☐	MPS X: The final screen will look like this. Press enter and login to the server.	<pre>[67.005462] TPDsec[14158]: cmdmon_conf='/usr/TKLC/plat/etc/cmdmon/cmdmon.conf' [67.005601] TPDsec[14158]: isenable=\$(awk -F "=" '{print \$2}' \$cmdmon_conf) [67.005665] TPDsec[14158]: if [["\$isenable" = "enable"]];then [67.005724] TPDsec[14158]: terminal=\$(tty awk -F "/" '{print \$3}'/"\$4") [67.005783] TPDsec[14158]: current_user=\$(whoami) [67.005843] TPDsec[14158]: SSH_DETAILS=\$(who grep \$terminal awk -F " " '{print "Terminal_User:"\$1 Terminal:"\$2"}' [67.005923] TPDsec[14158]: export SSH_DETAILS [67.005983] TPDsec[14158]: PROMPT_COMMAND='history -a >(tee -a ~/.bash_history grep -v ^# logger -p local3.debug - [67.006066] TPDsec[14158]: export PROMPT_COMMAND [67.006131] TPDsec[14158]: elif [["\$isenable" = "disable"]];then [67.006189] TPDsec[14158]: unset SSH_DETAILS [67.006246] TPDsec[14158]: unset PROMPT_COMMAND [67.006302] TPDsec[14158]: fi [67.007460] TPDsec[13817]: [OK] [67.192964] TKLCwatchdog[14161]: Watchdog setup file is: /usr/TKLC/plat/etc/hardware/watchdog/watchdogSetup-ESAPPD. [67.195259] TKLCwatchdog[14161]: Watchdog configuration file is: /usr/TKLC/plat/etc/hardware/watchdog/watchdog.conf-ESAPPD [67.197700] TKLCwatchdog[14175]: /etc/watchdog.conf /usr/TKLC/plat/etc/hardware/watchdog/watchdog.conf-ESAPPD differ: byt [67.197780] TKLCwatchdog[14161]: Replacing system watchdog config with config for hardware ESAPPD. [67.316447] TKLCwatchdog[14176]: RCS VERSION=1.1 [67.936671] TKLCwatchdog[14161]: Starting TKLCwatchdog: [67.936935] TKLCwatchdog[14207]: Daemon is not running... [67.984612] TKLCwatchdog[14204]: AlarmMgr daemon is not running, delaying by 1 minute [68.287486] TKLCwatchdog[14210]: Filesystem monitoring is not enabled. [68.330758] TKLCwatchdog[14161]: [OK] [69.064522] TKLCdiskcheck[14217]: Verifying disk configuration for S.M.A.R.T.: [OK] [70.552905] TKLCe5appx[14285]: Starting TKLCe5appx: [OK] [72.419013] TKLCethcfg[14305]: Checking network config files: [72.817445] TPD-PDC[14561]: Daemon is not running... [72.866123] TPD-PDC[14555]: AlarmMgr daemon is not running, delaying by 1 minute [81.288141] completeTasks[14657]: completeTasks started: Tue Jul 22 06:24:30 2025 [81.289925] completeTasks[14657]: LOG FILE: /var/TKLC/log/TaskMgr/completeTasks.log</pre>
14. ☐	MPS X: Log in to the server as the user “admusr”	console login: admusr password: <admusr_password>
15. ☐	MPS X: Verify that the platform revision is same as the TPD DVD or ISO used.	\$ getPlatRev 8.10.1.6.0-150.15.0
16. ☐	MPS X: Verify the system date.	\$ date -u Tue Jul 22 10:26:17 UTC 2025 Verify that the output time matches the time set in step 14. If mismatch is found, then Refer to My Oracle Support sectionfor instructions on accessing My Oracle Support.
17. ☐	Procedure complete.	Return to the procedure that you came here from.
18. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.14 Standalone PDB Segmented Configuration

Note: All the networks (Prov, GUI and OAM) should be in different subnets. The networks can be a mix of IPv4 and IPv6 IPs.

Appendix A.14 Standalone PDB Segmented Configuration

S T E P #	This procedure will configure the standalone PDB in segmented configuration. 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>UPGRADE ASSISTANCE</u>.	
1. ☐	MPS A: Log on Server A.	[hostname] consolelogin: admusr password: <i>password</i>
2. ☐	MPS A: Switch user to epapconfig.	\$ sudo su - epapconfig warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.
3. ☐	MPS A: A note of caution appears. Press Return to continue.	Caution: This is the first login of the text user interface. Press return to continue...
4. ☐	MPS A: Upon pressing Return you can now abort or proceed with the initial configuration. To continue with the configuration, enter Y.	Are you sure you wish to continue? [N]:Y
5. ☐	MPS A: Enter the System Number and Network Configuration Type as "Segmented".	Building the initial database on side A. Stopping local slave No preexisting EuiDB database was detected. Set EPAP System Number: <Enter the System Number here> Enter the Network Configuration Type (1 for Single, 2 for Segmented): 2
6. ☐	MPS A: The EPAP Configuration Menu is displayed. Select choice 2, Configure Network Interfaces Menu.	

Appendix A.14 Standalone PDB Segmented Configuration

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 DB Architecture Menu ----- e Exit \-----/ </pre> Enter Choice: 2
7. ☐	MPS A: The Configure Network Interfaces Menu is displayed. Select choice 1, Configure Provisioning Network.	<pre> /-----Configure Network Interfaces Menu-----\ /-----\ 1 Configure Provisioning Network ----- 2 Configure GUI Network ----- 3 Configure Operations and Maintenance Network ----- 4 Configure Backup Provisioning Network ----- 5 Configure Static NAT Addresses ----- e Exit \-----/ </pre> Enter Choice: 1

Appendix A.14 Standalone PDB Segmented Configuration

	Note: Enter choice "1" for IPv4 configuration. Otherwise, enter choice "2" for IPv6 configuration.	<pre> /-----Configure Provisioning Network Menu-----\ /-----\ 1 IPv4 Configuration ----- 2 IPv6 Configuration ----- e Exit \-----/ Enter Choice: █ Example output Standalone PDB in IPv4 configuration: EPAP A provisioning network IP Address: 192.168.61.35 EPAP provisioning network netmask: 255.255.255.0 EPAP provisioning network default router: 192.168.61.250 Select choice e to exit to the "Configure Network Interfaces" menu. </pre>
8. ☐	MPS A: The Configure Network Interfaces Menu is displayed. Select choice 2, Configure GUI Network. Note: Enter choice "1" for IPv4 configuration. Otherwise, enter choice "2" for IPv6 configuration.	<pre> /-----Configure Network Interfaces Menu-----\ /-----\ 1 Configure Provisioning Network ----- 2 Configure GUI Network ----- 3 Configure Operations and Maintenance Network ----- 4 Configure Backup Provisioning Network ----- 5 Configure Static NAT Addresses ----- e Exit \-----/ Enter Choice: 2 /-----Configure GUI Network-----\ /-----\ 1 IPv4 Configuration ----- 2 IPv6 Configuration ----- e Exit \-----/ Enter Choice: 1 Example output Standalone PDB in IPv4 configuration: EPAP A GUI network IP Address: 192.168.59.27 EPAP GUI network netmask: 255.255.255.0 EPAP GUI network route: 192.168.59.250 Select choice e to exit to the "Configure Network Interfaces" menu. </pre>

Appendix A.14 Standalone PDB Segmented Configuration

9. ☐	MPS A: The Configure Network Interfaces Menu is displayed. Select choice 3, Configure Operations and Maintenance Network. Note: Enter choice "1" for IPv4 configuration. Otherwise, enter choice "2" for IPv6 configuration.	<pre> /-----Configure Network Interfaces Menu-----\ /-----\ 1 Configure Provisioning Network ----- 2 Configure GUI Network ----- 3 Configure Operations and Maintenance Network ----- 4 Configure Backup Provisioning Network ----- 5 Configure Static NAT Addresses ----- e Exit \-----\ Enter Choice: 3 /-----Configure Operations and Maintenance Network-\\ /-----\ 1 IPv4 Configuration ----- 2 IPv6 Configuration ----- e Exit \-----\ Enter Choice: 1 EPAP A Operations and Maintenance network IP Address: 192.168.60.26 EPAP Operations and Maintenance network netmask: 255.255.255.0 EPAP Operations and Maintenance network route: 192.168.60.250 Select choice e to exit to the "Configure Network Interfaces" menu. </pre>
10. ☐	MPS A: Select choice e to exit from the epapconfig menu.	<pre> /-----Configure Network Interfaces Menu-----\ /-----\ 1 Configure Provisioning Network ----- 2 Configure GUI Network ----- 3 Configure Operations and Maintenance Network ----- 4 Configure Backup Provisioning Network ----- 5 Configure Static NAT Addresses ----- e Exit \-----\ Enter Choice: e </pre>

Appendix A.14 Standalone PDB Segmented Configuration

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 DB Architecture Menu ----- e Exit \-----/ Enter Choice: 2 Enter Choice: e Note: If this menu is not exited properly, then the SSH login with root shall remain enabled.</pre>
11. ☐	MPS A: Procedure is complete.	Procedure is complete.
12. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.15 Password change for EPAP System Users

Appendix A.15 Password change for EPAP System Users

S T E P #	This procedure will change the password for the EPAP System User(s). 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>UPGRADE ASSISTANCE</u>.	
1. ☐	MPS A: Log on Server A with the EPAP System User for which the password is to be changed.	[hostname]: <EPAP System User> password: <epapdev password>
2. ☐	MPS A: Change Password for an EPAP system user	Execute the command to change to password of an existing EPAP user. \$ passwd Changing password for user <EPAP System User>. Changing password for <EPAP System User>. (current) UNIX password: <Enter the current password here> New password: <Enter the new password here> Retype new password: <Retype the new password here> passwd: all authentication tokens updated successfully. Note: The Linux “passwd” command used to change the password of Linux users, follows the Linux PAM rules. Refer to the Linux manual for the PAM rules. # man pam_cracklib
3. ☐	MPS B: Change Password	Repeat steps 1 and 2 on MPS B also. Note: The new password on MPS A and B should be same.
4. ☐	MPS A: Procedure Complete	This procedure is complete.
5. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.16 APPD Halt/Shutdown

Appendix A.16 APPD Halt/Shutdown

S T E P #	This procedure will halt the APPD hardware. 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>UPGRADE ASSISTANCE</u>.	
1. ☐	APPD Card: Slide the ejector switch	On the APP-B card, slide the Ejector switch (4) up to the UNLOCKED position. Refer to Figure 7. Caution: If the Ejector switch goes from locked to unlocked and the APPD card is in service, the card will halt.
2. ☐	APPD Card: Monitor the Eject Status LED	WAIT for the APPD Eject Status LED to go from blinking red to a steady red.
3. ☐	APPD Card: Lever Release	Grasp the upper and lower card Inject/Eject (I/E) lever release (3) just underneath the I/E lever, and press it to meet the I/E lever. This is the mechanical interlock for the card. Refer to Figure 8.
4. ☐	APPD Card: Pull out the levers	While holding the I/E interlock and lever, pull the levers (2) away from the shelf until they are parallel to the floor. Refer to Figure 8.
5. ☐	APPD Card: Slide the ejector switch	Remove the APPD card from the EAGLE shelf.
6. ☐	MPS A: Procedure Complete	This procedure is complete.
7. ☐	Note down the timestamp in log.	Run the following command: \$ date

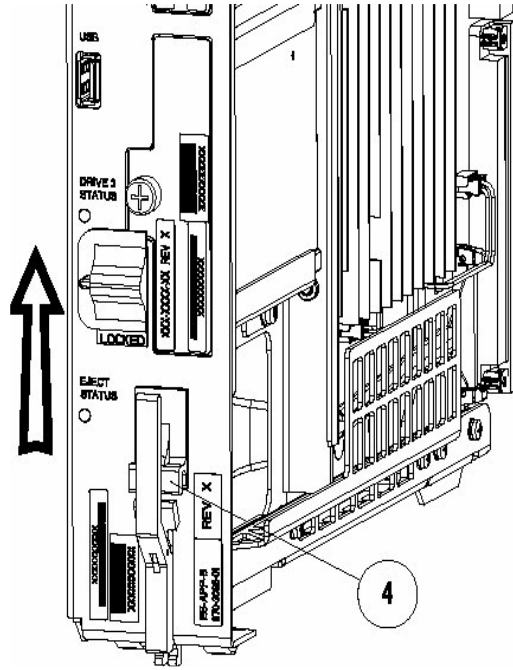


Figure 7: Slide the Ejector Switch

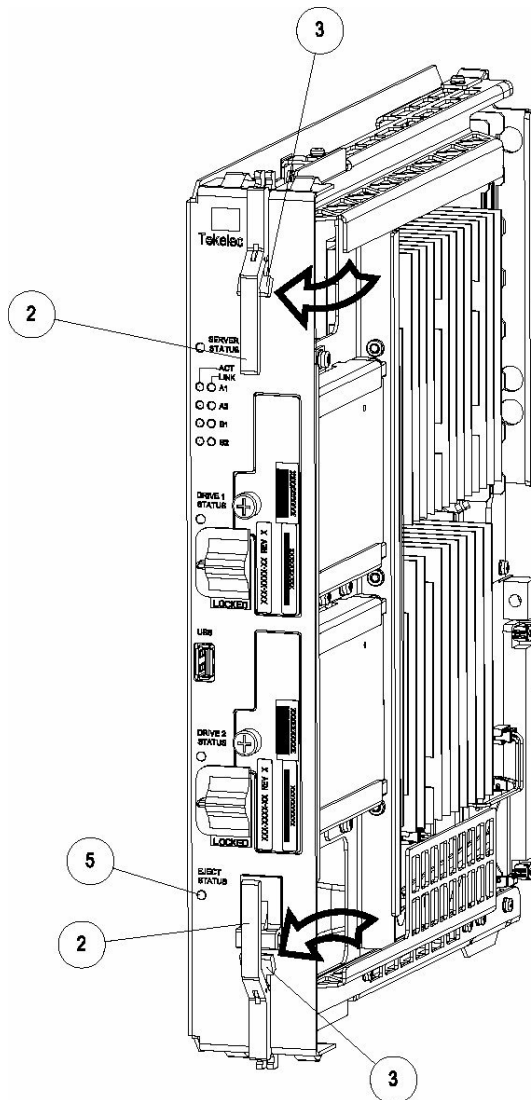


Figure 8: Release Lever

Procedure A.17 Procedure to Configure EPAP switch ports and EAGLE SM cards to support 1G EPAP-to-Eagle RTDB download speed

Note: This needs to be done in coordination with the EAGLE team.

Appendix A.17 **Procedure to Configure EPAP switch ports and EAGLE SM cards to support 1G EPAP-to-Eagle RTDB download speed**

S T E P #	This procedure will configure EPAP Switch ports and Eagle SM cards to support 1G EPAP-to-EAGLE download speed. Note: Estimated time of completion is 20 minutes.
-----------------------	--

1. ☐	APPD A/B: Configure the SM ports on EPAP switch to 1000 Mbps.	Follow 0 to Configure the SM ports on EPAP switch to 1000 Mbps
2. ☐	EAGLE: Configure Ethernet port on EAGLE SM cards that connects to EPAP to Auto-negotiate.	Eagle Command to configure an Ethernet port on EAGLE SM cards that connects to EPAP: CHG-IP-LNK:LOC=<SM card location>:PORT=<Port>:IPADDR=<IP Address>:SUBMASK=<Subnet Mask>:MCAST=YES:AUTO=YES
3. ☐	EAGLE: Verify the auto negotiation status of the Ethernet ports on EAGLE SM cards that connects to EPAP. Make sure the ports are getting auto-negotiated to 1000Mbps/Full Duplex.	Eagle Command to verify auto negotiation status of an Ethernet port on EAGLE SM cards that connects to EPAP: PASS: LOC=<SM card location>:CMD="NETSTAT -I" Please go through the "Identifying the Ethernet port status on SM cards using "NETSTAT -I" display" section below. If ports on SM cards are getting auto-negotiated to 1000Mbps/Full Duplex correctly, then stop here. Otherwise continue with next step.
4. ☐	APPD A/B: Configure the SM ports on EPAP switch to auto-negotiate.	Follow 0 to Configure the SM ports on EPAP switch to 'auto'.
5. ☐	EAGLE: Verify the auto negotiation status of a Ethernet port on EAGLE SM cards that connects to EPAP. Make sure the ports are getting auto-negotiated to 1000Mbps/Full Duplex.	Eagle Command to verify auto negotiation status of an Ethernet port on EAGLE SM cards that connects to EPAP: PASS: LOC=<SM card location>:CMD="NETSTAT -I" Please go through the "Identifying the Ethernet port status on SM cards using "NETSTAT -I" display" section below
6. ☐	Note down the timestamp in log.	Run the following command: \$ date

Identifying the Ethernet port status on SM cards using "NETSTAT -I" display:

SM8G-B card running SCCPHC:

```
gei (unit number 2) = ExAP Port A
gei (unit number 3) = ExAP Port B
```

SM8G-B card running SCCPHC:

```
gei (unit number 2) = ExAP Port A
gei (unit number 3) = ExAP Port B
```

```
> rept-stat-card:mode=full:loc=1307
```

```
eagle1 17-05-04 16:43:49 MST EAGLE 46.5.0.0.0-70.29.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1307   140-029-000  DSM      SCCPHC   IS-ANR    MPS Unavl  -----
ALARM STATUS          = No Alarms.
BLMCAP  GPL version = 140-029-000
IMT BUS A              = Conn
IMT BUS B              = Disc
CLOCK A                = Fault
CLOCK B                = Active
CLOCK I                = Idle
MBD BIP STATUS         = Valid
MOTHER BOARD ID        = SMXG B
DBD STATUS             = Valid
DBD TYPE               = None
DBD MEMORY SIZE        = 8192M
HW VERIFICATION CODE= ----
FPGA VERSION           = 9
BIOS VERSION           = 0ABSV01
PSOC VERSION           = 0.1
CURRENT TEMPERATURE   = 34C ( 94F)
PEAK TEMPERATURE:     = 34C ( 94F)      [17-05-04 15:49]
SCCP % OCCUP           = 0%
SCCP SM DATA TYPE     = DN
APPLICATION SERVICING

                                MFC      MFC
SNM      REQ STATUS =    24 hr: ---, 5 min: ---
INM      REQ STATUS =    24 hr: ---, 5 min: ---
MTP3     REQ STATUS =    24 hr: ---, 5 min: ---
SFLOG    REQ STATUS =    24 hr: ---, 5 min: ---
IPLNK STATUS
IPLNK  IPADDR      STATUS      PST
A      192.168.120.21  DOWN      OOS-MT
B      192.168.121.21  DOWN      OOS-MT
DSM IP CONNECTION
PORT   PST      SST
A      OOS-MT    Unavail
B      OOS-MT    Unavail
```

```
Command Completed.
```

```
;
```

```
> pass:loc=1307:cmd="netstat -i"
```

```
eagle1 17-05-04 16:44:26 MST EAGLE 46.5.0.0.0-70.29.0
SDS Shell Output
```

```
-> tklc_ifShow
lo (unit number 0):
  Flags: (0x48049) UP LOOPBACK MULTICAST TRAILERS ARP RUNNING INET_UP
  Type: SOFTWARE_LOOPBACK
  inet: 127.0.0.1
  Netmask 0xff000000 Subnetmask 0xff000000
  Metric is 0
  Maximum Transfer Unit size is 1536
  0 packets received; 1 packets sent
  0 multicast packets received
  0 multicast packets sent
  0 input errors; 0 output errors
```

```

    0 collisions; 0 dropped
    0 output queue drops
DPLend (unit number 0):
  Flags: (0x20043) UP BROADCAST ARP RUNNING
  Type: ETHERNET_CSMACD
  Ethernet address is 00:00:00:00:00:00
  Metric is 0
  Maximum Transfer Unit size is 485
  0 octets received
  0 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 non-unicast packets received
  0 non-unicast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
gei (unit number 2):
  Flags: (0x78043) UP BROADCAST MULTICAST ARP RUNNING INET_UP
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
  Type: ETHERNET_CSMACD
  inet: 192.168.120.21
  Broadcast address: 192.168.120.255
  Netmask 0xffffffff Subnetmask 0xffffffff
  Ethernet address is 00:00:17:0e:b7:d2
  Metric is 0
  Maximum Transfer Unit size is 1500
  250214 octets received
  122200 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received
  0 multicast packets sent
  2075 broadcast packets received
  940 broadcast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
gei (unit number 3):
  Flags: (0x78043) UP BROADCAST MULTICAST ARP RUNNING INET_UP
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
  Type: ETHERNET_CSMACD
  inet: 192.168.121.21
  Broadcast address: 192.168.121.255
  Netmask 0xffffffff Subnetmask 0xffffffff
  Ethernet address is 00:00:17:0e:b7:d3
  Metric is 0
  Maximum Transfer Unit size is 1500
  248920 octets received
  121290 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received

```

```

    0 multicast packets sent
    2062 broadcast packets received
    933 broadcast packets sent
    0 incoming packets discarded
    0 outgoing packets discarded
    0 incoming errors
    0 outgoing errors
    0 unknown protos
    0 collisions; 0 dropped
    0 output queue drops
value = 26 = 0x1a

;

eagle1 17-05-04 16:44:36 MST  EAGLE 46.5.0.0.0-70.29.0

NETSTAT command complete

;

SM8G-B card running SCCP64:

gei (unit number 4) = ExAP Port A
gei (unit number 5) = ExAP Port B

> rept-stat-card:mode=full:loc=1307

eagle1 17-05-04 17:00:01 MST  EAGLE 46.5.0.0.0-70.29.0
CARD   VERSION      TYPE      GPL      PST      SST      AST
1307   140-029-000   DSM      SCCP64   IS-ANR   MPS Unavl  -----
ALARM STATUS           = No Alarms.
BLDC64  GPL version = 140-029-000
IMT BUS A              = Conn
IMT BUS B              = Disc
CLOCK A                = Fault
CLOCK B                = Active
CLOCK I                = Idle
MBD BIP STATUS         = Valid
MOTHER BOARD ID        = SMXG B
DBD STATUS             = Valid
DBD TYPE               = None
DBD MEMORY SIZE        = 8192M
HW VERIFICATION CODE= ----
FPGA VERSION           = 9
BIOS VERSION           = 0ABSV01
PSOC VERSION           = 0.1
CURRENT TEMPERATURE   = 34C ( 94F)
PEAK TEMPERATURE:     = 34C ( 94F)      [17-05-04 15:49]
SCCP % OCCUP           = 0%
SCCP SM DATA TYPE     = DN
APPLICATION SERVICING

                MFC                MFC
SNM    REQ STATUS = 24 hr: ---, 5 min: ---
INM    REQ STATUS = 24 hr: ---, 5 min: ---
MTP3   REQ STATUS = 24 hr: ---, 5 min: ---
SFLOG  REQ STATUS = 24 hr: ---, 5 min: ---
IPLNK STATUS
IPLNK  IPADDR      STATUS      PST

```

A	192.168.120.21	DOWN	OOS-MT
B	192.168.121.21	DOWN	OOS-MT

DSM IP CONNECTION

PORT	PST	SST
A	OOS-MT	Unavail
B	OOS-MT	Unavail

Command Completed.

;

> pass:loc=1307:cmd="netstat -i"

eagle1 17-05-04 17:00:14 MST EAGLE 46.5.0.0.0-70.29.0
 SDS Shell Output

shellLib: unknown LED mode vi.

-> tklc_ifShow

lo0 Link type:Local loopback Queue:none
 inet 127.0.0.1 mask 255.255.255.255
 inet6 unicast fe80::1%lo0 prefixlen 64 automatic
 inet6 unicast ::1 prefixlen 128
 UP RUNNING LOOPBACK MULTICAST NOARP ALLMULTI
 MTU:1500 metric:1 VR:0 ifindex:1
 RX packets:761 mcast:3 errors:0 dropped:0
 TX packets:761 mcast:3 errors:0
 collisions:0 unsupported proto:0
 RX bytes:85k TX bytes:85k

gei4 Link type:Ethernet HWaddr 00:00:17:0e:b7:d2 Queue:none
 capabilities: TXCSUM TX6CSUM
 inet 192.168.120.21 mask 255.255.255.0 broadcast 192.168.120.255
 inet6 unicast fe80::200:17ff:fe0e:b7d2%gei4 prefixlen 64 automatic
 UP RUNNING SIMPLEX BROADCAST MULTICAST
 MTU:1500 metric:1 VR:0 ifindex:2
 RX packets:791 mcast:0 errors:0 dropped:0
 TX packets:386 mcast:6 errors:0
 collisions:0 unsupported proto:0
 RX bytes:92k TX bytes:48k

gei5 Link type:Ethernet HWaddr 00:00:17:0e:b7:d3 Queue:none
 capabilities: TXCSUM TX6CSUM
 inet 192.168.121.21 mask 255.255.255.0 broadcast 192.168.121.255
 inet6 unicast fe80::200:17ff:fe0e:b7d3%gei5 prefixlen 64 automatic
 UP RUNNING SIMPLEX BROADCAST MULTICAST
 MTU:1500 metric:1 VR:0 ifindex:3
 RX packets:783 mcast:0 errors:0 dropped:0
 TX packets:386 mcast:6 errors:0
 collisions:0 unsupported proto:0
 RX bytes:91k TX bytes:48k

gei (unit number 4):
 PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
 gei (unit number 5):
 PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
 value = 1 = 0x1

;

SM8G-B card running ENUMHC/DEIRHC/SIPHC:

gei (unit number 2) = ExAP Port
gei (unit number 3) = Signaling Port

> rept-stat-card:mode=full:loc=1317

```
eagle1 17-05-04 15:46:06 MST EAGLE 46.5.0.0.0-70.29.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1317  140-029-000  DSM      ENUMHC   IS-ANR    MPS Unavl  -----
  ALARM STATUS      = No Alarms.
  BLMCAP  GPL version = 140-029-000
  IMT BUS A          = Conn
  IMT BUS B          = Disc
  CLOCK A            = Fault
  CLOCK B            = Active
  CLOCK I            = Idle
  MBD BIP STATUS     = Valid
  MOTHER BOARD ID    = SMXG B
  DBD STATUS         = Valid
  DBD TYPE           = None
  DBD MEMORY SIZE    = 8192M
  HW VERIFICATION CODE= ----
  FPGA VERSION       = 9
  BIOS VERSION        = 0ABSV01
  PSOC VERSION        = 0.1
  CURRENT TEMPERATURE = 34C ( 94F)
  PEAK TEMPERATURE:  = 34C ( 94F)      [17-05-02 09:31]
  ENUM SM DATA TYPE  = DN
  IPLNK STATUS
    IPLNK  IPADDR      STATUS      PST
    A      192.168.120.13  UP        IS-NR
    B      10.75.49.21    UP        IS-NR
    C      -----      ----        ----
    D      -----      ----        ----
  DSM IP CONNECTION
    PORT  PST      SST
    A      OOS-MT    Unavail
    D      OOS-MA    Ueq
  ENUM CONNECTION STATUS
    CNAME      PROT      STATUS
```

Command Completed.

;

> pass:loc=1317:cmd="netstat -i"

Command Accepted - Processing

```
eagle1 17-05-04 15:46:46 MST EAGLE 46.5.0.0.0-70.29.0
pass:loc=1317:cmd="netstat -i"
Command entered at terminal #13.
```

;

```
eagle1 17-05-04 15:46:46 MST EAGLE 46.5.0.0.0-70.29.0
PASS: Command sent to card
```

;

```
eagle1 17-05-04 15:46:46 MST EAGLE 46.5.0.0.0-70.29.0
SDS Shell Output
```

-> tklc_ifShow

```

lo (unit number 0):
  Flags: (0x48049) UP LOOPBACK MULTICAST TRAILERS ARP RUNNING INET_UP
  Type: SOFTWARE_LOOPBACK
  inet: 127.0.0.1
  Netmask 0xff000000 Subnetmask 0xff000000
  Metric is 0
  Maximum Transfer Unit size is 1536
  0 packets received; 1 packets sent
  0 multicast packets received
  0 multicast packets sent
  0 input errors; 0 output errors
  0 collisions; 0 dropped
  0 output queue drops
DPLend (unit number 0):
  Flags: (0x20043) UP BROADCAST ARP RUNNING
  Type: ETHERNET_CSMACD
  Ethernet address is 00:00:00:00:00:00
  Metric is 0
  Maximum Transfer Unit size is 485
  0 octets received
  0 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 non-unicast packets received
  0 non-unicast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
gei (unit number 2):
  Flags: (0x78043) UP BROADCAST MULTICAST ARP RUNNING INET_UP
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
  Type: ETHERNET_CSMACD
  inet: 192.168.120.13
  Broadcast address: 192.168.120.255
  Netmask 0xffffffff Subnetmask 0xffffffff
  Ethernet address is 00:00:17:0e:b7:d2
  Metric is 0
  Maximum Transfer Unit size is 1500
  16128 octets received
  102048 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received
  0 multicast packets sent
  252 broadcast packets received
  786 broadcast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
gei (unit number 3):
  Flags: (0x70043) UP BROADCAST ARP RUNNING INET_UP
  PHY Flags: (0x12012) AUTONEG 1000MB FDX DIX
  Type: ETHERNET_CSMACD

```

```

    inet: 10.75.49.21
    Broadcast address: 10.75.49.255
    Netmask 0xff000000 Subnetmask 0xffffffff00
    Ethernet address is 00:00:17:0e:b7:d3
    Metric is 0
    Maximum Transfer Unit size is 1500
    0 octets received
    128 octets sent
    0 unicast packets received
    0 unicast packets sent
    0 multicast packets received
    0 multicast packets sent
    0 broadcast packets received
    2 broadcast packets sent
    0 incoming packets discarded
    0 outgoing packets discarded
    0 incoming errors
    0 outgoing errors
    0 unknown protos
    0 collisions; 0 dropped
    0 output queue drops
value = 26 = 0x1a

;

eagle1 17-05-04 15:46:56 MST  EAGLE 46.5.0.0.0-70.29.0

;

eagle1 17-05-04 15:46:56 MST  EAGLE 46.5.0.0.0-70.29.0

NETSTAT command complete

;

SM8G-B card running ENUM64/DEIR64/SIP64:

gei (unit number 4) = ExAP Port
gei (unit number 5) = Signaling Port

> rept-stat-card:mode=full:loc=1317

eagle1 17-05-04 15:23:31 MST  EAGLE 46.5.0.0.0-70.29.0
CARD   VERSION      TYPE      GPL        PST        SST        AST
1317   140-029-000    DSM       ENUM64     IS-ANR     MPS Unavl  -----
ALARM STATUS      = ** 0080 Shelf FAN bit is OFF
BLDC64  GPL version = 140-029-000
IMT BUS A         = Conn
IMT BUS B         = Disc
CLOCK A           = Fault
CLOCK B           = Active
CLOCK I           = Idle
MBD BIP STATUS    = Valid
MOTHER BOARD ID   = SMXG B
DBD STATUS        = Valid
DBD TYPE          = None
DBD MEMORY SIZE   = 8192M
HW VERIFICATION CODE= ----
FPGA VERSION      = 9

```

```

BIOS VERSION          = 0ABSV01
PSOC VERSION          = 0.1
CURRENT TEMPERATURE   = 34C ( 94F)
PEAK TEMPERATURE:     = 34C ( 94F)      [17-05-02 09:31]
ENUM SM DATA TYPE     = DN
IPLNK STATUS
  IPLNK  IPADDR          STATUS      PST
  A      192.168.120.13   UP          IS-NR
  B      10.75.49.21      UP          IS-NR
  C      -----         ----         ----
  D      -----         ----         ----
DSM IP CONNECTION
  PORT   PST             SST
  A      OOS-MT          Unavail
  D      OOS-MA          Ueq
ENUM CONNECTION STATUS
  CNAME          PROT      STATUS

```

Command Completed.

;

```
> pass:loc=1317:cmd="netstat -i"
```

```
eagle1 17-05-04 15:23:59 MST  EAGLE 46.5.0.0.0-70.29.0
SDS Shell Output
```

shellLib: unknown LED mode vi.

-> tklc_ifShow

```

lo0 Link type:Local loopback Queue:none
  inet 127.0.0.1 mask 255.255.255.255
  inet6 unicast fe80::1%lo0 prefixlen 64 automatic
  inet6 unicast ::1 prefixlen 128
  UP RUNNING LOOPBACK MULTICAST NOARP ALLMULTI
  MTU:1500 metric:1 VR:0 ifindex:1
  RX packets:885990 mcast:3 errors:0 dropped:0
  TX packets:885990 mcast:3 errors:0
  collisions:0 unsupported proto:0
  RX bytes:99M TX bytes:99M

```

```

gei4      Link type:Ethernet HWaddr 00:00:17:0e:b7:d2 Queue:none
capabilities: TXCSUM TX6CSUM
  inet 192.168.120.13 mask 255.255.255.0 broadcast 192.168.120.255
  inet6 unicast fe80::200:17ff:fe0e:b7d2%gei4 prefixlen 64 automatic
  UP RUNNING SIMPLEX BROADCAST MULTICAST
  MTU:1500 metric:1 VR:0 ifindex:2
  RX packets:35807 mcast:0 errors:0 dropped:0
  TX packets:877952 mcast:12 errors:0
  collisions:0 unsupported proto:0
  RX bytes:2148k TX bytes:110M

```

```

gei5      Link type:Ethernet HWaddr 00:00:17:0e:b7:d3 Queue:none
capabilities: TXCSUM TX6CSUM
  inet 10.75.49.21 mask 255.255.255.0 broadcast 10.75.49.255
  inet6 unicast fe80::200:17ff:fe0e:b7d3%gei5 prefixlen 64 automatic
  UP RUNNING SIMPLEX BROADCAST MULTICAST
  MTU:1500 metric:1 VR:0 ifindex:3
  RX packets:526 mcast:0 errors:0 dropped:0
  TX packets:7 mcast:6 errors:0
  collisions:0 unsupported proto:0
  RX bytes:57k TX bytes:510

```

```

gei (unit number 4):
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
gei (unit number 5):
  PHY Flags: (0x12012) AUTONEG 1000MB FDX DIX
value = 1 = 0x1

;

eagle1 17-05-04 15:24:09 MST EAGLE 46.5.0.0.0-70.29.0

;

eagle1 17-05-04 15:24:09 MST EAGLE 46.5.0.0.0-70.29.0

NETSTAT command complete

;

SLIC card running SCCPHC:
gei (unit number 2) is ExAP Port A
gei (unit number 0) is ExAP Port B

> REPT-STAT-CARD:MODE=FULL:LOC=1307

eagle1 17-05-04 15:10:21 MST EAGLE 46.5.0.0.0-70.29.0
CARD   VERSION      TYPE      GPL      PST      SST      AST
1307   140-029-000   SLIC      SCCPHC   IS-ANR   Standby  98%
  ALARM STATUS      = ** 0080 Shelf FAN bit is OFF
  BLSLC32 GPL version = 140-029-000
  IMT BUS A          = Conn
  IMT BUS B          = Disc
  CLOCK A            = Fault
  CLOCK B            = Active
  CLOCK I            = Idle
  MBD BIP STATUS     = Valid
  MOTHER BOARD ID    = SLIC
  DBD STATUS         = Valid
  DBD TYPE           = None
  DBD MEMORY SIZE    = 16384M
  HW VERIFICATION CODE= ----
  FPGA VERSION       = 9400036
  BIOS VERSION       = 0ACFP00
  PSOC VERSION       = 1.0
  CURRENT TEMPERATURE = 40C (104F)
  PEAK TEMPERATURE:  = 40C (104F) [17-05-04 15:05]
  SCCP % OCCUP       = 0%
  SCCP SM DATA TYPE = DN
  APPLICATION SERVICING
                                MFC      MFC
  SNM   REQ STATUS = 24 hr: ---, 5 min: ---
  INM   REQ STATUS = 24 hr: ---, 5 min: ---
  MTP3  REQ STATUS = 24 hr: ---, 5 min: ---
  SFLOG REQ STATUS = 24 hr: ---, 5 min: ---
  IPLNK STATUS
    IPLNK IPADDR      STATUS      PST
    A     192.168.120.21 DOWN      OOS-MT
    B     192.168.121.21 DOWN      OOS-MT
  DSM IP CONNECTION

```

PORT	PST	SST
A	OOS-MT	Unavail
B	OOS-MT	Unavail

Command Completed.

;

> PASS:LOC=1307:CMD="NETSTAT -I"

eagle1 17-05-04 15:10:27 MST EAGLE 46.5.0.0.0-70.29.0
SDS Shell Output

-> tklc_ifShow

lo (unit number 0):

Flags: (0x48049) UP LOOPBACK MULTICAST TRAILERS ARP RUNNING INET_UP
Type: SOFTWARE_LOOPBACK
inet: 127.0.0.1
Netmask 0xff000000 Subnetmask 0xff000000
Metric is 0
Maximum Transfer Unit size is 1536
0 packets received; 1 packets sent
0 multicast packets received
0 multicast packets sent
0 input errors; 0 output errors
0 collisions; 0 dropped
0 output queue drops

DPLend (unit number 0):

Flags: (0x20043) UP BROADCAST ARP RUNNING
Type: ETHERNET_CSMACD
Ethernet address is 00:00:00:00:00:00
Metric is 0
Maximum Transfer Unit size is 485
0 octets received
0 octets sent
0 unicast packets received
0 unicast packets sent
0 non-unicast packets received
0 non-unicast packets sent
0 incoming packets discarded
0 outgoing packets discarded
0 incoming errors
0 outgoing errors
0 unknown protos
0 collisions; 0 dropped
0 output queue drops

gei (unit number 2):

Flags: (0x78043) UP BROADCAST MULTICAST ARP RUNNING INET_UP
PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
Type: ETHERNET_CSMACD
inet: 192.168.120.21
Broadcast address: 192.168.120.255
Netmask 0xffffffff00 Subnetmask 0xffffffff00
Ethernet address is 00:10:e0:bb:26:d2
Metric is 0
Maximum Transfer Unit size is 1500
0 octets received
2014 octets sent
0 unicast packets received
0 unicast packets sent
0 multicast packets received

```

0 multicast packets sent
0 broadcast packets received
16 broadcast packets sent
0 incoming packets discarded
0 outgoing packets discarded
0 incoming errors
0 outgoing errors
0 unknown protos
0 collisions; 0 dropped
0 output queue drops
gei (unit number 0):
  Flags: (0x78043) UP BROADCAST MULTICAST ARP RUNNING INET_UP
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
  Type: ETHERNET_CSMACD
  inet: 192.168.121.21
  Broadcast address: 192.168.121.255
  Netmask 0xffffffff Subnetmask 0xffffffff
  Ethernet address is 00:10:e0:bb:26:d0
  Metric is 0
  Maximum Transfer Unit size is 1500
  0 octets received
  1884 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received
  0 multicast packets sent
  0 broadcast packets received
  15 broadcast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
value = 26 = 0x1a
;

eagle1 17-05-04 15:10:37 MST EAGLE 46.5.0.0.0-70.29.0

NETSTAT command complete
;

SLIC card running SCCP64:

gei (unit number 0) = ExAP Port A
gei (unit number 2) = ExAP Port B

> REPT-STAT-CARD:MODE=FULL:LOC=1307

eagle1 17-05-04 14:55:03 MST EAGLE 46.5.0.0.0-70.29.0
CARD   VERSION   TYPE      GPL        PST        SST        AST
1307   140-029-000  SLIC      SCCP64     IS-ANR     MPS Unavl  -----
  ALARM STATUS      = **  0080 Shelf FAN bit is OFF
  BLSLC64 GPL version = 140-029-000
  IMT BUS A          = Conn
  IMT BUS B          = Disc
  CLOCK A            = Fault

```

```

CLOCK B           = Active
CLOCK I           = Idle
MBD BIP STATUS    = Valid
MOTHER BOARD ID   = SLIC
DBD STATUS        = Valid
DBD TYPE          = None
DBD MEMORY SIZE   = 16384M
HW VERIFICATION CODE= ----
FPGA VERSION      = 9400036
BIOS VERSION      = 0ACFP00
PSOC VERSION      = 1.0
CURRENT TEMPERATURE = 36C ( 97F)
PEAK TEMPERATURE: = 38C (101F)      [17-05-04 14:47]
SCCP % OCCUP      = 0%
SCCP SM DATA TYPE = DN
APPLICATION SERVICING

                MFC                MFC
SNM    REQ STATUS = 24 hr: ---, 5 min: ---
INM    REQ STATUS = 24 hr: ---, 5 min: ---
MTP3   REQ STATUS = 24 hr: ---, 5 min: ---
SFLOG  REQ STATUS = 24 hr: ---, 5 min: ---
IPLNK STATUS
IPLNK  IPADDR      STATUS      PST
A      192.168.120.21  DOWN      OOS-MT
B      192.168.121.21  DOWN      OOS-MT
DSM IP CONNECTION
PORT   PST          SST
A      OOS-MT        Unavail
B      OOS-MT        Unavail

Command Completed.
;

> PASS:LOC=1307:CMD="NETSTAT -I"

Command Accepted - Processing

eagle1 17-05-04 14:56:03 MST  EAGLE 46.5.0.0.0-70.29.0
PASS:LOC=1307:CMD="NETSTAT -I"
Command entered at terminal #11.
;

eagle1 17-05-04 14:56:03 MST  EAGLE 46.5.0.0.0-70.29.0
PASS: Command sent to card
;

eagle1 17-05-04 14:56:03 MST  EAGLE 46.5.0.0.0-70.29.0
SDS Shell Output

shellLib: unknown LED mode vi.
-> tklc_ifShow
lo0 Link type:Local loopback Queue:none
inet 127.0.0.1 mask 255.255.255.255
inet6 unicast fe80::1%lo0 prefixlen 64 automatic
inet6 unicast ::1 prefixlen 128
UP RUNNING LOOPBACK MULTICAST NOARP ALLMULTI
MTU:1500 metric:1 VR:0 ifindex:1
RX packets:2213 mcast:3 errors:0 dropped:0
TX packets:2213 mcast:3 errors:0
collisions:0 unsupported proto:0
RX bytes:247k TX bytes:247k

```

```

gei0      Link type:Ethernet  HWaddr 00:10:e0:bb:26:d0  Queue:none
capabilities: TXCSUM TX6CSUM VLAN_MTU VLAN_TXHWTAG VLAN_RXHWTAG
inet 192.168.120.21  mask 255.255.255.0  broadcast 192.168.120.255
inet6 unicast fe80::210:e0ff:febb:26d0%gei0  prefixlen 64  automatic
UP RUNNING SIMPLEX BROADCAST MULTICAST
MTU:1500  metric:1  VR:0  ifindex:2
RX packets:695 mcast:0 errors:0 dropped:0
TX packets:634 mcast:12 errors:0
collisions:0 unsupported proto:0
RX bytes:74k  TX bytes:79k

gei2      Link type:Ethernet  HWaddr 00:10:e0:bb:26:d2  Queue:none
capabilities: TXCSUM TX6CSUM VLAN_MTU VLAN_TXHWTAG VLAN_RXHWTAG
inet 192.168.121.21  mask 255.255.255.0  broadcast 192.168.121.255
inet6 unicast fe80::210:e0ff:febb:26d2%gei2  prefixlen 64  automatic
UP RUNNING SIMPLEX BROADCAST MULTICAST
MTU:1500  metric:1  VR:0  ifindex:3
RX packets:702 mcast:0 errors:0 dropped:0
TX packets:639 mcast:6 errors:0
collisions:0 unsupported proto:0
RX bytes:75k  TX bytes:80k

gei (unit number 0):
  PHY Flags: (0x12114)  AUTONEG 1000MB FDX  DIX
gei (unit number 2):
  PHY Flags: (0x12114)  AUTONEG 1000MB FDX  DIX
value = 1 = 0x1

;
eagle1 17-05-04 14:56:13 MST  EAGLE 46.5.0.0.0-70.29.0

NETSTAT command complete

```

```

SLIC card running ENUMHC/DEIRHC/SIPHC:
gei (unit number 2) = ExAP Port A
gei (unit number 0) = Signaling Port #1
gei (unit number 3) = Signaling Port #2
gei (unit number 1) = ExAP Port B

```

```
> rept-stat-card:mode=full:loc=1317
```

```

eagle1 17-05-04 17:34:35 MST  EAGLE 46.5.0.0.0-70.29.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1317  140-029-000  SLIC      ENUMHC   IS-ANR    MPS Unavl  -----
ALARM STATUS          = No Alarms.
BLSLC32 GPL version = 140-029-000
IMT BUS A             = Conn
IMT BUS B             = Disc
CLOCK A               = Fault
CLOCK B               = Active
CLOCK I               = Idle
MBD BIP STATUS        = Valid
MOTHER BOARD ID       = SLIC
DBD STATUS            = Valid
DBD TYPE              = None

```

```

DBD MEMORY SIZE      = 16384M
HW VERIFICATION CODE= ----
FPGA VERSION         = 9400036
BIOS VERSION          = 0ACFP00
PSOC VERSION          = 1.0
CURRENT TEMPERATURE  = 43C (110F)
PEAK TEMPERATURE:    = 43C (110F)    [17-05-04 17:27]
ENUM SM DATA TYPE   = DN
IPLNK STATUS
  IPLNK  IPADDR          STATUS    PST
  A      192.168.120.13   UP       IS-NR
  B      10.75.49.21     DOWN     OOS-MT
  C      10.75.50.21     UP       IS-NR
  D      192.168.121.13   UP       IS-NR
DSM IP CONNECTION
  PORT   PST             SST
  A      OOS-MT          Unavail
  D      OOS-MT          Unavail

Command Completed.
;

> pass:loc=1317:cmd="netstat -i"

Command Accepted - Processing

eagle1 17-05-04 17:34:52 MST  EAGLE 46.5.0.0.0-70.29.0
pass:loc=1317:cmd="netstat -i"
Command entered at terminal #13.
;

eagle1 17-05-04 17:34:52 MST  EAGLE 46.5.0.0.0-70.29.0
PASS: Command sent to card
;

eagle1 17-05-04 17:34:52 MST  EAGLE 46.5.0.0.0-70.29.0
SDS Shell Output

-> tklc_ifShow
lo (unit number 0):
  Flags: (0x48049) UP LOOPBACK MULTICAST TRAILERS ARP RUNNING INET_UP
  Type: SOFTWARE_LOOPBACK
  inet: 127.0.0.1
  Netmask 0xff000000 Subnetmask 0xff000000
  Metric is 0
  Maximum Transfer Unit size is 1536
  0 packets received; 1 packets sent
  0 multicast packets received
  0 multicast packets sent
  0 input errors; 0 output errors
  0 collisions; 0 dropped
  0 output queue drops
DPLend (unit number 0):
  Flags: (0x20043) UP BROADCAST ARP RUNNING
  Type: ETHERNET_CSMACD
  Ethernet address is 00:00:00:00:00:00
  Metric is 0
  Maximum Transfer Unit size is 485
  0 octets received
  0 octets sent

```

```

0 unicast packets received
0 unicast packets sent
0 non-unicast packets received
0 non-unicast packets sent
0 incoming packets discarded
0 outgoing packets discarded
0 incoming errors
0 outgoing errors
0 unknown protos
0 collisions; 0 dropped
0 output queue drops
gei (unit number 2):
  Flags: (0x78043) UP BROADCAST MULTICAST ARP RUNNING INET_UP
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
  Type: ETHERNET_CSMACD
  inet: 192.168.120.13
  Broadcast address: 192.168.120.255
  Netmask 0xffffffff Subnetmask 0xffffffff
  Ethernet address is 00:10:e0:bb:26:d2
  Metric is 0
  Maximum Transfer Unit size is 1500
  13736 octets received
  16118 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received
  0 multicast packets sent
  128 broadcast packets received
  125 broadcast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
gei (unit number 0):
  Flags: (0x70043) UP BROADCAST ARP RUNNING INET_UP
  PHY Flags: (0x2012) DIX
  Type: ETHERNET_CSMACD
  inet: 10.75.49.21
  Broadcast address: 10.75.49.255
  Netmask 0xff000000 Subnetmask 0xffffffff
  Ethernet address is 00:10:e0:bb:26:d0
  Metric is 0
  Maximum Transfer Unit size is 1500
  0 octets received
  0 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received
  0 multicast packets sent
  0 broadcast packets received
  0 broadcast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops

```

```

gei (unit number 3):
  Flags: (0x70043) UP BROADCAST ARP RUNNING INET_UP
  PHY Flags: (0x12012) 100MB FDX DIX
  Type: ETHERNET_CSMACD
  inet: 10.75.50.21
  Broadcast address: 10.75.50.255
  Netmask 0xff000000 Subnetmask 0xffffffff00
  Ethernet address is 00:10:e0:bb:26:d3
  Metric is 0
  Maximum Transfer Unit size is 1500
  25708 octets received
  128 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received
  0 multicast packets sent
  214 broadcast packets received
  2 broadcast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
gei (unit number 1):
  Flags: (0x78043) UP BROADCAST MULTICAST ARP RUNNING INET_UP
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
  Type: ETHERNET_CSMACD
  inet: 192.168.121.13
  Broadcast address: 192.168.121.255
  Netmask 0xffffffff00 Subnetmask 0xffffffff00
  Ethernet address is 00:10:e0:bb:26:d1
  Metric is 0
  Maximum Transfer Unit size is 1500
  13544 octets received
  16118 octets sent
  0 unicast packets received
  0 unicast packets sent
  0 multicast packets received
  0 multicast packets sent
  125 broadcast packets received
  125 broadcast packets sent
  0 incoming packets discarded
  0 outgoing packets discarded
  0 incoming errors
  0 outgoing errors
  0 unknown protos
  0 collisions; 0 dropped
  0 output queue drops
value = 26 = 0x1a
;

eagle1 17-05-04 17:35:02 MST EAGLE 46.5.0.0.0-70.29.0
;

eagle1 17-05-04 17:35:02 MST EAGLE 46.5.0.0.0-70.29.0

NETSTAT command complete

```

```

;

SLIC card running DEIR64/ENUM64/SIP64:

gei (unit number 0) = ExAP Port A
gei (unit number 2) = Signaling Port #1
gei (unit number 1) = Signaling Port #2
gei (unit number 3) = ExAP Port B

> rept-stat-card:mode=full:loc=1317

Command Accepted - Processing

eagle1 17-05-04 16:20:40 MST EAGLE 46.5.0.0.0-70.29.0
rept-stat-card:mode=full:loc=1317
Command entered at terminal #13.

;

eagle1 17-05-04 16:20:40 MST EAGLE 46.5.0.0.0-70.29.0
CARD    VERSION    TYPE    GPL    PST    SST    AST
1317    140-029-000  SLIC    ENUM64  IS-ANR  MPS Unavl  -----
ALARM STATUS      = No Alarms.
BLSLIC64 GPL version = 140-029-000
IMT BUS A         = Conn
IMT BUS B         = Disc
CLOCK A          = Fault
CLOCK B          = Active
CLOCK I          = Idle
MBD BIP STATUS    = Valid
MOTHER BOARD ID   = SLIC
DBD STATUS        = Valid
DBD TYPE          = None
DBD MEMORY SIZE   = 16384M
HW VERIFICATION CODE= ----
FPGA VERSION      = 9400036
BIOS VERSION      = 0ACFP00
PSOC VERSION      = 1.0
CURRENT TEMPERATURE = 40C (104F)
PEAK TEMPERATURE:  = 42C (108F)    [17-05-04 15:51]
ENUM SM DATA TYPE = DN
IPLNK STATUS
  IPLNK  IPADDR      STATUS    PST
  A      192.168.120.13  UP        IS-NR
  B      10.75.49.21    DOWN      OOS-MT
  C      10.75.50.21    DOWN      OOS-MT
  D      192.168.121.13  UP        IS-NR
DSM IP CONNECTION
  PORT    PST        SST
  A      OOS-MT      Unavail
  D      OOS-MT      Unavail

Command Completed.

;

> pass:loc=1317:cmd="netstat -i"

Command Accepted - Processing

eagle1 17-05-04 16:25:06 MST EAGLE 46.5.0.0.0-70.29.0

```

```
pass:loc=1317:cmd="netstat -i"  
Command entered at terminal #13.
```

;

```
eagle1 17-05-04 16:25:06 MST EAGLE 46.5.0.0.0-70.29.0  
PASS: Command sent to card
```

;

```
eagle1 17-05-04 16:25:06 MST EAGLE 46.5.0.0.0-70.29.0  
SDS Shell Output
```

```
shellLib: unknown LED mode vi.
```

```
-> tklc_ifShow
```

```
lo0 Link type:Local loopback Queue:none  
inet 127.0.0.1 mask 255.255.255.255  
inet6 unicast fe80::1%lo0 prefixlen 64 automatic  
inet6 unicast ::1 prefixlen 128  
UP RUNNING LOOPBACK MULTICAST NOARP ALLMULTI  
MTU:1500 metric:1 VR:0 ifindex:1  
RX packets:1487 mcast:3 errors:0 dropped:0  
TX packets:1487 mcast:3 errors:0  
collisions:0 unsupported proto:0  
RX bytes:165k TX bytes:165k
```

```
gei0 Link type:Ethernet HWaddr 00:10:e0:bb:26:d0 Queue:none  
capabilities: TXCSUM TX6CSUM VLAN_MTU VLAN_TXHWTAG VLAN_RXHWTAG  
inet 192.168.120.13 mask 255.255.255.0 broadcast 192.168.120.255  
inet6 unicast fe80::210:e0ff:febb:26d0%gei0 prefixlen 64 automatic  
UP RUNNING SIMPLEX BROADCAST MULTICAST  
MTU:1500 metric:1 VR:0 ifindex:2  
RX packets:929 mcast:0 errors:0 dropped:0  
TX packets:745 mcast:6 errors:0  
collisions:0 unsupported proto:0  
RX bytes:101k TX bytes:93k
```

```
gei2 Link type:Ethernet HWaddr 00:10:e0:bb:26:d2 Queue:none  
capabilities: TXCSUM TX6CSUM VLAN_MTU VLAN_TXHWTAG VLAN_RXHWTAG  
inet 10.75.49.21 mask 255.255.255.0 broadcast 10.75.49.255  
inet6 unicast fe80::210:e0ff:febb:26d2%gei2 prefixlen 64 automatic  
UP RUNNING SIMPLEX BROADCAST MULTICAST  
MTU:1500 metric:1 VR:0 ifindex:3  
RX packets:37 mcast:0 errors:0 dropped:0  
TX packets:7 mcast:6 errors:0  
collisions:0 unsupported proto:0  
RX bytes:4596 TX bytes:510
```

```
gei1 Link type:Ethernet HWaddr 00:10:e0:bb:26:d1 Queue:none  
capabilities: TXCSUM TX6CSUM VLAN_MTU VLAN_TXHWTAG VLAN_RXHWTAG  
inet 10.75.50.21 mask 255.255.255.0 broadcast 10.75.50.255  
inet6 unicast fe80::210:e0ff:febb:26d1%gei1 prefixlen 64 tentative automatic  
UP SIMPLEX BROADCAST MULTICAST  
MTU:1500 metric:1 VR:0 ifindex:4  
RX packets:0 mcast:0 errors:0 dropped:0  
TX packets:0 mcast:0 errors:0  
collisions:0 unsupported proto:0  
RX bytes:0 TX bytes:0
```

```
gei3 Link type:Ethernet HWaddr 00:10:e0:bb:26:d3 Queue:none  
capabilities: TXCSUM TX6CSUM VLAN_MTU VLAN_TXHWTAG VLAN_RXHWTAG  
inet 192.168.121.13 mask 255.255.255.0 broadcast 192.168.121.255  
inet6 unicast fe80::210:e0ff:febb:26d3%gei3 prefixlen 64 automatic
```

```
UP RUNNING SIMPLEX BROADCAST MULTICAST
MTU:1500 metric:1 VR:0 ifindex:5
RX packets:921 mcast:0 errors:0 dropped:0
TX packets:745 mcast:6 errors:0
collisions:0 unsupported proto:0
RX bytes:101k TX bytes:93k
```

```
gei (unit number 0):
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
gei (unit number 2):
  PHY Flags: (0x12012) 100MB FDX DIX
gei (unit number 1):
  PHY Flags: (0x2012) DIX
gei (unit number 3):
  PHY Flags: (0x12114) AUTONEG 1000MB FDX DIX
value = 1 = 0x1
```

;

```
eagle1 17-05-04 16:25:16 MST EAGLE 46.5.0.0.0-70.29.0
```

```
NETSTAT command complete
```

;

Procedure A.18 Upgrade SSL certificate from SHA-1 to SHA-512

Appendix A.18 Upgrade SSL certificate from SHA-1 to SHA-512

S T E P #	This procedure upgrade SSL certificate from SHA-1 to SHA-512. 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>UPGRADE ASSISTANCE</u>.	
1. ☐	MPS : Log in to the server.	If not already logged-in, then login at MPS : <hostname> console login: epapdev Password: <password> Change to root user. \$ su – root
2. ☐	Verify SSL certificate	To verify SSL certificate execute the following command: <pre># /usr/bin/openssl x509 -in /usr/TKLC/plat/etc/ssl/server.crt -text -noout grep "Signature Algorithm"</pre> Signature Algorithm: sha512WithRSAEncryption Signature Algorithm: sha512WithRSAEncryption If signature algorithm is SHA 512 skip this procedure,otherwise proceed with the following step.
3. ☐	Find the IP for which the certificate has been generated in server.crt	<pre># openssl verify /usr/TKLC/plat/etc/ssl/server.crt</pre> /usr/TKLC/plat/etc/ssl/server.crt: CN = 10.248.11.14 error 18 at 0 depth lookup:self signed certificate OK
4. ☐	Upgrade to SHA-512 in server.crt	Note: The IP Address to be used in the below command is the IP displayed in the output of step 3. To upgrade SHA-1 to SHA-512 execute the following command: <pre># /usr/bin/openssl req -x509 -sha512 -nodes -days 4015 -subj "/CN=<IP Addr>" -newkey rsa:2048 -keyout /usr/TKLC/plat/etc/ssl/server.key -out /usr/TKLC/plat/etc/ssl/server.crt</pre> Generating a 2048 bit RSA private key +++ +++ writing new private key to '/usr/TKLC/plat/etc/ssl/server.key'
5. ☐	Find the IP for which the certificate has been generated in server_dual.crt	<pre># openssl verify /usr/TKLC/plat/etc/ssl/server_dual.crt</pre> /usr/TKLC/plat/etc/ssl/server_dual.crt: CN = 10.248.11.14 error 18 at 0 depth lookup:self signed certificate OK

6. ☐	Upgrade to SHA-512 in server_dual.crt	Note: The IP Address to be used in the below command is the IP displayed in the output of step 5. To upgrade SHA-1 to SHA-512 execute the following command: <pre># /usr/bin/openssl req -x509 -sha512 -nodes -days 4015 -subj "/CN=<IP Addr>" -newkey rsa:2048 -keyout /usr/TKLC/plat/etc/ssl/server_dual.key -out /usr/TKLC/plat/etc/ssl/server_dual.crt</pre> Generating a 2048 bit RSA private key +++ +++ writing new private key to '/usr/TKLC/plat/etc/ssl/server_dual.key'
7. ☐	Restart httpd service	Restart httpd service to reflect IP correctly. Use following command to restart httpd service: <pre>\$ systemctl restart httpd</pre> <pre>[root@Natal-A ~]# service httpd restart Stopping httpd: [OK] Starting httpd: [Fri Jul 06 23:26:09 2018] [warn] _default_ VirtualHost overlap on port 8002, the first has precedence [Fri Jul 06 23:26:09 2018] [warn] _default_ VirtualHost overlap on port 443, the first has precedence [OK]</pre>
8. ☐	Exit from root user	Exit from root user. Use following command: <pre>\$ exit</pre>
9. ☐	Procedure Complete.	Return to the procedure that you came here from.
10. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.19 Disable Epap VIP And Deactivate PDBA Proxy Feature

If PDBA Proxy feature is NOT enabled and VIP is NOT configured, this procedure can be skipped.

Ensure the provisioning activity has been halted before proceeding!!!

Appendix A.19 Disable Epap VIP And Deactivate PDBA Proxy Feature

S T E P #	This procedure outlines the steps to disable the PDBA proxy feature. Estimated time: 5 minutes
-----------------------	--

1. ☐	MPS A: Choose option "8" to display "PDB Configuration Menu."	MPS Side A: <pre> /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit \-----/ </pre> Enter Choice: 8
2. ☐	MPS A: Choose option "6" to "Change PDBA Proxy State".	MPS Side A: <pre> /-----Configure PDB Menu-----\ 1 Configure PDB Network 2 RTDB Homing Menu 3 Change MPS Provisionable State 4 Create PDB 5 Change Auto DB Recovery State 6 Change PDBA Proxy State e Exit \-----/ </pre> Enter Choice: 6
3. ☐	MPS A: Enter "Y" to stop PDBA / EPAP software and disable PDBA Proxy.	PDBA PROXY is currently ENABLED. Do you want to DISABLE PDBA Proxy? [N]: Y

4. ☐	MPS A: Enter "1" to "Display Configuration"	MPS Side A: <pre> /-----EPAP 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 PDBA Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit \-----/ </pre> Enter Choice: 1
5. ☐	MPS A: Verify that the state of PDBA Proxy Feature is No.	MPS Side A: <pre> EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 </pre>

		EPAP B HTTP SuExec Port	= 8001
		EPAP A Banner Connection Port	= 8473
		EPAP B Banner Connection Port	= 8473
		EPAP A Static NAT Address	= Not
		configured	
		EPAP B Static NAT Address	= Not
		configured	
		PDBI Port	= 5873
		Remote MPS A Static NAT Address	= Not
		configured	
		Remote MPS A HTTP Port	= 80
		Local Provisioning VIP	=
		192.168.15.152	
		Remote Provisioning VIP	=
		192.168.15.172	
		Local PDBA Address	=
		192.168.15.115	
		Remote PDBA Address	=
		192.168.16.115	
		Remote PDBA B Address	=
		192.168.16.116	
		Time Zone	=
		America/New_York	
		PDB Database	= Exists
		Preferred PDB	= Standby
		Allow updates from alternate PDB	= Yes
		Auto DB Recovery Enabled	= Yes
		PDBA Proxy Enabled	= No
		Press return to continue...	

6. ☐	MPS A: Choose option "2" to enter the "Configure Network Interfaces Menu".	MPS Side A: <pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit \-----/ </pre> Enter Choice: 2
---	---	--

7. ☐	MPS A: Choose option "7" to enter the "Configure Provisioning VIP Addresses Menu".	MPS Side A: <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 \-----/ </pre> Enter Choice: 7
8. ☐	MPS A: Remove the local provisioning VIP and remote provisioning VIP, by entering 0.0.0.0.	Verifying root connectivity with mate... EPAP local provisioning virtual IP Address [192.168.15.152]: 0.0.0.0 EPAP remote provisioning virtual IP Address [192.168.15.172]: 0.0.0.0
9. ☐	MPS A: Choose option "e" to exit.	MPS Side A: <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 \-----/ </pre> Enter Choice: e

10. ☐	MPS A: Choose option "1" to "Display Configuration.	MPS Side A: <pre> -----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit ----- Enter Choice: 1 </pre>
11. ☐	MPS A: Verify VIP addresses are set to 0.0.0.0 .	MPS Side A: <pre> EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 EPAP B HTTP SuExec Port = 8001 EPAP A Banner Connection Port = 8473 EPAP B Banner Connection Port = 8473 EPAP A Static NAT Address = Not configured </pre>

		EPAP B Static NAT Address	= Not configured
		PDBI Port	= 5873
		Remote MPS A Static NAT Address	= Not configured
		Remote MPS A HTTP Port	= 80
		Local Provisioning VIP	= 0.0.0.0
		Remote Provisioning VIP	= 0.0.0.0
		Local PDBA Address	= 192.168.15.115
		Remote PDBA Address	= 192.168.16.115
		Remote PDBA B Address	= 192.168.16.116
		Time Zone	= America/New_York
		PDB Database	= Exists
		Preferred PDB	= Standby
		Allow updates from alternate PDB	= Yes
		Auto DB Recovery Enabled	= Yes
		PDBA Proxy Enabled	= No
		Press return to continue...	

12. ☐	MPS A: Choose "e" to exit.	MPS Side A: <pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit \-----/ </pre> Enter choice: e
13. ☐	Return to the procedure that you came here from.	
14. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.20 Enable EPAP PDBA Proxy and EPAP VIP Optional Features
Ensure the provisioning activity has been halted before proceeding!!!

Appendix A.20 Enable EPAP PDBA Proxy and EPAP VIP Optional Feature

S T E P #	This procedure outlines the steps for provisioning the PDBA proxy VIP. Estimated time: 10 minutes	
1.	MPS A: Login as epapdev to 1A server.	Login: epapdev Password: <epapdev_password>
2.	MPS A: Perform “syscheck” on the 1A server.	\$ syscheck Running modules in class hardware... OK Running modules in class proc... OK Running modules in class net... OK Running modules in class disk... OK Running modules in class services... OK Running modules in class system... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log Note: syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged
3.	MPS A: SSH to EPAP 1B.	\$ssh mate
4.	MPS B: Perform “syscheck” on the 1B.	\$ syscheck Running modules in class hardware... OK Running modules in class proc... OK Running modules in class net... OK Running modules in class disk... OK Running modules in class services... OK Running modules in class system... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log Note: syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code

		<pre>* defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged #</pre>
5.	MPS B: Exit back to the 1A server	<pre>\$ exit</pre>
6.	MPS A: Log into epapconfig	<pre>\$su - epapconfig Password: warning: smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.</pre>
7.	MPS A: Choose option "1" to display Configuration.	<pre>MPS Side A: /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit \-----/ Enter Choice: 1</pre>
8.	MPS A: Verify that the VIP is not configured.	<pre>MPS Side A: EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured</pre>

		EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 EPAP B HTTP SuExec Port = 8001 EPAP A Banner Connection Port = 8473 EPAP B Banner Connection Port = 8473 EPAP A Static NAT Address = Not configured EPAP B Static NAT Address = Not configured PDBI Port = 5873 Remote MPS A Static NAT Address = Not configured Remote MPS A HTTP Port = 80 Local Provisioning VIP = Not configured Remote Provisioning VIP = Not configured Local PDBA Address = 192.168.61.115 Remote PDBA Address = 192.168.61.181 Remote PDBA B Address = 192.168.61.182 Time Zone = America/New_York PDB Database = Exists Preferred PDB = Standby Allow updates from alternate PDB = Yes Auto DB Recovery Enabled = Yes PDBA Proxy Enabled = No Press return to continue...
9.	MPS A: Choose option "2" to enter the "Configure Network Interfaces Menu".	MPS Side A:

		<pre> /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit \-----/ </pre>
10.	MPS A: Choose option "6" to enter the "Configure Provisioning VIP Addresses Menu".	<pre> MPS Side A: /-----Configure Network Interfaces Menu-----\ 1 Configure Provisioning Network 2 Configure Sync Network 3 Configure DSM Network 4 Configure Backup Provisioning Network 5 Configure Static NAT Addresses 6 Configure Provisioning VIP Addresses e Exit \-----/ </pre>
11.	MPS A: Enter "Y" to stop PDBA / EPAP software then enter VIP address for the local and remote PDBA sites.	<pre> Verifying root connectivity with mate... EPAP software and PDBA are running. Stop them? [N]: Y EPAP software is running on mate MPS. Stop it? [N]: Y EPAP local provisioning Virtual IP Address [0.0.0.0]: 192.168.15.152 EPAP remote provisioning Virtual IP Address [0.0.0.0]: 192.168.15.172 </pre>

12.	MPS A: Choose option “e” to exit.	MPS Side A: /-----Configure Network Interfaces Menu-----\ /-----\ 1 Configure Provisioning Network ----- 2 Configure Sync Network ----- 3 Configure DSM Network ----- 4 Configure Backup Provisioning Network ----- 5 Configure Static NAT Addresses ----- 6 Configure Provisioning VIP Addresses ----- e Exit -----\ \-----\ Enter Choice: e
13.	MPS A: Choose option “1” to “Display Configuration.	MPS Side A: /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit -----\ \-----\ Enter Choice: 1
14.	MPS A: Verify VIP addresses	MPS Side A: EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured

		EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 EPAP B HTTP SuExec Port = 8001 EPAP A Banner Connection Port = 8473 EPAP B Banner Connection Port = 8473 EPAP A Static NAT Address = Not configured EPAP B Static NAT Address = Not configured PDBI Port = 5873 Remote MPS A Static NAT Address = Not configured Remote MPS A HTTP Port = 80 Local Provisioning VIP = 192.168.15.152 Remote Provisioning VIP = 192.168.15.172 Local PDBA Address = 192.168.15.115 Remote PDBA Address = 192.168.16.115 Remote PDBA B Address = 192.168.16.116 Time Zone = America/New_York PDB Database = Exists Preferred PDB = Standby Allow updates from alternate PDB = Yes Auto DB Recovery Enabled = Yes PDBA Proxy Enabled = No Press return to continue...
15.	MPS A: Choose "e" to exit	

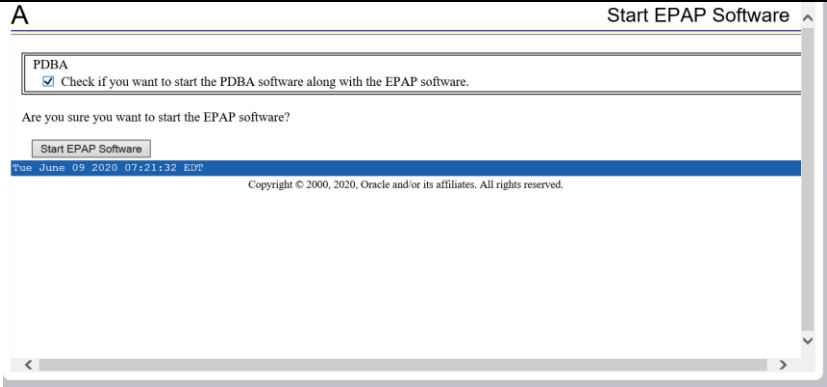
		<pre> /-----EPAP Configuration Menu-----\ 1 Display Configuration 2 Configure Network Interfaces Menu 3 Set Time Zone 4 Exchange Secure Shell Keys 5 Change Password 6 Platform Menu 7 Configure NTP Server 8 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit \-----\ </pre>
16.	MPS A: Verify that you can ping both VIP addresses.	<pre> Enter Choice: e \$ ping <local VIP> \$ ping <remote VIP> </pre>
17.	MPS A: Log into epapconfig	<pre> \$ su - epapconfig warning: smartmatch is experimental at /usr/TKLC/plat/lib/security/User.pm line 904. </pre>
18.	MPS A: Enter "1" to "Display Configuration"	

		<pre> /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit </pre>
		Enter Choice: 1
19.	MPS A: Verify that the state of PDBA Proxy Feature is No.	MPS Side A: EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 EPAP B HTTP SuExec Port = 8001 EPAP A Banner Connection Port = 8473 EPAP B Banner Connection Port = 8473 EPAP A Static NAT Address = Not configured EPAP B Static NAT Address = Not configured PDBI Port = 5873 Remote MPS A Static NAT Address = Not configured Remote MPS A HTTP Port = 80 Local Provisioning VIP = Not configured Remote Provisioning VIP = Not configured Local PDBA Address = 192.168.61.115 Remote PDBA Address = 192.168.61.181 Remote PDBA B Address = 192.168.61.182 Time Zone = America/New_York

		PDB Database = Exists Preferred PDB = Standby Allow updates from alternate PDB = Yes Auto DB Recovery Enabled = Yes PDBA Proxy Enabled = No Press return to continue...
20.	MPS A: Choose option "8" to display "PDB Configuration Menu"	MPS Side A: /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 Mate Disaster Recovery ----- e Exit \-----\ Enter Choice: 8
21.	MPS A: Choose option "6" to "Change PDBA Proxy State".	MPS Side A: /-----Configure PDB Menu-----\ /-----\ 1 Configure PDB Network ----- 2 RTDB Homing Menu ----- 3 Change MPS Provisionable State ----- 4 Create PDB ----- 5 Change Auto DB Recovery State ----- 6 Change PDBA Proxy State ----- e Exit \-----\ Enter Choice: 6

22.	MPS A: Enter “Y” to stop PDBA / EPAP software and enable PDBA Proxy.	EPAP software and PDBA are running. Stop them? [N]: Y EPAP software is running on mate MPS. Stop it? [N]: Y PDBA PROXY is currently DISABLED. Do you want to ENABLE PDBA Proxy? [N]: Y
23.	MPS A: Enter “e” to exit	MPS Side A: /-----Configure PDB Menu-----\ / 1 Configure PDB Network 2 RTDB Homing Menu 3 Change MPS Provisionable State 4 Create PDB 5 Change Auto DB Recovery State 6 Change PDBA Proxy State e Exit \ Enter Choice: e
24.	MPS A: Enter “1” to “Display Configuration”	
25.	MPS A: Verify that the state of PDBA Proxy Feature is Yes.	MPS Side A EPAP A Provisioning Network IP Address = 192.168.61.115 EPAP B Provisioning Network IP Address = 192.168.61.116 Provisioning Network Netmask = 255.255.255.0 Provisioning Network Default Router = 192.168.61.1 EPAP A Backup Prov Network IP Address = Not configured EPAP B Backup Prov Network IP Address = Not configured Backup Prov Network Netmask = Not configured Backup Prov Network Default Router = Not configured EPAP A Sync Network Address = 192.168.2.100 EPAP B Sync Network Address = 192.168.2.200 EPAP A Main DSM Network Address = 192.168.120.100 EPAP B Main DSM Network Address = 192.168.120.200 EPAP A Backup DSM Network Address = 192.168.121.100 EPAP B Backup DSM Network Address = 192.168.121.200 EPAP A HTTP Port = 80 EPAP B HTTP Port = 80 EPAP A HTTP SuExec Port = 8001 EPAP B HTTP SuExec Port = 8001 EPAP A Banner Connection Port = 8473 EPAP B Banner Connection Port = 8473 EPAP A Static NAT Address = Not configured EPAP B Static NAT Address = Not configured PDBI Port = 5873 Remote MPS A Static NAT Address = Not configured Remote MPS A HTTP Port = 80 Local Provisioning VIP = 192.168.15.152 Remote Provisioning VIP = 192.168.15.172 Local PDBA Address = 192.168.15.115 Remote PDBA Address = 192.168.16.115 Remote PDBA B Address = 192.168.16.116

		Time Zone = America/New_York PDB Database = Exists Preferred PDB = Standby Allow updates from alternate PDB = Yes Auto DB Recovery Enabled = Yes PDBA Proxy Enabled = Yes
26.	MPS A: Enter "e" to exit	MPS Side A: <pre> /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 Mate Disaster Recovery e Exit \-----/ </pre> Enter Choice: e
27.	MPS A: EPAP A: Log in to the web GUI as user "uiadmin".	User name: <i>uiadmin</i> Password:

28.	MPS A: Start EPAP and PDBA Software. On the menu, click Process Control->Stap Software. Click “Stap EPAP Software” Button	
29.	MPS A: Perform “syscheck” on MPS-A.	<pre>\$ syscheck Running modules in class hardware... OK Running modules in class proc... OK Running modules in class net... OK Running modules in class disk... OK Running modules in class services... OK Running modules in class system... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log Note: syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged</pre>
30.	MPS A: SSH to MPS 1B.	<pre>\$ ssh mate</pre>
31.	MPS B: Start Epap software on MPS 1B.	<pre>\$ systemctl start Epap ~~ /etc/init.d/Epap start ~~ "EPAP_RELEASE" is set to "0.613" EPAP application start Successful</pre>
32.	MPS B: Perform “syscheck” on MPS 1B.	<pre>\$ syscheck Running modules in class hardware... OK Running modules in class proc... OK Running modules in class net... OK Running modules in class disk... OK</pre>

		Running modules in class services... OK Running modules in class system... OK LOG LOCATION: /var/TKLC/log/syscheck/fail_log Note: syscheck may report following error which can be ignored: * defaultroute: FAILURE:: MINOR::5000000000040000 -- Platform Health Check Failure * defaultroute: FAILURE:: ping6 return non-zero code * defaultroute: FAILURE:: MAJOR::3000000000002000 -- Server Default Route Network Error * defaultroute: FAILURE:: The IPv6 default route at fe80::f64e:5ff:fe49:9b7f cannot be pinged
33.	Return to the procedure that you came here from.	
34.	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.21 Configure DSM Min Mem Size

S	This procedure configures DSM Min Mem Size on standalone PDB server.	
T	Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number.	
E	IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT Error! Reference source not found. AND A	
P	SK FOR <u>INSTALL ASSISTANCE</u>.	
#		
1. ☐	Standalone PDB : Login as epapdev to standalone PDB server.	Login: epapdev Password: <epapdev_password>
2. ☐	Execute getDsmMinMemSize.pl	Go to the bin directory to execute the getDsmMinMemSize.pl perl script \$ cd /usr/TKLC/epap/bin Execute getDsmMinMemSize.pl script \$./ getDsmMinMemSize.pl
3. ☐	Restart the pdb Software.	\$ systemctl stop Pdba ~~ /etc/init.d/Pdba stop ~~ PDBA application stopped. \$ systemctl start Pdba ~~ /etc/init.d/Pdba start ~~ PDBA application started.

		<pre>\$ systemctl Pdba status</pre> <pre>~~ /etc/init.d/Pdba status ~~</pre> PDBA application is running.
4. ☐	Verify that the uiEdit "DSM_MIN_MEM_SIZE" variable is added and updated correctly.	<pre>\$ uiEdit grep DSM_MIN_MEM_SIZE</pre> "DSM_MIN_MEM_SIZE" is set to "12046"
5. ☐	Procedure Complete	Procedure is complete.
6. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.22 Restart Mysql service for PDB on Query Server

Procedure A.22 Restart MySQL service for PDB on Query Server

NOTE: The MySQL services should be started as non-root **admin user only.**

This procedure restarts the MySQL service for PDB on Query Server. 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>INSTALL ASSISTANCE</u>.	
Login to EAGLE QS as QS admin.	login: <admin_user> Password: <admin_password>
Start the mysqlpdb service.	<pre>\$ sudo systemctl stop mysqld</pre> . . . Waiting for mysqlpdb to stop
Verify that mysqlpdb service is running.	<pre>\$ sudo systemctl start mysqld</pre> Waiting for mysqlpdb to start done
Start the mysqlpdb service.	<pre>\$sudo systemctl start mysqld</pre> PID:8841 mysqlpdb is running.
Procedure Complete	Procedure is complete.
Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.23 Get parse9Dig file from EPAP 16.3 ISO

Appendix A. 23 Get parse9Dig file from EPAP 16.3 ISO

S T E P #	This procedure extract parse9Dig script file from EPAP 16.3 ISO. 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>INSTALL ASSISTANCE</u>.	
1. ☐	MPS A: Login as admusr.	login: <admin_user> Password: <admin_password>
2. ☐	MPS A: Copy ISO on MPS A.	Perform Procedure in Procedure A.12 or copy EPAP 17.0 ISO to /var/TKLC/upgrade directory.
3. ☐	MPS A: Switch to root user.	Switch to root user. \$ su – root Password:
4. ☐	MPS A: Create directory using mkdir.	Create /mnt/iso directory using following command: # mkdir /mnt/iso
5. ☐	MPS A: Mount ISO on above path	Mount ISO on above created path. # mount -o loop <16.3.a.0.0-b.b ISO with full path which is copied in step 2> <full path of directory created in step 4> As follows: # mount -o loop /var/TKLC/upgrade/EPAP-16.3.0.0.0_163.8.0-x86_64.iso /mnt/iso/
6. ☐	MPS A: Extract TKLCepap rpm from the ISO.	Copy TKLCepap rpm at /tmp directory. # cp <directory created in step 4>/Packages/<TKLCepap rpm, the same version which is copied in step 2> /tmp As follows: # cp /mnt/iso/Packages/TKLCepap-163.0.8-16.3.0.0.0_163.8.0.x86_64.rpm /tmp/

Appendix A. 23 Get parse9Dig file from EPAP 16.3 ISO

7. ☐	MPS A: Change directory to /tmp.	Change directory to /tmp using following command: # cd /tmp
8. ☐	MPS A: Extract parse9Dig script file from rpm.	Extract desired file parse9Dig from rpm: # rpm2cpio <TKLCepap rpm extracted in step 6> cpio -idmv <parse9Dig> As follows: # rpm2cpio TKLCepap-163.0.8-16.3.0.0.0_163.8.0.x86_64.rpm cpio -idmv ./usr/TKLC/epap/config/parse9Dig <pre>[root@Natal-A tmp]# rpm2cpio TKLCepap-163.0.8-16.3.0.0.0_163.8.0.x86_64.rpm cpio -idmv ./usr/TKLC/epap/config/parse9Dig ./usr/TKLC/epap/config/parse9Dig 318312 blocks</pre>
9. ☐	MPS A: Copy extracted parse9Dig at desired path.	Copy extracted parse9Dig file at path: /usr/TKLC/epap/config Use following path: # cp /tmp/usr/TKLC/epap/config/parse9Dig /usr/TKLC/epap/config
10. ☐	MPS A: Change the permission of parse9Dig file as required.	Change mode of file parse9Dig to 755 and ownership to epapdev:epap. Use following command: # cd /usr/TKLC/epap/config # chmod 755 parse9Dig # chown epapdev:epap parse9Dig List the file and check the permissions. It should be same as follows: # ll parse9Dig <pre>[root@Natal-A config]# ll parse9Dig -rwxr-xr-x 1 epapdev epap 12162 Jul 9 21:39 parse9Dig</pre>
11. ☐	MPS A: Snapshot of all above executed commands to extract parse9Dig file.	Verify that all steps executed successfully as follows:

Appendix A. 23 Get parse9Dig file from EPAP 16.3 ISO

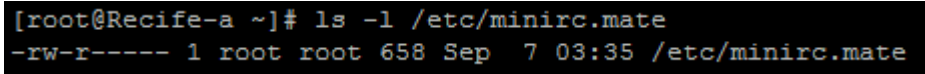
		<pre>[root@Natal-A ~]# [root@Natal-A ~]# mkdir /mnt/iso [root@Natal-A ~]# [root@Natal-A ~]# mount -o loop /var/TKLC/EPAP-16.3.0.0.0_163.8.0-x86_64.iso /mnt/iso/ /var/TKLC/EPAP-16.3.0.0.0_163.8.0-x86_64.iso: No such file or directory [root@Natal-A ~]# rmdir /mnt/iso [root@Natal-A ~]# [root@Natal-A ~]# [root@Natal-A ~]# mkdir /mnt/iso [root@Natal-A ~]# [root@Natal-A ~]# mount -o loop /var/TKLC/upgrade/EPAP-16.3.0.0.0_163.8.0-x86_64.iso /mnt/iso/ [root@Natal-A ~]# [root@Natal-A ~]# cp /mnt/iso/Packages/TKLCepap-163.0.8-16.3.0.0.0_163.8.0.x86_64.rpm /tmp/ [root@Natal-A ~]# [root@Natal-A ~]# cd /tmp [root@Natal-A tmp]# [root@Natal-A tmp]# rpm2cpio TKLCepap-163.0.8-16.3.0.0.0_163.8.0.x86_64.rpm cpio -idmv ./usr/TKLC/epap/config/parse9Dig 318312 blocks [root@Natal-A tmp]# [root@Natal-A tmp]# cp /tmp/usr/TKLC/epap/config/parse9Dig /usr/TKLC/epap/config [root@Natal-A tmp]# [root@Natal-A tmp]# cd /usr/TKLC/epap/config [root@Natal-A config]# chmod 755 parse9Dig [root@Natal-A config]# [root@Natal-A config]# chown epapdev:epap parse9Dig [root@Natal-A config]# [root@Natal-A config]# ll parse9Dig -rwxr-xr-x 1 epapdev epap 12162 Jul 9 21:39 parse9Dig [root@Natal-A config]# [root@Natal-A config]#</pre>
12.	MPS A: Remove all temporary files from /tmp directory.	Remove parse9Dig file and TKLCepap rpm from /tmp directory. Execute following command on CLI: <pre># rm -f /tmp/usr/TKLC/epap/config/parse9Dig # rm -f /tmp/TKLCepap-163.0.12-16.3.0.0.0_163.12.0.x86_64.rpm</pre>
13.	MPS A: Umount the mounted ISO.	Umount the ISO which was mounted in step 5. Execute below command: <pre># umount /mnt/iso/</pre>
14.	MPS A: Remove ISO directory.	Remove directory /mnt/iso. Execute below command: <pre># rmdir /mnt/iso/</pre>
15.	Procedure Complete	Procedure is complete.
16.	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.24 Procedure to add/edit the /etc/minirc.mate file

NOTE: This procedure is needed in following cases:

1. If “minicom mate” fails due to data corruption or some body deleted the file /etc/minirc.mate.
Or,
2. If ttyS1 is not working, then edit the file /etc/minirc.mate to use ttyS3 or ttyS4.

Appendix A. 24 Procedure to add/edit the /etc/minirc.mate file

S T E P #	This procedure will add/edit the file /etc/minirc.mate. 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>UPGRADE ASSISTANCE</u>.	
1. ☐	MPS: Log on Server.	[hostname] consolelogin: admusr password: <i>password</i>
2. ☐	MPS: Switch user to root.	\$ su - root Password:
3.	MPS: Verify that the file present on server.	Verify that the file /etc/minirc.mate is present on server: Execute the following command: <pre>\$ ls -l /etc/minirc.mate</pre>  <pre>[root@Recife-a ~]# ls -l /etc/minirc.mate -rw-r----- 1 root root 658 Sep 7 03:35 /etc/minirc.mate</pre> Move to step 5 if output is same as above otherwise continue to next step.
4. ☐	MPS: Create the file using vi editor.	Create the file /etc/minirc.mate using vi editor as follows: \$ vi /etc/minirc.mate Add following lines in file /etc/minirc.mate and save the file: <pre># # minirc file generated by remoteConsole Mon Sep 10 09:53:54 2018 pr port /dev/ttyS1 pu baudrate 115200 pu bits 8 pu parity N pu stopbits 1 pu rtscts No pu xonxoff No pu minit pu mreset pu mhangup pu pname1 YUNYY pu pname2 YUNYY pu pname3 YUNYN pu pname4 NDNYY pu pname5 NDNYY pu pname6 YDNYN pu pname7 YUYNN pu pname8 NDYNN pu pname9 YUNYN pu zauto pu fselw No pu askdndir No</pre>
5. ☐	MPS: Edit the file /etc/minirc.mate	If ttS1 is not working then edit the file /etc/minirc.mate and update ttyS1 to ttyS2 or ttyS1 to ttyS3 and change the serial cable connectivity accordingly.

Appendix A. 24 Procedure to add/edit the /etc/minirc.mate file

	In following example, we have updated the file /etc/minirc.mate and changed the port value from ttyS1 to ttyS2. \$ vi /etc/minirc.mate <pre># # minirc file generated by remoteConsole Mon Sep 10 09:53:54 2018 pr port /dev/ttyS2 pu baudrate 115200 pu bits 8 pu parity N pu stopbits 1 pu rtscts No pu xonxoff No pu minit pu mreset pu mhangup pu pname1 YUNYY pu pname2 YUNYY pu pname3 YUNYN pu pname4 NDNYY pu pname5 NDNYY pu pname6 YDNYN pu pname7 YUYNN pu pname8 NDYNN pu pname9 YUNYN pu zauto pu fselw No pu askndir No</pre> NOTE: In order to make this changes working we must need to change the serial cable connectivity with lsmspri and lsmssec. In following figure we have changed the serial connectivity from ttyS0(lsmspri) <--> ttyS1(lsmssec) to ttyS0(lsmspri) <--> ttyS2(lsmssec) and ttyS0(lsmssec) <--> ttyS1(lsmspri) to ttyS0(lsmssec) <--> ttyS2(lsmspri) Here, broken line showing the old connectivity and bold line for the new connectivity.
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Appendix A. 24 Procedure to add/edit the /etc/minirc.mate file

6.	MPS: Run “minicom mate” on the server.	Run the following command: \$minicom mate It should be successfully switched to mate server.
7. ☐	MPS: Procedure completed	This procedure is complete.
8. ☐	Note down the timestamp in log.	Run the following command: \$ date

Procedure A.25 Configure the Auto Backup

This procedure configures auto backup for PDB and RTDB on all the Non-PROVs that are homed to the PDBA.

EPAP software on all Non-PROVs homed to the PDBA should be running for successful auto RTDB backup on the Non-PROVs.

Appendix A.25 Configure the Auto Backup

S T E P #	1A	This procedure enables the auto backup feature for the Provisioning Database. Estimated time: 5 minutes	
1.	☐	MPS 1A: Navigate to the main Maintenance menu selection and select “Automatic PDB/RTDB Backup”. Specify the required fields and press the Submit Schedule button.	A Automatic PDB/RTDB Backup Backup Type (Select None to Cancel Backups) -select- ▼ Time of the day to start the Backup Frequency -select- ▼ File Path (Directory only) Select required IP version: ☒ IPv4 ☐ IPv6 Remote Machine IP Address (IPv4=xxx.yyy.zzz.yyy) (IPv6=xxxx.xxxx.xxxx.xxxx.xxxx.xxxx.xxxx.xxxx) Login Name Password Save the local copies in the default path ☐ Yes ☐ No Do you want to delete the old backups (Local and Mate only) Note: If you select Yes, only the last three backup files will be retained ☐ Yes ☐ No Submit Schedule Tue March 01 2016 09:34:59 EST Copyright © 2000, 2015, Oracle and/or its affiliates. All rights reserved.

			Note: Kindly note that the passwords having certain special characters like \$, @, # are not allowed while configuring passwords for automatic backup transfer to remote server.
2.	☐	Note down the timestamp in log.	Run the following command: \$ date

This procedure is complete!

Procedure A.26 STOP ACTIVE PDBA AND VERIFY REPL LOGS

This procedure shall be executed on Active PDBA (2A). If REPL log in not empty, part of the procedure will be executed in Standby PDBA (1A) as well.

Appendix A.26 Procedure to add/edit the /etc/minirc.mate file

P #		
1.	MPS 2A: Stop the Customer provisioning in to the active PDB.	NOTE: Contact customer provisioning and verify provisioning has been deactivated.
2.	MPS 2A: Log on Server.	[hostname] consolelogin: admusr password: password
3.	MPS 2A: Switch user to root.	\$ su - root Password:
4.	MPS 2A: Stop the PDBA process	# service Pdba stop ~~ /etc/init.d/Pdba stop ~~ PDBA application stopped.

5. ☐	MPS 2A: Stop the EPAP process	# service Epap stop ~~ /etc/init.d/Epap stop ~~ EPAP application stopped.
6. ☐	MPS 2A: Clear the REPL logs	\$ mysql -u root -p -S/var/TKLC/epap/db/pdb/mysql.sock < /usr/TKLC/epap/config/pdb_repl.sql Enter password: <MySQL_root_password>
7. ☐	MPS 2A: Login to the mysql database and verify that there are no updates to be sent to the standby PDB. If any REPL log exists, follow steps 8 to 12. Otherwise jump to step 13	\$ mysql -u root -p -S/var/TKLC/epap/db/pdb/mysql.sock pdb Enter password: <MySQL_root_password> On the MySQL prompt, execute the following commands: mysql> select * from replLog; Empty set (0.00 sec) mysql> select * from requests; Empty set (0.00 sec) mysql> quit Bye
8. ☐	MPS 1A: Start the PDBA and EPAP at the Standby site (1A)	# service Pdba start ~~ /etc/init.d/Pdba start ~~ PDBA application started.

		# service Epap start ~~ /etc/init.d/Epap start ~~ EPAP application started. Note : Skip the following step on Standalone PDB # ssh mate "service Epap start" ~~ /etc/init.d/Epap start ~~ EPAP application started.
9. ☐	MPS 2A: Start the PDBA at the Active site (2A)	# service Pdba start ~~ /etc/init.d/Pdba start ~~ PDBA application started. # service Epap start ~~ /etc/init.d/Epap start ~~ EPAP application started. Note : Skip the following step on Standalone PDB # ssh mate "service Epap start" ~~ /etc/init.d/Epap start ~~ EPAP application started.

10. ☐	MPS 2A: Wait a minute for the updates to sync between Active and Standby PDBA. Check in intervals of 1 minute till all updates are sent from Active PDBA to Standby PDBA. Move to next step ONLY after checking that output of replLog and requests tables shows "Empty set".	<pre>\$ mysql -u root -p -S/var/TKLC/epap/db/pdb/mysql.sock pdb Enter password: <MySQL_root_password> On the MySQL prompt, execute the following commands: mysql> select * from replLog; Empty set (0.00 sec) mysql> select * from requests; Empty set (0.00 sec) mysql> quit Bye</pre>
11. ☐	MPS 2A: Stop the PDBA and EPAP processes.	<pre># service Pdba stop ~~ /etc/init.d/Pdba stop ~~ PDBA application stopped. # service Epap stop</pre>

		<pre>~~ /etc/init.d/Epap stop ~~ EPAP application stopped.</pre>
12. ☐	MPS 1A: Stop the PDBA and EPAP processes.	<pre># service Pdba stop ~~ /etc/init.d/Pdba stop ~~ PDBA application stopped. # service Epap stop ~~ /etc/init.d/Epap stop ~~ EPAP application stopped.</pre>
13. ☐	MPS 2A: Exit as root user	<pre>\$ exit</pre>
14. ☐	Note down the timestamp in log.	<pre>Run the following command: \$ date</pre>

Procedure A.27 PDB Backup before upgrade

S T E	This procedure will perform pdb Backup
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P #	Estimated time of completion: 5 minutes. Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u>. PROCEDURE APPLICABLE TO: Standalone PDB, Mixed EPAP	
1 ☐	Login to MPS A via root user	login: <root_user> Password: <admin_password>
2 ☐	Stop PDB software	[root@Salta-a logs]# service Pdba stop ~~ /etc/init.d/Pdba stop ~~ PDBA application stopped. Change the directory to free, to generate the mysqldump in free directory. # cd /var/TKLC/epap/free
3 ☐	Generate mysqldump of PDB database: Execute the following command to create mysql dump od PDB to restore later after the upgrade. Note: mysqldump_filename can be anything	[root@Manaus-A free]# mysqldump -uroot -p<MySQL_root_password> pdb -S /var/TKLC/epap/db/pdb/mysql.sock > mysqldump_filename.sql & Example: [root@Devloan01 ~]# mysqldump -uroot -p<MySQL_root_password> pdb -S /var/TKLC/epap/db/pdb/mysql.sock > mysqldump_Devloan01_01133307182024.sql& [1] 29910 [root@Devloan01 ~]# mysqldump: [Warning] Using a password on the command line interface can be insecure.
4 ☐	MPS X: Transfer file to remote machine	Using SFTP (secure-FTP), transfer the file to a remote, customer-provided computer. Enter “yes” when prompted if you want to continue to connect. \$ cd /var/TKLC/epap/free \$ sftp admusr@10.75.141.58 Connecting to 10.75.141.58... FIPS integrity verification test failed. The authenticity of host '10.75.141.58 (10.75.141.58)' can't be established. RSA key fingerprint is 16:cf:0f:bb:cd:c3:45:8c:bf:5f:02:2b:96:4f:d1:61. Are you sure you want to continue connecting (yes/no)? yes Warning: Permanently added '10.75.141.58' (RSA) to the list of known hosts. admusr@10.75.141.58's password: sftp> put mysqldump_Recife_01133307182024.sql

		Uploading mysqldump_Recife_01133307182024.sql to /var/TKLC/elap/free/epap_spare_card_backup/mysqldump_Recife_01133307182024.sql mysqldump_Recife_01133307182024.sql 100% 30GB 76.0MB/s 06:45 sftp> bye If there is no customer provided remote computer for backups, transfer the backup file to the mate using the following command: \$ sudo chmod 666 /var/TKLC/epap/free/bkp.tar.gz \$ su – epapdev \$ scp /var/TKLC/epap/free/ mysqldump_Devloan01_01133307182024.sql epapdev@remoteIP:<Remote server Path>
3	☐ This procedure is complete.	This procedure is complete.

Procedure A.28 Clear replication logs

S T E P #	This procedure will clear the replication logs for the Standalone PDBA and Mixed EPAP	
	Ensure the provisioning activity has been halted before proceeding!!!	
	Estimated time of completion: 5 minutes.	
	Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number.	
	SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u> .	
	PROCEDURE APPLICABLE TO: Dual PDB and Dual Mixed EPAP	
1	☐ Active PDB : Switch from root to the epapdev user. Note: Ensure the provisioning activity has been halted before proceeding.	# su – epapdev

2 ☐	Active PDB: Login to the mysql database and determine the size of replLogs. Enter password once requested.	<pre>\$ mysql -u root -p -S/var/TKLC/epap/db/pdb/mysql.sock pdb</pre> Enter password: <password> Reading table information for completion of table column names You can turn off this feature to get a quicker startup with -A Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 108 Server version: 5.0.37-community-log MySQL Community Edition (GPL) Type 'help;' or '\h' for help. Type '\c' to clear the buffer. <pre>mysql> select count(*) from replLog; +-----+ count(*) +-----+ 100000 +-----+ 1 row in set (0.11 sec) mysql> select count(*) from requests; +-----+ count(*) +-----+ 100000 +-----+ 1 row in set (0.06 sec) mysql> quit Bye \$</pre>
3 ☐	Active PDB : Clear the REPL logs. Enter password once requested.	<pre>\$ mysql -u root -p -S/var/TKLC/epap/db/pdb/mysql.sock < /usr/TKLC/epap/config/pdb_repl.sql</pre> Enter password: <password>
4 ☐	Active PDB : Login to the mysql database and verify that there are no updates to be sent to the standby PDB. Enter password once requested.	<pre>\$ mysql -u root -p -S/var/TKLC/epap/db/pdb/mysql.sock pdb</pre> Enter password: <password> Reading table information for completion of table column names You can turn off this feature to get a quicker startup with -A Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 108 Server version: 5.0.37-community-log MySQL Community Edition (GPL) Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

	If any REPL logs exist, restart the PDBA application and allow them to replicate to the Standby PDB, then repeat this procedure.	<pre>mysql> select count(*) from replLog; Empty set (0.00 sec) mysql> select count(*) from requests; Empty set (0.00 sec) mysql> quit Bye</pre>
5 ☐	Active PDB EPAP A: Switch from epapdev to root user.	<code>\$ exit</code>
6 ☐	Standby PDB	Repeat all above steps on standby PDB as well.
7 ☐	This procedure is complete.	This procedure is complete.

Procedure A.29 Remove remote PDBA IP

S T E P #	This procedure will delete the remote PDBA IP Address	
	Ensure the provisioning activity has been halted before proceeding!	
	Estimated time of completion: 5 minutes.	
	Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number.	
	SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u> . PROCEDURE APPLICABLE TO: Standalone PDBA and Mixed EPAP	
1 ☐	Login to root user first and then switch to epapconfig and select option 8 Note: Ensure the provisioning activity has been halted before proceeding	Switch to root user <pre>[epapdev@Cres-a ~]\$ su - Password: <root password> [root@Cres-a ~]# su - epapconfig</pre>

		<pre> /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 DB Architecture Menu e Exit \-----/ Enter Choice: 8 </pre>
2	Select option 1 ☐	<pre> /-----Configure PDB Menu-----\ 1 Configure PDB Network 2 Configure PDB Capacity 3 Create PDB 4 Change Auto DB Recovery State e Exit \-----/ Enter Choice: 1 </pre>
3	Remove the remote PDBA IP by entering 0.0.0.0 . ☐	<pre> /-----PDB Network Configuration Menu-----\ 1 IPv4 Configuration 2 IPv6 Configuration e Exit \-----/ Enter Choice: 1 Verifying connectivity with mate... This MPS is configured to be provisionable. The EPAP local PDBA IPv4 address is currently set to 10.75.141.29 The EPAP local PDBA IPv6 address is currently set to 0000:0000:0000:0000:0000:0000:0000:0000 EPAP software and PDBA are running. Stop them? [N]: Y The EPAP local PDBA IPv4 Address is 10.75.141.29. EPAP remote PDBA IP Address [0.0.0.0]: 0.0.0.0 </pre>

4 ☐	The EPAP Configuration Menu is displayed. Enter choice e, Exit.	<pre> /-----EPAP 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 PDB Configuration Menu --- ----- 9 Security --- ----- 10 SNMP Configuration --- ----- 11 Configure Alarm Feed --- ----- 12 Configure Query Server --- ----- 13 Configure Query Server Alarm Feed --- ----- 14 Configure SNMP Agent Community --- ----- 15 DB Architecture Menu --- ----- e Exit \-----/ </pre> Enter Choice: e
5 ☐	Restart EPAP and Pdba services.	Please note EPAP and PDBA services will get stopped when removing the remote PDBA IP. Services can be restarted using below command. \$ systemctl start Epap \$ systemctl start Pdba

6 ☐	This procedure is complete.	This procedure is complete.
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Procedure A.30 Reset RTDB Homing Policy to remote PDBA

In case of Prov upgrade (Mixed EPAP/PDBonly) with Live provisioning, the homing of all Non-Prov sites needs to be taken care of as below:

- a. Non-Prov sites: Change the RDTB homing to “Configure Active RTDB Homing” and select the active PDBA site, if RTDB homing is anything other than active PDBA. Refer to [Procedure A.30](#).
- b. Prov Sites: On Both PDBA sites, RTDB homing policy should be set to its local PDBA. Refer to [Procedure A.44](#).

Note: Change the RTDB homing on all Non-Provs. Stop the EPAP Softwares on both EPAP A and B servers.

- c. There is no need to stop provisioning.
- d. After the RTDB Homing changes, EPAP software will be started and within a few minutes, RTDBs will catch up with the PDBA level.
- e. The only side effect of this activity is that Eagle will not get live updates for around 10 minutes. As soon as EPAP software is started after the procedure, the provisioning data will be transmitted to the Eagle immediately.

S T E P #	This procedure will reset the RDTB homing policy for the Non-Prov Nodes	
	Estimated time of completion: 5 minutes.	
	Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u>. PROCEDURE APPLICABLE TO: Non-Provisionable EPAPs	
1 ☐	MPS A: Switch to epapconfig menu	# su - epapconfig Warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.

2	Select option 8 from epapconfig menu	<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ Enter Choice: 8 </pre>
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3 ☐	Select option 2 to enter RTDB homing menu	<pre> /-----Configure PDB Menu-----\ /-----\ 1 Configure PDB Network ----- ----- 2 RTDB Homing Menu ----- ----- 3 Change Auto DB Recovery State ----- ----- e Exit \-----/ Enter Choice: 2 </pre>
4 ☐	Read the Note in the beginning of the section and decide your homing policy.	For Non-Prov Nodes: <pre> /-----RTDB Homing Menu-----\ /-----\ 1 Configure Specific RTDB Homing ----- ----- 2 Configure Active RTDB Homing ----- ----- 3 Configure Standby RTDB Homing ----- ----- e Exit \-----/ Enter Choice: 2 In the event that the Active PDB is unavailable, should updates be allowed to the RTDBs from the Standby PDBA? [Y]: N Caution: If this option is selected, the Standby PDB will not provision the RTDBs at this site in the event that the Active PDB is not available. Are you sure you want to disallow updates to the RTDBs from the Standby PDB? [N]: Y The RTDBs will home to the Active and will not allow updates from the Standby PDB. Press return to continue...^[] </pre>
5 ☐	MPS A and MPS B:	Start Epap and Pdba software to reflect the changes. Use the following command to start Epap:

	Start Epap software.	For EPAP 16.3.1/16.4.1, Execute the following command to start PDBA and EPAP Softwares: <pre>\$ service Epap start ~~ /etc/init.d/Epap start ~~ "EPAP_RELEASE" is set to "0.617" EPAP application start Successful.</pre> <pre>\$ service Pdba start ~~ /etc/init.d/Pdba start ~~ PDBA application start Successful.</pre> For EPAP 18.0, Execute the following command to start PDBA and EPAP Softwares: <pre>\$ systemctl start Epap \$ systemctl start Pdba</pre>
6 ☐	This procedure is complete.	This procedure is complete.

Procedure A.31 Change MySql engine schema

Note: This procedure should not be implemented if migrating from 17.0.0.x/18.0.0.x..

S T E P #	This procedure will Change MySql engine schema.	
	Estimated time of completion: 5 minutes. Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u>. PROCEDURE APPLICABLE TO: Standalone PDB, Mixed and Non-Provisionable EPAP	
1 ☐	Login to epap via epapdev user on server being upgraded. Note: In case of Mixed or Non-Prov EPAP execute this procedure needs to be executed on MPS A & B	# su – epapdev

2 ☐	Navigate to path /var/TKLC/epap/free	[epapdev@Manaus-a /]# cd /var/TKLC/epap/free/ [epapdev@Manaus-a free]#
3 ☐	change the EuiDB engine using alter_Table.pl script Note: Download the alter_table.pl script from OSDC to free directory on EPAP and change its permission to 755. Also change its ownership to epapdev:epap	[epapdev@Manaus-A free]\$ chown epapdev:epap alter_table.pl [epapdev@Manaus-A free]\$ chmod 755 alter_table.pl [epapdev@Manaus-A free]\$./alter_Table.pl Success.
4 ☐	Check the update by logging into EuiDB:	[epapdev@Manaus-A free]\$ mysql -uroot -p<MySQL_root_password> mysql> use EuiDB; Reading table information for completion of table and column names You can turn off this feature to get a quicker startup with -A mysql> show table status\G; ***** 1. row ***** Name: alarmInfo Engine: InnoDB Version: 10
5	This procedure is complete.	This procedure is complete.

Procedure A.32 Post upgrade EuiDB database restore

S T E P #	This procedure verifies that EuiDB is restored successfully 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>Migration ASSISTANCE</u>.
----------------------------------	---

1. ☐	Login to EPAP server via epapdev user	console login: epapdev password: <password>
2.	Change the Euidb backup file permission to 644.	[epapdev@Manaus-A ~]\$ chmod 644 npdbBackup_Manaus-A_20220718183527.sql.gz
3. ☐	Restore EuiDB Database	[epapdev@Manaus-A ~]\$ /usr/TKLC/epap/bin/restore_npdb.pl /var/TKLC/epap/free/npdbBackup_Manaus-A_20220718183527.sql.gz Restoring up the NPDB... NPDB Restored up Successfully. [epapdev@Manaus-A ~]\$
4. ☐	Update HTTP/HTTPS variable in EuiDB	Set HTTPS_ENABLED to Yes and HTTP_ENABLED to No as HTTPS is enabled after full upgrade by default. If the user wants to change the configuration, they can do it through GUI after completing the full upgrade: Run the following command: \$ uiEdit HTTPS_ENABLED Yes \$ uiEdit HTTP_ENABLED No
5. ☐	Disable Watchers, if enabled.	If watchers are enabled, disable them. Use the below command to find the user for which watchers are enabled. <pre>\$ mysql -uroot -p -e "select loginid from uiuser where debugAllowed=1" EuiDB</pre> example: <pre>\$ mysql -uroot -p -e "select loginid from uiuser where debugAllowed=1" EuiDB</pre> Enter password: <pre>+-----+ loginid +-----+ epapall uiadmin +-----+</pre> If the above output is blank, then the watcher is already disabled. The rest of the commands in this step can be skipped. Move on to the next step. If you get user/users as the output for the above command, it means that the watcher is enabled for those users. Disable the watcher for each user by using the below commands one by one. <pre>\$ setDebug <user> 0</pre> example:

		<pre>\$ setDebug epapall 0 changing debug from "1" to "0". \$ setDebug uiadmin 0 changing debug from "1" to "0".</pre> Verify if watchers are disabled. <pre>[epapdev@Cusco-a bin]\$ mysql -uroot -p -e "select loginid from uiuser where debugAllowed=1" EuiDB Enter password:</pre> There will be no users in the output now.
6. ☐	Procedure Complete	This procedure is complete.

Procedure A.33 Post upgrade PDB database restore

S T E P #	This procedure verifies that PDB is restored successfully	
	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>Migration ASSISTANCE</u>.	
1. ☐	Log in to EPAP server via root user	<pre>console login:root password: <password></pre>
2. ☐	If upgrading from EPAP 17.0.x or 17.1.x to EPAP 18.x, perform this step. Else, continue from step 3.	Perform Procedure A.52 to restore the PDB database. If Procedure A.52 is performed, this procedure (A.33) ends here.
3. ☐	Change the permission of mysqldump file to 666. Execute the command.	<pre># chmod 666 mysqldump_Recife_01133307182024.sql</pre>
4. ☐	Execute the following command to restore mysqldump.	To monitor time as well as progress while restoring the db please use the below command only. This is supported only for EPAP version 17.0.0.5.0 and beyond: <pre># pv mysqldump_backupfile.sql mysql -uroot -p <MySQL_root_password> pdb -S /var/TKLC/epap/db/pdb/mysql.sock && echo "Restore complete"</pre>

		In case you don't want to monitor the progress use the following: <pre># mysql -uroot -p<MySQL_root_password> pdb -S /var/TKLC/epap/db/pdb/mysql.sock < mysqldump_backupfile.sql &</pre> Example: <pre>[root@Recife-A free]# mysql -uroot -p <MySQL_root_password> pdb -S /var/TKLC/epap/db/pdb/mysql.sock < mysqldump_Recife_01133307182024.sql & [1] 853397</pre> To run PDB Restore_Monitor.h script, follow the below steps. This is supported till EPAP version 17.0.0.4.0. 1. Download the Restore_Monitor.zip provided with the build. 2. Copy the zip in free, unzip the folder and set the permissions. <pre>\$ cd /var/TKLC/epap/free \$ unzip Restore_Monitor.zip \$ chmod 777 Restore_Monitor.sh</pre> 3. Run the script in background mode. <pre>\$./Restore_Monitor.sh &</pre> 4. This script will log the progress in the file /var/TKLC/epap/free/Restore_Monitor.log .
5. ☐	Execute the following commands to add the lsblset parameter in dn_bl and dnB_bl tables in pdb. Note: This step is applicable only in case user is migrating from 16.3 release regardless of DB architecture	The below commands will add lsblset column in dn_bl and dnB_bl table of PDB database. <pre># mysql -u root -p pdb -S /var/TKLC/epap/db/pdb/mysql.sock -e 'ALTER TABLE dn_bl ADD lsblset int' # mysql -u root -p pdb -S /var/TKLC/epap/db/pdb/mysql.sock -e 'ALTER TABLE dnB_bl ADD lsblset int'</pre> Example: <pre>[root@Devloan01 ~]# mysql -u root -p pdb -S /var/TKLC/epap/db/pdb/mysql.sock -e 'ALTER TABLE dn_bl ADD lsblset int' Enter password: [root@Devloan01 ~]# mysql -u root -p pdb -S /var/TKLC/epap/db/pdb/mysql.sock -e 'ALTER TABLE dnB_bl ADD lsblset int' Enter password: [root@Devloan01 ~]#</pre>

Note: If one site is already upgraded to EPAP 18.0, then follow Appendix A.43 to restore the PDB.

Procedure A.34 Add Remote PDBA IP Address

S T E P #	This procedure will add remote PDBA IP address	
	Ensure the provisioning activity has been halted before proceeding!!! Estimated time of completion: 5 minutes. Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u>. PROCEDURE APPLICABLE TO: Standalone PDB and Mixed EPAP	
1 ☐	Login to epapconfig on PDB server being upgraded and select option 8	warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904. <pre> /-----EPAP 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 PDB Configuration Menu 9 Security 10 SNMP Configuration 11 Configure Alarm Feed 12 Configure Query Server 13 Configure Query Server Alarm Feed 14 Configure SNMP Agent Community 15 DB Architecture Menu e Exit \-----/ Enter Choice: 8 </pre>

2 ☐	Select option 1	<pre> /-----Configure PDB Menu-----\ /-----\ 1 Configure PDB Network --- ----- 2 Configure PDB Capacity --- ----- 3 Create PDB --- ----- 4 Change Auto DB Recovery State --- ----- e Exit \-----/ Enter Choice: 1 </pre>
3 ☐	Add the remote PDBA IP by entering <Remote PDBA IP>	<pre> MPS Side A: hostname: Salta-a hostid: 4b0a4a8d Platform Version: 6.1.4-7.8.1.0.0_89.13.0 Software Version: EPAP 170.0.1-17.0.0.0.0_170.1.0 Fri Jul 22 08:06:26 EDT 2022 /-----PDB Network Configuration Menu-----\ /-----\ 1 IPv4 Configuration --- ----- 2 IPv6 Configuration --- ----- e Exit \-----/ Enter Choice: 1 This MPS is configured to be provisionable. The EPAP local PDBA IPv4 address is currently set to 10.75.141.74 The EPAP local PDBA IPv6 address is currently set to 0000:0000:0000:0000:0000:0000:0000:0000 EPAP software and PDBA are running. Stop them? [N]: Y The EPAP local PDBA IPv4 Address is 10.75.141.74. EPAP remote PDBA IP Address [0.0.0.0]: 10.75.141.75 </pre>
	Remote PDB	Repeat all the above steps on the remote PDB.
5 ☐	This procedure is complete.	This procedure is complete.

Procedure A.35 Keys exchange between active PDB and standby PDB

STEP #	This procedure Exchange the keys between active and remote PDB.	
	Estimated time of completion: 5 minutes.	
	Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number.	
SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u> .		
PROCEDURE APPLICABLE TO: Dual Mixed or Dual PDBonly server		
1 ☐	For key exchange between Standby PDB on 18.x release and the Active pdb on release 18.x/17.0.x/17.1.x	Follow step 2 to end
2 ☐	MPS A: Login to PDB EPAP server which is newly made on release 18.x as the user “epapdev”	If not already logged-in, then login at PDB EPAP: console login: epapdev password:
3 ☐	MPS A: The EPAP Configuration Menu is displayed. Select choice 8,PDB Configure Menu.	Switch to root user., \$su – <root Password> \$su - epapconfig /----EPAP 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 PDB Configuration Menu --- ----- 9 Security --- ----- 10 SNMP Configuration --- -----

		<pre> 11 Configure Alarm Feed ---- ----- 12 Configure Query Server ---- ----- 13 Configure Query Server Alarm Feed ---- ----- 14 Configure SNMP Agent Community ---- ----- 15 DB Architecture Menu ---- ----- e Exit \-----/ Enter Choice: 8 </pre>
4 ☐	MPS A: The Configure PDB Menu is displayed. Select choice 1.	<pre> /----Configure PDB Menu-----\ /-----\ 1 Configure PDB Network ---- ----- 2 Create PDB ---- ----- 3 Change Auto DB Recovery State ---- ----- e Exit \-----/ Enter Choice: 1 </pre>
5 ☐	MPS A: The PDB Network Configuration Menu is displayed. Select choice 1. Provide remote PDBA IP address.	<pre> MPS Side A: hostname: Tacna-B-PDBOnly hostid: 4b0a218d Platform Version: 7.0.1-8.5.0.0.0_100.8.1 Software Version: EPAP 170.0.6-17.0.0.0.0_170.6.0 Mon Nov 14 18:11:45 EST 2022 /----PDB Network Configuration Menu-\ /-----\ 1 IPv4 Configuration ---- ----- 2 IPv6 Configuration ---- ----- e Exit \-----/ Enter Choice: 1 This MPS is configured to be provisionable. The EPAP local PDBA IPv4 address is currently set to 10.75.141.33 </pre>

		The EPAP local PDBA IPv6 address is currently set to 0000:0000:0000:0000:0000:0000:0000:0000 The EPAP local PDBA IPv4 Address is 10.75.141.33. EPAP remote PDBA IP Address [10.75.141.32.]: <press enter> The server does not know of 10.75.141.32 Will just exchange host keys for the name given! Password of epapdev: The server does not know of 10.75.141.32. Will just exchange host keys for the name given! ssh is working correctly. Attempting to give PDB privileges to: 10.75.141.32 PDB privileges have been set for 10.75.141.32
6 ☐	Exit from epapconfig menu	MPS Side A: hostname: Tacna-A-PDBOnly hostid: 4b0a218d Platform Version: 7.0.1-8.5.0.0.0_100.8.1 Software Version: EPAP 170.0.6-17.0.0.0.0_170.6.0 Mon Nov 14 18:12:34 EST 2022 /----PDB Network Configuration Menu-\ <pre> /-----\ 1 IPv4 Configuration --- ----- 2 IPv6 Configuration --- ----- e Exit \-----/ </pre> Enter Choice: e
7	MPS A: Login to Active PDB EPAP server which is on release 17.0.x/17.1.x/18.x as the user “epapdev”	If not already logged-in, then login at PDB EPAP: console login: epapdev password:
8	MPS A: The EPAP Configuration Menu is displayed. Select choice 8,PDB Configure Menu.	Switch to root user., \$su – <root Password> \$su - epapconfig <pre> /----EPAP Configuration Menu-----\ /-----\ 1 Display Configuration --- ----- 2 Configure Network Interfaces Menu --- ----- </pre>

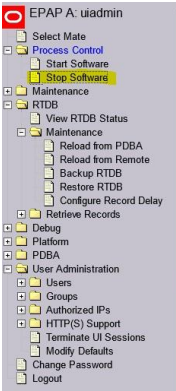
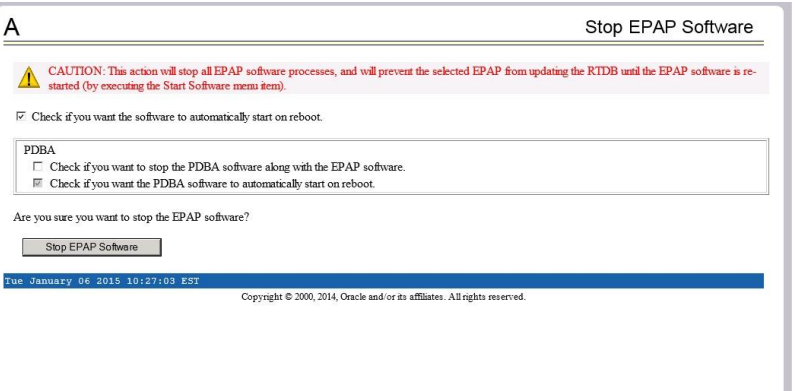
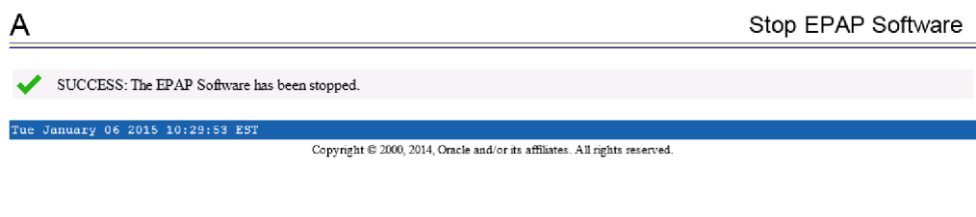
		<pre> 3 Set Time Zone --- ----- 4 Exchange Secure Shell Keys --- ----- 5 Change Password --- ----- 6 Platform Menu --- ----- 7 Configure NTP Server --- ----- 8 PDB Configuration Menu --- ----- 9 Security --- ----- 10 SNMP Configuration --- ----- 11 Configure Alarm Feed --- ----- 12 Configure Query Server --- ----- 13 Configure Query Server Alarm Feed --- ----- 14 Configure SNMP Agent Community --- ----- 15 DB Architecture Menu --- ----- e Exit \-----/ </pre> Enter Choice: 8
9	MPS A: The Configure PDB Menu is displayed. Select choice 1.	<pre> /-----Configure PDB Menu-----\ /-----\ 1 Configure PDB Network --- ----- 2 Create PDB --- ----- 3 Change Auto DB Recovery State --- ----- e Exit \-----/ </pre> Enter Choice: 1
10	MPS A: The PDB Network Configuration Menu is displayed. Select choice 1.	<pre> MPS Side A: hostname: Tacna-A-PDBonly hostid: 4b0a218d Platform Version: 7.0.1-8.5.0.0.0_100.8.1 Software Version: EPAP 170.0.6-17.0.0.0.0_170.6.0 </pre>

	Provide remote PDBA IP address.	Mon Nov 14 18:11:45 EST 2022 <pre> /-----PDB Network Configuration Menu-\ /-----\ 1 IPv4 Configuration --- ----- 2 IPv6 Configuration --- ----- e Exit \-----/ Enter Choice: 1 This MPS is configured to be provisionable. The EPAP local PDBA IPv4 address is currently set to 10.75.141.32 The EPAP local PDBA IPv6 address is currently set to 0000:0000:0000:0000:0000:0000:0000:0000 The EPAP local PDBA IPv4 Address is 10.75.141.32. EPAP remote PDBA IP Address [0.0.0.0]: 10.75.141.33 The server does not know of 10.75.141.33 Will just exchange host keys for the name given! Password of epapdev: The server does not know of 10.75.141.33. Will just exchange host keys for the name given! ssh is working correctly. Attempting to give PDB privileges to: 10.75.141.33 PDB privileges have been set for 10.75.141.33 </pre>
11	Exit from epapconfig menu	<pre> MPS Side A: hostname: Tacna-B-PDBonly hostid: 4b0a218d Platform Version: 7.0.1-8.5.0.0.0_100.8.1 Software Version: EPAP 170.0.6-17.0.0.0.0_170.6.0 Mon Nov 14 18:12:34 EST 2022 /-----PDB Network Configuration Menu-\ /-----\ 1 IPv4 Configuration --- ----- 2 IPv6 Configuration --- ----- e Exit \-----/ Enter Choice: e </pre>

12	MPS A: Start Epap and Pdba software on Active PDBA Site.	Start Epap and Pdba software to reflect the changes. For EPAP 18.0/17.0.x/17.1.x, Run the following command to start PDBA and EPAP Softwares: <pre>\$ systemctl start Epap</pre> <pre>\$ systemctl start Pdba</pre>
13 ☐	This procedure is complete.	This procedure is complete.

Procedure A.36: RTDB restore after Upgrade

S T E P #	This procedure provides instructions to restore RTDB from a backup file. 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. ☐	EPAP A: Log in to the server CLI as the user "epapdev".	<pre><hostname> console login: epapdev</pre> <pre>password: <password></pre>
	EPAP A: Switch to root user.	<pre>[epapdev@Ithaca-a ~]\$ su -</pre> <pre>Password: <password></pre>
2. ☐	EPAP A: Start EPAP Services	<pre>\$ systemctl start Epap</pre> <pre>~~ /etc/init.d/Epap start ~~</pre> "EPAP_RELEASE" is set to "0.617" EPAP application start Successful. Note: RTDB files won't exist on the EPAP server, if the EPAP services were never started before RTDB restore. This can cause the RTDB restore to fail, hence this step is needed to create RTDB files.
3. ☐	EPAP A: Log in to the web GUI as user "uiadmin".	

4. 	EPAP A: Stop Software. On the menu, click Process Control->Stop Software. Click “Stop EPAP Software” Button	  
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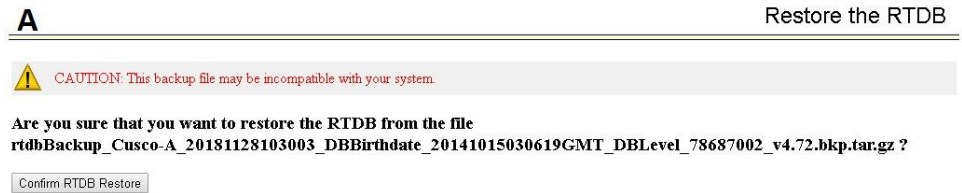
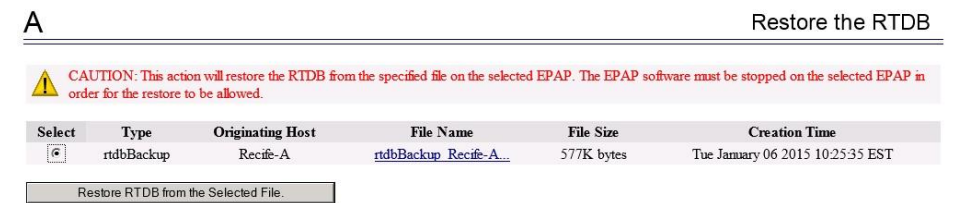
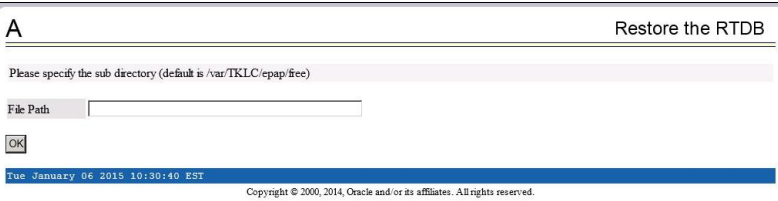
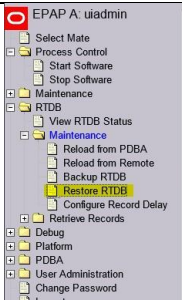
5.
☐

EPAP A: Restore RTDB.

On the menu, click
RTDB-
>Maintenance>Restore
RTDB

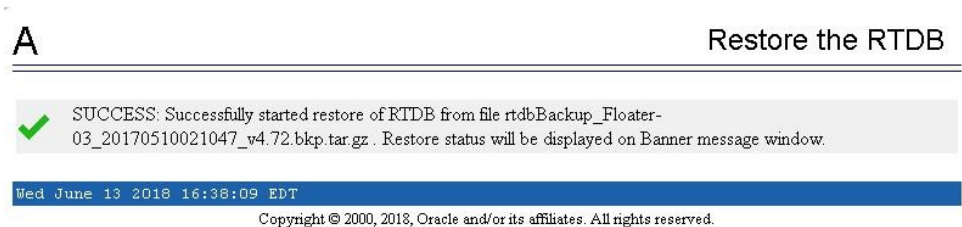
Select the backup file,
then click “Restore
RTDB from the
Selected File” Button

Click “Confirm RTDB
Restore” Button



NOTE: Caution message regarding “incompatible file” is displayed in above snapshot as the backup file is taken on RTDB version 4 and is being restored on RTDB version 5.

Restore successfully started:



6. ☐	EPAP A: Make EPAP down. An IM alarm should be observed with informational message on EPAP GUI confirming that restore RTDB is in progress. An IM alarm should be observed with informational message on EPAP GUI confirming that restore RTDB completed successfully.	Confirming that Restore RTDB in progress: A Informational Messages Informational Messages Restore RTDB in progress Wed June 13 2018 16:39:09 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.
7. ☐	Click “Confirm RTDB Restore” Button	Confirming that Restore RTDB is completed successfully: A Informational Messages Informational Messages Restore RTDB completed successfully Fri June 15 2018 00:30:27 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.

8. ☐	on EPAP GUI confirming that RTDB Conversion completed successfully.	This step is performed only to support EAGLE release 46.7.0.0.0 (On the setup where DB Architecture is eXtreme): A Informational Messages Informational Messages RTDB Conversion in progress Wed June 13 2018 16:55:42 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved. A Informational Messages Informational Messages RTDB conversion completed successfully Fri June 15 2018 00:37:57 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.
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9. ☐	Procedure complete.	Return to the procedure that you came here from.
--------------------------------	---------------------	--

Procedure A.37: Resolve the false accept upgrade alarm situation

S T E P #	This procedure is used to resolve the false accept upgrade alarm situation from the system. 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. ☐	Blankout the /etc/motd file	<code>> /etc/motd</code>
2. ☐	Add an entry "export POST_UPGRADE_ACTION=ACCEPT" in the upgrade info file.	<code>echo "export POST_UPGRADE_ACTION=ACCEPT" >> /var/TKLC/log/upgrade/upgrade.info</code>

3. ☐	Clear the false alarm "TKSPLATMI33"	You will see the following alarm in alarmStatus. a. alarmMgr --alarmStatus [One output example below:] 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 3253 2 Processing Error Configuration Error b. To clear the alarm, run the following command: alarmMgr --clear TKSPLATMI33
--------------------------------	-------------------------------------	--

Procedure A.38 Conversion from mixed EPAP to StandalonePDB+Non-Prov EPAP

Note: A new card would be needed for this conversion. The conversion can be done through various way where one of them is described below.

Assuming, there is a mixed EPAP on 16.3.1/16.4.1 release.

Execute the below mentioned steps to perform this conversion

On Mixed EPAP:

- a. Perform Full Upgrade from existing release EPAP 16.3.1 or 16.4.1 to target release of EPAP 17.0

Refer to [section 3.4.1](#), Execute Procedures 1, 2, 3, 4, 14, A.31, 15, 16.

- b. Convert Prov (mixed EPAP) to Non-Prov EPAP by fresh installing the setup as Non-Prov Node

Note: Option to convert Mixed setup to Non-Prov setup via epapconfig menu is obsolete.

Refer to [section 3.4.1](#), Execute procedure A.13, 5, 6, 7, 8, 9, 4, 20, 13, A.32, A.36, A.11, 25, 22.

On PDBonly (fresh installation on new card):

- c. Install EPAP 17.0 ISO on new card.

Refer to [section 3.3.2](#) to perform installation.

- d. Restore PDB backup

Refer to [section 3.4.4](#), Execute procedures A.33, 27.

Attach this PDBonly with Non-Prov EPAP (converted in step b) and any Non-Prov EPAP connected with Mixed setup

Procedure A.39 Take snapshot of uiEdit parameters

S T E P #	This procedure provides instructions to restore RTDB from a backup file.	
	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. ☐	EPAP A: Log in to the EPAP A server as user "root" and take a snapshot of EuiDB variables.	<pre>[root@Quito-a ~]# uiEdit "DB_ARCHITECTURE" is set to "COMPACT" "LNP_ENABLED" is set to "FALSE" "NETWORK_CONFIGURATION_TYPE" is set to "SINGLE" "EPAP_A_GS_BANNER_PORT" is set to "8473" "PDBA_STATS_ENABLED" is set to "OFF" "EPAP_DATA_SPLIT" is set to "OFF" "max_passwd_age" is set to "180" "new_user_default_groups" is set to "readonly" "max_concurrent_user_logins" is set to "1" "max_concurrent_logins" is set to "20" "PROVISIONABLE_MPS" is set to "YES" "PDBA_LOCAL_NAME_V6" is set to "0000:0000:0000:0000:0000:0000:0000:0000" "passwd_expiry_warn_days" is set to "7" "HTTP_ENABLED" is set to "No" "SNMP_ALARM_FEED" is set to "ON" "session_idle_timeout" is set to "10" "EPAP_A_STANDBY" is set to "FALSE" "EPAP_BINLOGS_THRESHOLD" is set to "80" "SLOG_CAPACITY_ALARMS_ENABLED" is set to "TRUE" "EPAP_A_NAME" is set to "Quito-a" "MAX_RECORD_DELAY" is set to "15" "PDBA_IMSI_PREFIX" is set to "" "EPAP_A_MAINT_DEBUG_LEVEL" is set to "0" "SELF_HEAL_DN_FEATURE" is set to "OFF"</pre>

	"logon_msg" is set to "NOTICE: This is a private computer system. Unauthorized access or use may lead to prosecution." "EPAP_QS_ALARMS_ENABLED" is set to "ON" "PDB_RTDB_SYNC" is set to "NO" "PROVISIONING_NETWORK_NETMASK" is set to "255.255.255.0" "EPAP_A_SLOG" is set to "YES" "PDBA_ERROR_LOG_DEBUG_LEVEL" is set to "20" "EPAP_A_SIMPLEX_MODE" is set to "FALSE" "EPAP_A_PROV_NETWORK_IP_ADDRESS" is set to "10.75.141.73" "EPAP_IP_VERSION" is set to "IPv4" "SYSTEM_NUMBER" is set to "ES06032023" "EPAP_STATUS_A" is set to "NONE" "euidb_version" is set to "3" "PDB_CAP_LIMIT_ENABLED" is set to "OFF" "EPAP_A_HTTP_PORT" is set to "80" "UI_IP_AUTHORIZATION_ENABLED" is set to "FALSE" "PDBA_MAX_COMMAND_RECORDS" is set to "1000000" "EPAP_A_SUEXEC_HTTP_PORT" is set to "8001" "apache_403_error_message" is set to "NOTICE: This workstation is not authorized to access the GUI." "min_passwd_len" is set to "8" "max_account_inactivity" is set to "0" "EAGLE_ALARM_FEED" is set to "OFF" "PDBA_GPORT_INSTALLED" is set to "FALSE" "EPAP_RELEASE" is set to "0.0.0" "PDBA_REMOTE_NAME" is set to "0.0.0.0" "PDBA_DEBUG_LOG_DEBUG_LEVEL" is set to "20" "EPAP_A_SUEXEC_HTTPS_PORT" is set to "8002" "EPAP_QS_THRESHOLD" is set to "200" "EPAP_A_HSAUDIT" is set to "ON" "EPAP_A_HTTPS_PORT" is set to "443" "PDBA_DN_PREFIX" is set to "" "EPAP_A_PROV_NETWORK_IP_ADDRESS_V6" is set to "" "PDBA_GFLEX_INSTALLED" is set to "FALSE" "PROVISIONING_NETWORK_PREFIX_V6" is set to "" "passwd_reuse_limit" is set to "5" "PDBI_PORT" is set to "5873" "apache_403_error_message_default" is set to "NOTICE: This workstation is not authorized to access the GUI." "PDBA_INP_INSTALLED" is set to "FALSE" "HTTPS_ENABLED" is set to "Yes" "PROVISIONING_NETWORK_DEFAULT_ROUTER" is set to "10.75.141.1" "RTDB_HOMING_POLICY" is set to "PDBA_LOCAL_NAME" "PDBA_MAX_COMMAND_DELAY" is set to "-1" "PDBA_LOCAL_NAME" is set to "10.75.141.73" "PDBA_COMMAND_LOG_DEBUG_LEVEL" is set to "20"
--	---

		"max_failed_logins" is set to "3" "PDB_SUB_CAPACITY" is set to "528000000" [root@Quito-a ~]#
2. ☐	Copy the uiEdit command output in notepad and save on your machine or backup server for future reference	uiEdit command output is saved for fututr reference.
3. ☐	This procedure is complete.	This procedure is complete.

Procedure A.40 Save the EPAP 18.0 additional configurations

S T E P #	This procedure provides instructions to restore RTDB from a backup file.	
	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. ☐ Login to epapconfig menu and Enter choice 7, Configure NTP Server Menu	EPAP configuration menu for PDBonly server:

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 DB Architecture Menu ----- e Exit \-----/ Enter Choice: </pre> EPAP configuration menu for Mixed EPAP:
--	--	---

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre>
2. ☐	MPS A: The EPAP Configure NTP Server Menu is displayed. Enter choice 1, Display External NTP Server and save the details for later use	<pre> /-----EPAP 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 10.75.124.247 Press return to continue... </pre>

3.	Login to EPAP GUI via uiadmin user MPS 1A: Navigate to the main Maintenance menu selection and select “Automatic PDB/RTDB Backup” and note down the configuration details	A Automatic PDB/RTDB Backup Backup Type (Select None to Cancel Backups) Local Time of the day to start the Backup 04:00 Frequency 1 Day File Path (Directory only) Select required IP version: ☒ IPv4 ☐ IPv6 Remote Machine IP Address (IPv4=xxx.yyy.zzz.zzz) (IPv6=xxxx:xxxx:xxxx:xxxx:xxxx:xxxx) Login Name Password Save the local copies in the default path ☐ Yes ☐ No Do you want to delete the old RTDB backups (Non-Provisionable only) ☒ Yes ☐ No Note: 1. If you select Yes, only the last three RTDB backup files will be retained. 2. Automatic PDB Backup will be failed,																																																
4.	Navigate to the main Maintenance menu selection and select “Configure File Transfer” and note down the configuration details	A Configure File Transfer Select required IP version: ☒ IPv4 ☐ IPv6 Remote system IP address: 10.75.141.80 Remote system user name: epapdev Remote system password: Remote system sftp location: /var/TKLC/epap/free File export to remote system: Enabled Submit data Tue March 07 2023 04:12:29 EST Copyright © 2000, 2019, Oracle and/or its affiliates. All rights reserved.																																																
5.	Navigate to the main Maintenance menu selection and select “EPAP Schedule task” and note down the configuration details	A Schedule <table><thead><tr><th colspan="6">Existing Tasks</th></tr><tr><th>Type</th><th>ID</th><th>Schedule</th><th>Action</th><th>Params</th><th>Comment</th></tr></thead><tbody><tr><td>EXAPCORE</td><td>PIC</td><td>minutely,5</td><td>/usr/TKLC/epap/bin/pdbilImportCheck</td><td></td><td></td></tr><tr><td>EXAPCORE</td><td>EFTP</td><td>minutely,5</td><td>/usr/TKLC/epap/bin/eirSftp.pl</td><td></td><td></td></tr><tr><td>EXAPCORE</td><td>PBL</td><td>minutely,10</td><td>/usr/TKLC/appl/bin/pruneBinaryLogs</td><td></td><td></td></tr><tr><td>EXAPCORE</td><td>PDSH</td><td>minutely,5</td><td>/usr/TKLC/appl/bin/pdbiSsh.pl</td><td></td><td></td></tr><tr><td>EXAPCORE</td><td>MONBAN</td><td>hourly,1,15</td><td>/usr/TKLC/appl/bin/monitorBanner.pl</td><td></td><td></td></tr><tr><td>EXAPCORE</td><td>RTDBCS</td><td>minutely,15</td><td>/usr/TKLC/appl/bin/getRTDBClientStatus.pl</td><td></td><td></td></tr></tbody></table> Scheduling Options Type: ID: Action: Params: Repeat period: ☐ Minutely ☐ Hourly ☒ Daily ☐ Weekly ☐ Monthly ☐ Yearly Every 1 day(s) at 00 : 00 Comment: Add Modify Delete	Existing Tasks						Type	ID	Schedule	Action	Params	Comment	EXAPCORE	PIC	minutely,5	/usr/TKLC/epap/bin/pdbilImportCheck			EXAPCORE	EFTP	minutely,5	/usr/TKLC/epap/bin/eirSftp.pl			EXAPCORE	PBL	minutely,10	/usr/TKLC/appl/bin/pruneBinaryLogs			EXAPCORE	PDSH	minutely,5	/usr/TKLC/appl/bin/pdbiSsh.pl			EXAPCORE	MONBAN	hourly,1,15	/usr/TKLC/appl/bin/monitorBanner.pl			EXAPCORE	RTDBCS	minutely,15	/usr/TKLC/appl/bin/getRTDBClientStatus.pl		
Existing Tasks																																																		
Type	ID	Schedule	Action	Params	Comment																																													
EXAPCORE	PIC	minutely,5	/usr/TKLC/epap/bin/pdbilImportCheck																																															
EXAPCORE	EFTP	minutely,5	/usr/TKLC/epap/bin/eirSftp.pl																																															
EXAPCORE	PBL	minutely,10	/usr/TKLC/appl/bin/pruneBinaryLogs																																															
EXAPCORE	PDSH	minutely,5	/usr/TKLC/appl/bin/pdbiSsh.pl																																															
EXAPCORE	MONBAN	hourly,1,15	/usr/TKLC/appl/bin/monitorBanner.pl																																															
EXAPCORE	RTDBCS	minutely,15	/usr/TKLC/appl/bin/getRTDBClientStatus.pl																																															

6.	Navigate to the user administration menu and select "HTTP(s) Support", click view configuration and note down the configuration details	A View HTTP(S) C HTTP Enabled: No HTTPS Enabled: Yes Tue March 07 2023 04:15:58 EST Copyright © 2000, 2019, Oracle and/or its affiliates. All rights reserved.
7. ☐	This procedure is complete.	This procedure is complete.

Procedure A.41 Reconfigure Additional EPAP configurations

S T E P #	This procedure provides instructions to restore RTDB from a backup file.	
	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. ☐	Login to epapconfig menu and Enter choice 7, Configure NTP Server Menu	EPAP configuration menu for PDBonly server:

	<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure Query Server ----- 13 Configure Query Server Alarm Feed ----- 14 Configure SNMP Agent Community ----- 15 DB Architecture Menu ----- e Exit \-----/ Enter Choice: </pre> EPAP configuration menu for Mixed EPAP:
--	---

		<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre>
2. ☐	MPS A: The EPAP Configure NTP Server Menu is displayed. Enter choice 2, Add External NTP Server Refer to Procedure A.40 step 2 for NTP configuration before Migration	<pre> /-----Add External NTP Server Menu- \ /-----\ 1 IPv4 Configuration ----- 2 IPv6 Configuration ----- e Exit \-----/ </pre> Enter Choice: 1 Are you sure you wish to add new NTP Server? [N]: Y NTP Server IP Address: 10.75.124.247

3.	Login to EPAP GUI via uiadmin user MPS 1A: Navigate to the main Maintenance menu selection and select “Automatic PDB/RTDB Backup” and configure the Automatic PDB-RTDB backup Refer to Procedure A.40 step 3 for backup configuration before Migration	A Automatic PDB/RTDB Backup Backup Type (Select None to Cancel Backups) Local Time of the day to start the Backup 04:00 Frequency 1 Day File Path (Directory only) Select required IP version: ☒ IPv4 ☐ IPv6 Remote Machine IP Address (IPv4=xxx.yyy.zzz) (IPv6=xxxx:xxxx:xxxx:xxxx:xxxx:xxxx) Login Name Password Save the local copies in the default path ☐ Yes ☐ No Do you want to delete the old RTDB backups (Non-Provisionable only) ☒ Yes ☐ No Note: 1. If you select Yes, only the last three RTDB backup files will be retained. 2. Automatic PDB Backup will be failed,
4.	☐ Navigate to the main Maintenance menu selection and configure “Configure File Transfer” Refer to Procedure A.40 step 4 for CFT before Migration	A Configure File Transfer Select required IP version: ☒ IPv4 ☐ IPv6 Remote system IP address: 10.75.141.80 Remote system user name: epapdev Remote system password: Remote system sftp location: /var/TKLC/epap/free File export to remote system: Enabled Submit data Tue March 07 2023 04:12:29 EST Copyright © 2000, 2019, Oracle and/or its affiliates. All rights reserved.

5.

Navigate to the main Maintenance menu selection and select “EPAP Schedule task” and note down the configuration details

Refer to [Procedure A.40](#) step 5 for Shchedule EPAP task before Migration

A

Schedule EPAP Ta

Existing Tasks					
Type	ID	Schedule	Action	Params	Comment
EXAPCORE	PIC	minutely,5	/usr/TKLC/epap/bin/pdbilmporCheck		
EXAPCORE	EFTP	minutely,5	/usr/TKLC/epap/bin/eirSftp.pl		
EXAPCORE	PBL	minutely,10	/usr/TKLC/appl/bin/pruneBinaryLogs		
EXAPCORE	PDSH	minutely,5	/usr/TKLC/appl/bin/pdbiSsh.pl		
EXAPCORE	MONBAN	hourly,1,15	/usr/TKLC/appl/bin/monitorBanner.pl		
EXAPCORE	RTDBCS	minutely,15	/usr/TKLC/appl/bin/getRTDBClientStatus.pl		

Scheduling Options

Type:

ID:

Action:

Params:

Repeat period:

Minutely

Hourly

Daily

Weekly

Monthly

Yearly

Every 1 day(s) at 00 : 00

Comment:

Add

Modify

Delete

6

Refer to [Procedure A.40](#) step 6 for HTTP/HTTPS configuration, If http was enabled before the Migration then execute this step else skip this step

Navigate to the user administration menu and select “HTTP(s) Support”, click Change configuration, disable, and enable the configuration.

A

Change HTTP(S) Configuration

HTTP Enabled:

HTTPS Enabled:

Submit Changes

Tue March 07 2023 05:57:50 EST

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A

Change HTTP(S) Configuration

SUCCESS: HTTP/HTTPS configuration changed successfully.

Tue March 07 2023 05:59:09 EST

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A

Change HTTP(S) Configuration

HTTP Enabled:

HTTPS Enabled:

Submit Changes

Tue March 07 2023 06:00:51 EST

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		A Change HTTP(S) Configuration ✓ SUCCESS: HTTP/HTTPS configuration changed successfully. Tue March 07 2023 05:59:09 EST Copyright © 2000, 2019, Oracle and/or its affiliates. All rights reserved.
7.	☐ This procedure is complete.	This procedure is complete.

Procedure A.42 Compare EuiDB parameters

S T E P #	This procedure provides instructions to restore RTDB from a backup file. 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.	☐ Compare the EuiDB parameters before and after Migration	Update the parameters missing after migration using the following command: <pre>[root@Quito-a ~]# uiEdit <uiEdit Paramter> <Paramter Value></pre> WHERE, Paramter valus can be as follows or as per the value set before Migration: "ON/OFF" "YES/NO" "True/False" "IP"
2.	☐ This procedure is complete.	This procedure is complete.

Procedure A.43 PDB Restore

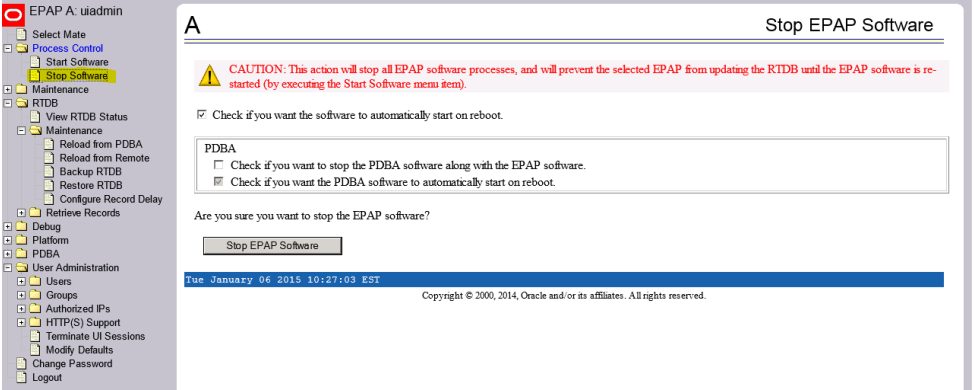
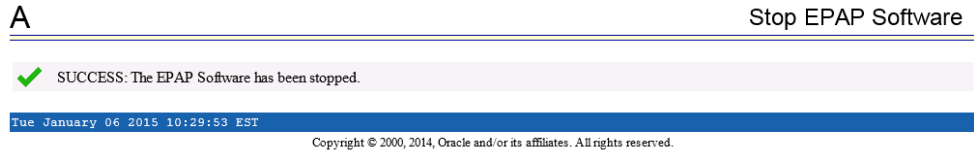
Appendix A.43 PDB Restore

S T E P #	This procedure provides instructions to restore PDB from a backup file. 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.	MPS X: Log in to the CLI as user "admusr".	If not already logged in, then login as 'admusr': [hostname] consolelogin: admusr password: password
2.	MPS X: Switch to epapdev user.	\$ sudo su - epapdev
3.	MPS X: Backup file should be readable for epapdev user	Check mode and ownership of PDB backup tar file. It should be as follows:

Appendix A.43 PDB Restore

		<pre>[epapdev@DBExp-VM77 free]\$ ll pdbBackup_Natal- a_20180713022216_DBBirthdate_20180713055242GMT_DBLLevel_18_v7.50.bk p.tar.gz -rw-rw-rw- 1 epapdev epap 1182165 Jul 16 03:32 pdbBackup_Natal- a_20180713022216_DBBirthdate_20180713055242GMT_DBLLevel_18_v7.50.bk p.tar.gz</pre> If permission and ownership of tar file is not same as above then use following command: Change mode of tar file: \$ chmod 666 <PDB backup tar file>
4.	Check following uiEdit variable: <pre>[root@Salta-A ~]# uiEdit grep PDBA_REMOTE_N AME "PDBA_REMOTE_ NAME" is set to "10.75.141.75"</pre> If Remote IP is assigned, then change it to 0.0.0.0 using the following command: <pre>[root@Salta-A ~]# uiEdit PDBA_REMOTE_N AME 0.0.0.0 "PDBA_REMOTE_ NAME" is set to "0.0.0.0"</pre> Again check the uiEdit variable value: <pre>[root@Salta-A ~]# uiEdit grep PDBA_REMOTE_N AME "PDBA_REMOTE_ NAME" is set to "0.0.0.0"</pre> Note: This procedure is valid in case of	<pre>[root@Salta-A ~]# uiEdit grep PDBA_REMOTE_NAME "PDBA_REMOTE_NAME" is set to "10.75.141.75"</pre> [root@Salta-A ~]# uiEdit PDBA_REMOTE_NAME 0.0.0.0 "PDBA_REMOTE_NAME" is set to "0.0.0.0" <pre>[root@Salta-A ~]# uiEdit grep PDBA_REMOTE_NAME "PDBA_REMOTE_NAME" is set to "0.0.0.0"</pre>

Appendix A.43 PDB Restore

	restoring PDBA on second PDAB node being migrated	
5. ☐	MPS X: Log in to the web GUI as user “uiadmin”.	User name: <i>uiadmin</i> Password:
6. ☐	MPS X: Stop Software. On the menu, click Process Control->Stop Software. Click “Stop EPAP Software” Button	 

Appendix A.43 PDB Restore

7.
☐

MPS X:Restore PDB.

On the menu, click PDBA->Maintenance->Backup->Restore the PDB

Select the backup file, then click “Restore PDB from the Selected File” Button

Click “Confirm PDB Restore” Button

EPAP A: uiadmin

Process Control

Maintenance

Debug

Platform

PDBA

Select Other PDBA

Switchover PDBA State

Process Control

View PDBA Status

Manage Data

Authorized IP List

DSM Info

Maintenance

Backup

List Backups

Backup the PDB

Restore the PDB

Import File to PDB

Export PDB to File

Transaction Log Params

Number Prefixes

Logs

Schedule Export

Configure PDBA Record

View License Capacity

List PDBI Connections

PDBI Statistics Report

User Administration

Change Password

Logout

A

Restore the PDB

Please specify the sub directory (default is /var/TKLC/epap/free)

File Path

OK

Mon July 16 2018 03:26:01 EDT

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A

Restore the PDB

CAUTION: Restoring the PDB will prevent the PDBA from receiving update and query requests until the restore is complete.

Select	Type	Originating Host	File Name	File Size	Creation Time
☐	pdbBackup	Natal-a	pdbBackup_Natal-a...	1.2M bytes	Fri July 13 2018 02:22:16 EDT

Restore PDB from the Selected File.

A

Restore the PDB

Are you sure that you want to restore the PDB from the file
pdbBackup_Natal-a_20180713022216_DBBirthdate_20180713055242GMT_DBLLevel_18_v7.50.bkp.tar.gz ?

Confirm PDB Restore

Restore successfully started:

A

Restore the PDB

SUCCESS: Successfully started restore of PDB from /var/TKLC/appl/free/pdbBackup_Natal-a_20180713022216_DBBirthdate_20180713055242GMT_DBLLevel_18_v7.50.bkp.tar.gz. Restore status will be displayed on Banner message window.

Upgrade/Installation Guide

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July 2026

Appendix A.43 PDB Restore

8. ☐	MPS X: An IM alarm should be observed with informational message on EPAP GUI confirming that restore PDB is in progress. An IM alarm should be observed with informational message on EPAP GUI confirming that restore PDB completed successfully.	Confirming that Restore PDB in progress: Informational Messages Informational Messages Restore PDB in progress Tue July 17 2018 02:31:52 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved. Confirming that Restore PDB is completed successfully: Informational Messages Informational Messages Restore PDB completed successfully Tue July 17 2018 02:38:51 EDT Copyright © 2000, 2018, Oracle and/or its affiliates. All rights reserved.
9. ☐	Procedure complete.	Return to the procedure that you came here from.
10.	Re-Assign the remote PDBA name using the following command: <pre>[root@Salta-A ~]# uiEdit grep PDBA_REMOTE_NAME</pre>	<pre>[root@Salta-A ~]# uiEdit PDBA_REMOTE_NAME 10.75.141.75 "PDBA_REMOTE_NAME" is set to "10.75.141.75" [root@Salta-A ~]# uiEdit grep PDBA_REMOTE_NAME "PDBA_REMOTE_NAME" is set to "10.75.141.75" [root@Salta-A ~]#</pre>

Appendix A.43 PDB Restore

	"PDBA_REMOTE_NAME" is set to "10.75.141.75" Again grep the uiEdit variable name using the following command: <pre>[root@Salta-A ~]# uiEdit grep PDBA_REMOTE_NAME</pre>	
11.	Move the pdba binary file on Mixed and PDBonly server. Note: This step is valid in case only when user is performing migration.	<pre>[root@Quito-a bin]# mv pdba pdba_stopped [root@Quito-a bin]#</pre>
12. ☐	MPS X: Verify that PDB_RTDB_SYNC is set to "YES"	Run the below command to verify that PDB_RTDB_SYNC is set to YES. <pre>\$ uiEdit grep -i PDB_RTDB_SYNC "PDB_RTDB_SYNC" is set to "YES"</pre> If "PDB_RTDB_SYNC" is set to "NO" in the above output, please set the uiEdit variable to "YES" using below command. <pre>\$ uiEdit "PDB_RTDB_SYNC" "YES" "PDB_RTDB_SYNC" is set to "YES"</pre>
13. ☐	Note down the timestamp in log.	Run the following command: <pre>\$ date</pre>

Procedure A.44 RTDB Homing Policy to self PDBA

S T E	This procedure will reset the RDTB homing policy for the Non-Prov Nodes
-------------	---

P #	Estimated time of completion: 5 minutes. Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u>. PROCEDURE APPLICABLE TO: Non-Provisionable EPAPs	
1.	<u>MPS</u> A: Login prompt is displayed.	<hostname> console login: Note : Press enter if no login prompt is displayed.
2.	<u>MPS A: Log</u> <u>in</u> <u>as “root”</u> <u>user.</u>	[hostname] console login: root password: password
3 ☐	MPS A: Switch to epapconfig menu	# su - epapconfig Warning: Smartmatch is experimental at /usr/TKLC/plat/lib/Security/User.pm line 904.

4 ☐	Select option 8 from epapconfig menu	<pre> /-----EPAP 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 PDB Configuration Menu ----- 9 Security ----- 10 SNMP Configuration ----- 11 Configure Alarm Feed ----- 12 Configure SNMP Agent Community ----- 13 Mate Disaster Recovery ----- 14 DB Architecture Menu ----- e Exit \-----/ </pre> Enter Choice: 8
5 ☐	Select option 2 to enter RTDB homing menu	<pre> /-----Configure PDB Menu-----\ /-----\ 1 Configure PDB Network ----- 2 RTDB Homing Menu ----- 3 Change Auto DB Recovery State ----- e Exit \-----/ </pre> Enter Choice: 2
6 ☐	Read the Note in the beginning of the	For Mixed EPAP : <pre> /-----RTDB Homing Menu-----\ /-----\ </pre>

	section and decide your homing policy. <pre> 1 Configure Specific RTDB Homing --- ----- 2 Configure Active RTDB Homing --- ----- 3 Configure Standby RTDB Homing --- ----- e Exit \-----/ Enter Choice: 1 EPAP software and PDBA are running. Stop them? [N]: Y EPAP software is running on mate MPS. Stop it? [N]: Y There are two configured PDBs for this MPS: 1. 10.75.141.101 (local) 2. 10.75.141.32 Select the preferred PDB from which to receive updates [1]: 1 The RTDB Homing policy is set to 'specific' and will prefer updates from 10.75.141.101 Press return to continue... </pre>
7 ☐	MPS A and MPS B: Start Epap software. Start Epap and Pdba software to reflect the changes. Use the following command to start Epap: For EPAP 16.3.1/16.4.1, Execute the following command to start PDBA and EPAP Softwares: <pre> \$ service Epap Start ~~ /etc/init.d/Epap start ~~ "EPAP_RELEASE" is set to "0.617" EPAP application start Successful. \$ service Pdba start ~~ /etc/init.d/Pdba start ~~ PDBA application start Successful. For EPAP 17.0, Execute the following command to start PDBA and EPAP Softwares: \$ systemctl start Epap \$ systemctl start Pdba </pre>
8 ☐	This procedure is complete. This procedure is complete.

Procedure A.45 Backout of MPS A and MPS B in Mixed and Non-Prov

S T E P #	This procedure will backout the MPS A and MPS B in Mixed and Non-Prov Site	
	Estimated time of completion: 900 minutes.	
	Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u>. PROCEDURE APPLICABLE TO: Non-Provisionable EPAPs	
1 ☐	Re-Install the Mixed or Non-Prov Node on EPAP 16.3.1/16.4.1	Refer to EPAP 16.3.1/16.4.1 Install/Upgrade document
2 ☐	Restore the EuiDB, RTDB on Non-Prov EPAPs from the backup taken before performing migration on Non-Prov Nodes	Refer to Section 3.4.2 , step 6
3 ☐	Restore the EuiDB and PDB on Mixed EPAPs	For EPAP 16.3.1/16.4.1 Backup files: Refer to section 3.4.1, step 6 in case of Single Mixed or section 3.4.3, step 6 in case of Dual Mixed To Restore EPAP 16.3.1/16.4.1 Backup files: Refer to Procedure A.32 for EuiDB Restore and Procedure A. 10 for RTDB Restore.
4 ☐	This procedure is complete.	This procedure is complete.

Procedure A.46 Backout of PDBonly site

S T E	This procedure will backout the PDBonly site

P #	Estimated time of completion: 5 minutes. Check off (☐) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR <u>MIGRATION ASSISTANCE</u> . PROCEDURE APPLICABLE TO: Non-Provisionable EPAPs	
1 ☐	Re-Install the PDBonly site on 16.3.1/16.4.1	Refer to EPAP 16.3.1/16.4.1 Install/Upgrade document
2 ☐	Restore the EuiDB, PDB on PDBonly site from the backup taken before performing migration on Non-Prov Nodes	Refer to Section 3.4.4 step 6 in case of standalone PDB site or section 3.4.5 step 6 in case of dual PDBonly sites.
3 ☐	Restore the EuiDB and PDB on PDBonly site	For EPAP 16.3.1/16.4.1 Backup files : Refer to Section 3.4.4 step 6 in case of Single Mixed or section 3.4.3 step 6 in case of Dual Mixed To Restore EPAP 16.3.1/16.4.1 Backup files : Refer Procedure A.32 for EuiDB Restore and Procedure A.43 for PDB Restore.
4 ☐	This procedure is complete.	This procedure is complete.

Procedure A.47 Configure PDB Capacity

Note: Customers may follow it if they need to configure or update capacity at this stage.

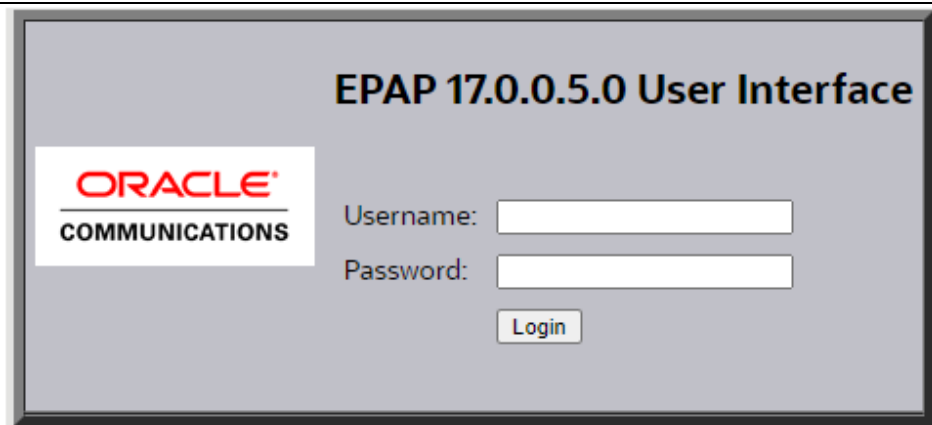
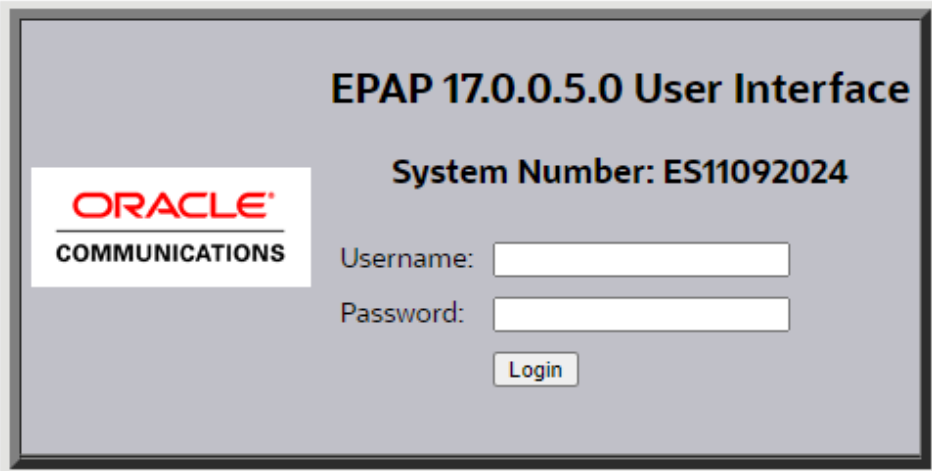
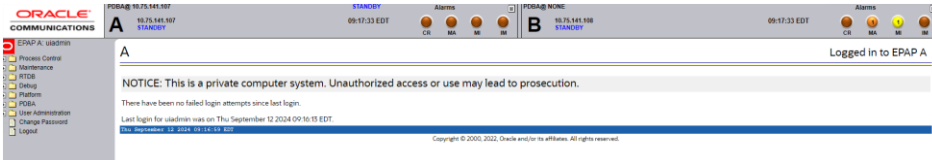
Procedure A.47: Configure PDB capacity

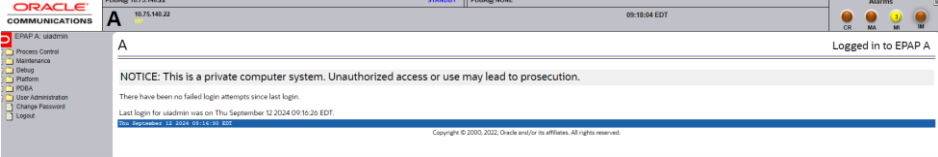
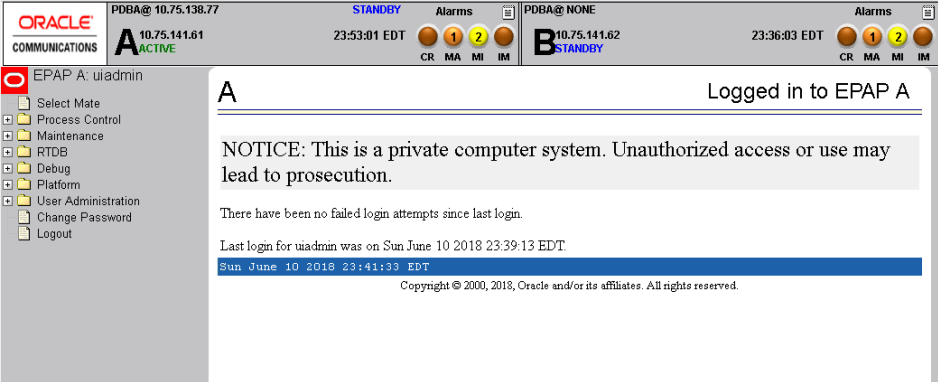
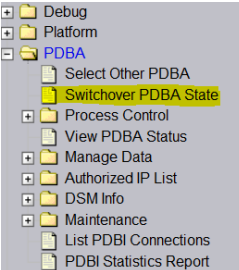
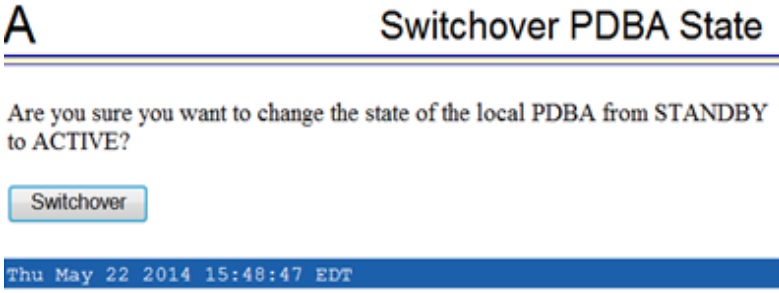
S. No	Steps	This procedure configures the PDB capacity for PDBonly server in extreme architecture installed with EPAP 18.0 release.
-------	-------	---

		Check off (✓) each step as it is completed. Boxes have been provided for this purpose beside each step number. If this procedure fails, contact My Oracle Support and ask for ASSISTANCE.
1 ☐	Supported DB Capacity in EPAP 17.1	510M DN's are supported for extreme Architecture Only. These capacities will be configured on PDBOnly server. With EPAP 18.0 the supported DB combinations for extreme architecture are given below: 1. 510M DN/IMSI/IMEI for SLIC with Data Split OFF 2. 900M (420M DN + 480M IMSI/IMEI) for SLIC with Data Split ON 3. 1110M (510M DN + 600M IMSI/IMEI) for SLIC with Data Split ON
2 ☐	MPS A: Configure PDB capacity	Please configure the PDB capacity following the EPAP 17.1 Administration guide. Oracle Communications EAGLE Application Processor Administration Guide, Release 17.1 Section 6.6 Standalone PDB Capacity Configuration (Page 6-35)
3 ☐	Procedure is complete.	Procedure is complete.

Procedure A.48 Switchover PDBA state

S T E P #	This procedure provisions 1 NE and 1 DN from GUI on Active Site. 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. ☐	Access the EPAP GUI by opening a web browser (Preferably Microsoft Edge) via HTTPS and providing the IP address of Server A.	The GUI screen on Mixed EPAP appears.

	The EPAP LOGIN screen should appearappears.	 The GUI screen on standalone PDB appears. 
2. □	LoginLog in as uiadmin.	The GUI screen on Mixed EPAP appears.  The GUI screen on Standalone PDB appears.

		 The GUI screen on Non-Prov EPAP appears. 
3. ☐	On the Site designated by the customer Active PDB GUI, select “Switchover PDBA State” to make the PDBA Active. 	The following screen appears. 
4. ☐	Click on the “Switchover” button.	The following screen appears. 

5. ☐	PDBA should becomebe ACTIVE.	The following screen appears. 

Procedure A.49 Dual Image Upgrade Known Issues Fix

1. Title: Stuck in the boot menu with multiple boot options.

Fix: If you are stuck in the boot menu while rebooting during Apply Upgrade, select the default option. An example of the default option to be selected is given below:

```

Oracle Linux Server 8 (5.15.0-209.161.7.el8uek.x86_64)
Oracle Linux Server (4.18.0-553.16.1.el8_10.x86_64) 8.10
Oracle Linux Server 8 (0-rescue-c651157eee214c9dbded006a90a81656)

Use the ^ and v keys to change the selection.
Press 'e' to edit the selected item, or 'c' for a command prompt.

```

If you are stuck in the boot menu while rejecting the upgrade, please select the “split-mirror-backout” option. An Example is given below:

```

Oracle Linux Server (4.18.0-477.21.1.el8_8.x86_64) 8.8
split-mirror-backout

```

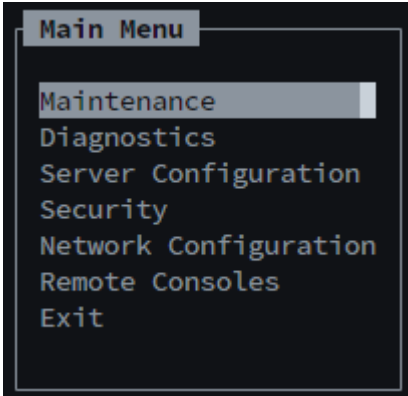
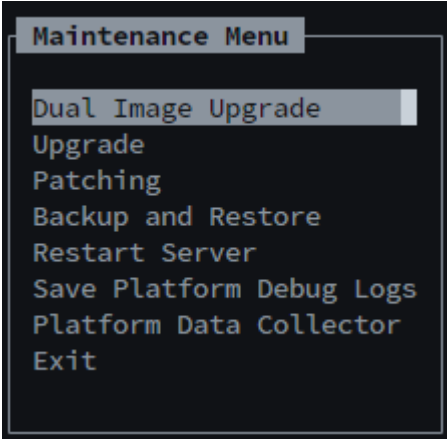
2. Core Files Alarm on the upgraded setup

Fix: It is a known alarm that originates in case of Dual Image Upgrade. To get rid of this alarm, run these commands on the setup that is having those alarms:

```
[root@Osorna-A ~]# rm -rf /var/TKLC/core/*
```

Procedure A.50 Accept/Reject the Dual Image Upgrade

S. No.	Steps	This procedure performs Accept/Reject the Dual Image Upgrade.
--------	-------	---

		Check off (✓) each step as it is completed. Boxes have been provided for this purpose beside each step number. If this procedure fails, contact My Oracle Support and ask for ASSISTANCE.
1	MPS X: Accept/Reject the DIU upgrade	Follow the below steps to Accept/Reject the DIU upgrade. Log in to the setup with the root user. - Run the following command: <pre>[root@Floater04 ~]# su - platcfg</pre> - Select the Maintenance option and press [ENTER].  The screenshot shows a terminal window titled 'Main Menu'. The menu options are: Maintenance, Diagnostics, Server Configuration, Security, Network Configuration, Remote Consoles, and Exit. The 'Maintenance' option is highlighted with a grey bar. - From the maintenance menu, select the Dual Image Upgrade option and press [ENTER].  The screenshot shows a terminal window titled 'Maintenance Menu'. The menu options are: Dual Image Upgrade, Upgrade, Patching, Backup and Restore, Restart Server, Save Platform Debug Logs, Platform Data Collector, and Exit. The 'Dual Image Upgrade' option is highlighted with a grey bar. - From the dual image upgrade menu, select the Accept or Reject option and press Enter.

		Dual Image Upgrade Menu - Validate Media - Early Upgrade Checks - Initiate Background Upgrade - Copy USB Upgrade Image - Accept Upgrade - Reject Upgrade - Exit a. The following logs will appear on the screen (in case of Accept). <pre>/var/TKLC/backout/biosboot.gz /mnt/upgrade/images/plat_usr.tar.gz /mnt/upgrade/images/plat_var.tar.gz /mnt/upgrade/images/plat_var_tklc.tar.gz Performing image post-accept Running postAccept() for DIUpgrade::Policy::P20TPD upgrade policy... Running postAccept() for DIUpgrade::Policy::P31EPAPssl upgrade policy... Running postAccept() for DIUpgrade::Policy::P32EPAPSyscheck upgrade policy... Running postAccept() for DIUpgrade::Policy::P33EPAPMycnf upgrade policy... Creating alarm script: /tmp/xtVsQSxvFJ Re-adding secondary drive to the raid mirror. Re-added secondary drive to the raid mirror. ##### # ACCEPT COMPLETE # ##### Check is rebootcheck is enabled ... Disabling service rebootcheck... Transitioning from 'Accepting Upgrade' to 'No Upgrade Available' Cleaning backout directory. PRESS ANY KEY TO RETURN TO THE PLATCFG MENU.</pre> Message The accept has completed. Press any key to continue...
--	--	--

b. The following logs will appear on the screen (in case of Reject)

```

96:58:15 Running pre-installation scripts
1770619815:: #####

1770619815:: Creating temporary mount points!

1770619815:: #####

17706

19815:: #####

1770619815:: Activating volume groups!

1770619815:: #####

13 logical volu

me(s) in volume group "vgroot" now active

1770619815:: #####

1770619815: Mounting vgroot-plat_var_tklc

1770619815:: ##

#####

[anaconda]l:~$min* 2:shell 3:1770619815:: #####

#####

1770619815:: upgrade_info.yml found on primary mount, proceeding.

1770619815:: #####

1770619815:: Unmount

ting vgroot-plat_var_tklc

1770619815:: #####

1770619815: De-Activating vo

lume groups!

1770619815:: #####

0 logical volume(s) in volume group "vgroot" now active

1770619815:: #####

1770619815: Stopping raid devices

1770619815:: #####

1770619815: stopping /dev/md1

mdadm: stopped /dev/md

[ 82.220446] bash[7059]: [Mon Feb 09 02:22:29.969650 2026] [so:warn] [pid 7059] AH01574: module ssl_module is already loaded, skipping
[ 82.224086] bash[7059]: [Mon Feb 09 02:22:29.963696 2026] [so:warn] [pid 7059] AH01574: module security2_module is already loaded, skipping
[ 82.233382] bash[7059]: [Mon Feb 09 02:22:29.966645 2026] [so:warn] [pid 7059] AH01574: module headers_module is already loaded, skipping
[ 82.233235] bash[7059]: [Mon Feb 09 02:22:29.966687 2026] [so:warn] [pid 7059] AH01574: module rewrite_module is already loaded, skipping
[ 82.233323] bash[7059]: [Mon Feb 09 02:22:29.972311 2026] [core:warn] [pid 7059] AH00117: Ignoring deprecated use of DefaultType in line 459 of
/etc/httpd/conf/httpd.conf.
[ 82.233403] bash[7059]: [Mon Feb 09 02:22:29.972338 2026] [alias:warn] [pid 7059] AH00671: The Alias directive in /etc/httpd/conf/httpd.conf at
line 557 will probably never match because it overlaps an earlier Alias.
[ 82.436372] bash[7078]: [Mon Feb 09 02:22:30.176286 2026] [so:warn] [pid 7078] AH01574: module cgi_module is already loaded, skipping
[ 82.436908] bash[7078]: [Mon Feb 09 02:22:30.177039 2026] [so:warn] [pid 7078] AH01574: module ssl_module is already loaded, skipping
[ 82.439967] bash[7078]: [Mon Feb 09 02:22:30.180307 2026] [so:warn] [pid 7078] AH01574: module security2_module is already loaded, skipping
[ 82.440845] bash[7078]: [Mon Feb 09 02:22:30.183007 2026] [so:warn] [pid 7078] AH01574: module headers_module is already loaded, skipping
[ 82.443138] bash[7078]: [Mon Feb 09 02:22:30.183048 2026] [so:warn] [pid 7078] AH01574: module rewrite_module is already loaded, skipping
[ 82.448443] bash[7078]: [Mon Feb 09 02:22:30.188771 2026] [core:warn] [pid 7078] AH00117: Ignoring deprecated use of DefaultType in line 459 of
/etc/httpd/conf/httpd.conf.
[ 82.448566] bash[7078]: [Mon Feb 09 02:22:30.188801 2026] [alias:warn] [pid 7078] AH00671: The Alias directive in /etc/httpd/conf/httpd.conf at
line 557 will probably never match because it overlaps an earlier Alias.
[ 82.857679] TKLCWatchdog[6977]: Starting TKLCWatchdog;
[ 82.858208] TKLCWatchdog[7041]: Daemon is not running...
[ 82.955959] TKLCWatchdog[7038]: AlarmMgr daemon is not running, delaying by 1 minute
[ 83.307634] TKLCWatchdog[7198]: Filesystem monitoring is not enabled.
[ 83.373614] TKLCWatchdog[6977]: [ OK ]
[ 84.207196] TKLCDiskcheck[7278]: Verifying disk configuration for S.M.A.R.T.: [ OK ]
[ 85.131149] bash[7578]: RequestReadTimeout
[ 85.352982] bash[7615]: LimitRequestLine
[ 85.459245] bash[7635]: LimitRequestFields
[ 85.586425] bash[7659]: LimitRequestFieldSize
[ 85.694159] bash[7679]: LimitRequestBody
[ 86.088288] TKLCeSappx[7476]: Starting TKLCeSappx: [ OK ]
[ 89.521781] TKLCethcf[7738]: Checking network config files:
[ 90.265449] TPD-PDC[7972]: Daemon is not running...
[ 90.348356] TPD-PDC[7966]: AlarmMgr daemon is not running, delaying by 1 minute
[ 100.174538] completeTasks[8037]: completeTasks started: Mon Feb 9 02:22:47 2026
[ 100.174766] completeTasks[8037]: LOG FILE: /var/TKLCLog/TKLWMr/completeTasks.log

```

NOTE: In case of rejecting DIU upgrade, if the reject DIU upgrade gets stuck in between, try reseating the card. It has been observed that after reseating the card DIU upgrade reject proceeds further successfully. Please note that this is just a workaround which might not work if the

		issue is different. Contact MyOracle support in case the issue is not resolved.
2 ☐	MPS X: Follow this step only if rejecting DIU upgrade	After the DIU upgrade is rejected, follow below steps to unmask and restart services. <u>For Mixed EPAP, run below commands</u> These commands will be executed on both MPS-A and MPS-B after rejecting DIU upgrade. <pre>[root@Osorna-B ~]# systemctl unmask Epap Pdba mysqld@app mysqld@pdb crond runGsConn</pre> <pre>[root@Osorna-B ~]# systemctl restart mysqld@pdb mysqld@app Epap Pdba crond runGsConn</pre> <pre>[root@Osorna-B ~]# systemctl status mysqld@pdb mysqld@app Epap Pdba crond runGsConn</pre> Check if, PDBA Proxy feature is enabled on Mixed EPAP: <pre>[root@Manaus-b epapall]# uiEdit grep PDBA_PROXY_ENABLED</pre> "PDBA_PROXY_ENABLED" is set to "YES" If the PDBA_PROXY_ENABLED is set to YES, then run the below commands else skip running below commands on Mixed EPAP: <pre>[root@Osorna-B ~]# systemctl unmask TKLCha TKLCharsync</pre> <pre>[root@Osorna-B ~]# systemctl restart TKLCha TKLCharsync</pre> <pre>[root@Osorna-B ~]# systemctl status TKLCha TKLCharsync</pre> <u>For Non-Prov EPAP, run below commands</u> These commands will be executed on both MPS-A and MPS-B after rejecting DIU upgrade. <pre>[root@Osorna-B ~]# systemctl unmask Epap mysqld@app crond</pre> <pre>[root@Osorna-B ~]# systemctl restart mysqld@app Epap crond</pre> <pre>[root@Osorna-B ~]# systemctl status mysqld@app Epap crond</pre> <u>For PDBonly EPAP, run below commands</u> <pre>[root@Osorna-A ~]# systemctl unmask Pdba mysqld@pdb</pre> <pre>[root@Osorna-A ~]# systemctl restart Pdba mysqld@pdb</pre> <pre>[root@Osorna-A ~]# systemctl status Pdba mysqld@pdb</pre>
3 ☐	This procedure is complete.	This procedure is complete.

Procedure A.51 MySQL RPM Upgrade Procedure

Note:

- 1) This procedure is only applicable if upgrading from EPAP 17.0.0.x/17.1.x to 18.x via migration.
- 2) The EPAP GUI will not be accessible after this procedure.

S. No.	Steps	This procedure performs MySQL RPM Upgrade on the server. Check off (✓) each step as it is completed. Boxes have been provided for this purpose beside each step number. If this procedure fails, contact My Oracle Support and ask for ASSISTANCE.
1	MPS X: Login prompt is displayed.	<hostname> console login: Note: Press enter if no login prompt is displayed.
2	MPS X: Log in as epapdev user and switch to root user.	[hostname] consolelogin: epapdev password: password epapdev@lthaca-a ~]\$ su - Password:password
3	MPS X: Copy Mysql 8.4.9 RPMS from mysql_rpms directory of Mysql_Upgrade_Rpms_8.4.9.zip into free directory via epapdev user	After copying mysql rpms run below command to check if they are present in free directory. [root@Salta-a ~]# ll /var/TKLC/epap/free -rwxr-x--- 1 epapdev epap 4126228 May 6 02:47 mysql-commercial-backup-8.4.9-1.1.el8.x86_64.rpm -rwxr-x--- 1 epapdev epap 13426684 May 6 02:47 mysql-commercial-client-8.4.9-1.1.el8.x86_64.rpm -rwxr-x--- 1 epapdev epap 4180992 May 6 02:47 mysql-commercial-client-plugins-8.4.9-1.1.el8.x86_64.rpm -rwxr-x--- 1 epapdev epap 713140 May 6 02:47 mysql-commercial-common-8.4.9-1.1.el8.x86_64.rpm -rwxr-x--- 1 epapdev epap 23173472 May 6 02:47 mysql-commercial-devel-8.4.9-1.1.el8.x86_64.rpm -rwxr-x--- 1 epapdev epap 2373172 May 6 02:47 mysql-commercial-icu-data-files-8.4.9-1.1.el8.x86_64.rpm -rwxr-x--- 1 epapdev epap 1532928 May 6 02:47 mysql-commercial-libs-8.4.9-1.1.el8.x86_64.rpm -rwxr-x--- 1 epapdev epap 62474572 May 6 02:47 mysql-commercial-server-8.4.9-1.1.el8.x86_64.rpm

4	MPS X: Copy install_mysql.sh from scripts directory of Mysql_Upgrade_Rpms_8.4.9.zip into free directory via epapdev user	After copying install_mysql.sh to free directory, move to free directory. [root@Salta-a ~]# cd /var/TKLC/epap/free Change permissions of the script: [root@Salta-a free]# chown epapdev:epap install_mysql.sh [root@Salta-a free]# chmod 755 install_mysql.sh
5	MPS X: Run install_mysql.sh	[root@Salta-a free]# ./install_mysql.sh Performing installation of mysql commercial version 8.4.9 Verifying... ##### [100%] Preparing... ##### [100%] Updating / installing... 1:mysql-commercial-icu-data-files- 8##### [50%] Cleaning up / removing... 2:mysql-commercial-icu-data-files- 8##### [100%] Verifying... ##### [100%] Preparing... ##### [100%]

	Updating / installing... 1:mysql-commercial-client-8.4.9- 1.1##### [50%] Cleaning up / removing... 2:mysql-commercial-client-8.4.0- 1.1##### [100%] Verifying... ##### [100%] Preparing... ##### [100%] Updating / installing... 1:mysql-commercial-devel-8.4.9- 1.1.##### [50%] Cleaning up / removing... 2:mysql-commercial-devel-8.4.0- 1.1.##### [100%] Verifying... ##### [100%] Preparing... ##### [100%] Updating / installing... 1:mysql-commercial-common-8.4.9- 1.1##### [50%] Cleaning up / removing... 2:mysql-commercial-common-8.4.0- 1.1##### [100%] Verifying... ##### [100%] Preparing... ##### [100%] Updating / installing... 1:mysql-commercial-libs-8.4.9- 1.1.e##### [50%] Cleaning up / removing... 2:mysql-commercial-libs-8.4.0- 1.1.e##### [100%] Verifying... ##### [100%] Preparing... ##### [100%] Updating / installing... 1:mysql-commercial-backup-8.4.9- 1.1##### [50%] Cleaning up / removing... 2:mysql-commercial-backup-8.4.0- 1.1##### [100%]
--	--

		<pre> Verifying... ##### [100%] Preparing... ##### [100%] Updating / installing... 1:mysql-commercial-client-plugins- 8##### [50%] Cleaning up / removing... 2:mysql-commercial-client-plugins- 8##### [100%] Verifying... ##### [100%] Preparing... ##### [100%] Updating / installing... 1:mysql-commercial-server-8.4.9- 1.1##### [50%] Cleaning up / removing... 2:mysql-commercial-server-8.4.0- 1.1##### [100%] [root@Kos-a-PDBonly free]# </pre>
6	MPS X: Check if Mysql RPM's upgraded or not. Note: Versions of mysql-common and perl-DBD packages may vary depending upon EPAP version you are migrating from.	<pre> [root@Salta-a free]# rpm -qa grep -i mysql mysql-commercial-devel-8.4.9-1.1.el8.x86_64 mysql-commercial-backup-8.4.9-1.1.el8.x86_64 mysql-commercial-client-plugins-8.4.9-1.1.el8.x86_64 mysql-commercial-client-8.4.9-1.1.el8.x86_64 perl-DBD-mysql-5.013P-18.0.0.0_180.1.0.x86_64 mysql-commercial-icu-data-files-8.4.9-1.1.el8.x86_64 mysql-commercial-common-8.4.9-1.1.el8.x86_64 mysql-commercial-libs-8.4.9-1.1.el8.x86_64 mysql-commercial-server-8.4.9-1.1.el8.x86_64 </pre>
7	MPS X: Copy update_plugin.sh from scripts directory of Mysql_Upgrade_Rpms_8.4.9 zip into free directory via epapdev user	After copying update_plugin.sh to free directory, Change permissions of the script: <pre> [root@Salta-a free]# chown epapdev:epap update_plugin.sh [root@Salta-a free]# chmod 755 update_plugin.sh </pre>
8	MPS X: Run update_plugin.sh	<pre> [root@Salta-a free]# ./update_plugin.sh Login to mysql and check plugin of mysql users [root@Salta-a free]# mysql -uroot - p<MySQL_root_password> -S /var/TKLC/epap/db/pdb/mysql.sock </pre>

		<pre>mysql: [Warning] Using a password on the command line interface can be insecure. Welcome to the MySQL monitor. Commands end with ; or \g. Your MySQL connection id is 17 Server version: 8.4.9-commercial MySQL Enterprise Server - Commercial Copyright (c) 2000, 2026, Oracle and/or its affiliates. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Type 'help;' or '\h' for help. Type '\c' to clear the current input statement. mysql> select user,plugin,host from mysql.user; +-----+-----+-----+ user plugin host +-----+-----+-----+ multi_admin caching_sha2_password localhost mysql.infoschema caching_sha2_password localhost mysql.session caching_sha2_password localhost mysql.sys caching_sha2_password localhost pdbSelect caching_sha2_password localhost pdba caching_sha2_password localhost root caching_sha2_password localhost statuser caching_sha2_password localhost pdba caching_sha2_password mate root caching_sha2_password mate pdbSelect caching_sha2_password salta-a +-----+-----+-----+ 11 rows in set (0.00 sec) mysql> exit</pre>
9	MPS X: Copy pdbBackup.sh from scripts directory of Mysql_Upgrade_Rpms_8.4.9.zip into free directory via epapdev user (edited)	After copying pdbBackup.sh to free directory, Change permissions of the script: [root@Salta-a free]# chown epapdev:epap pdbBackup.sh [root@Salta-a free]# chmod 755 pdbBackup.sh

10	MPS X: Run pdbBackup.sh script	<pre>[root@Salta-a free]# ./pdbBackup.sh</pre> The script ends with below logs at the end. <pre>.....<backup logs>..... ibbackup completed OK! pdbBackup_Donut-A_1738050432.tar.gz has been created</pre>
11	MPS X: Transfer the backup created in above step to remote machine.	Using SFTP (secure-FTP), transfer the PDB backup file to a remote, customerprovided computer. Enter “yes” when prompted if you want to continue to connect. <pre>\$ cd /var/TKLC/epap/free \$ sftp <IP address of remote machine></pre> Connecting to ... The authenticity of host " " can't be established. 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 ' (DSA) to the list of known hosts. root@<IP address of remote machine>'s password: <pre>sftp> cd <target directory> sftp> put pdbBackup_Donut-A_1738050432.tar.gz Uploading pdbBackup_Donut-A_1738050432.tar.gz to pdbBackup_Donut-A_1738050432.tar.gz sftp> bye</pre> If no customer provided remote computer for backups exist, transfer the backup file to the mate using the following command <pre>\$ su – epapdev \$ scp /var/TKLC/epap/free/<PDB backup file> epapdev@mate:/var/TKLC/epap/free/</pre>

Procedure A.52 Post MySQL RPM upgrade PDB Restore Procedure

Note: This procedure is only applicable if upgrading from EPAP 17.0.0.x to 17.0.0.6 via migration.

S.No	Steps	This procedure performs Restoration of PDB created by MySQL RPM Upgrade Procedure on the server. Check off (✓) each step as it is completed. Boxes have been provided for this purpose beside each step number. If this procedure fails, contact My Oracle Support and ask for ASSISTANCE.
1	MPS X: Login prompt is displayed.	<hostname> console login: Note: Press enter if no login prompt is displayed.
2	MPS X: Log in as epapdev user and switch to root user.	[hostname] consolelogin: epapdev password: password [epapdev@lthaca-a ~]\$ su - Password:password
3	MPS X: Copy the PDB Backup file to free directory.	After copying PDB backup to free directory, Change Permissions of PDB Backup: [root@Salta-a ~]# cd /var/TKLC/epap/free [root@Salta-a free]# chown epapdev:epap pdbBackup_Salta-a_1737987790.tar.gz root@Salta-a free]# chmod 755 pdbBackup_Salta-a_1737987790.tar.gz
4	MPS X: Restoring the PDB	[root@Donut-A free]# /usr/TKLC/epap/config/restore_pdb --force Tue Jan 28 08:58:03 EST 2025 This script will replace the existing PDB with one provided from a backup and copy the restored backup to the remote. Are you sure you want to do continue? (y/n) y Enter the name of the backup tar.gz file. /var/TKLC/epap/free/pdbBackup_Donut-A_1738050432.tar.gz localIp = 10.75.141.119 localName=Donut-A

		<pre> remoteIp = 0.0.0.0 No remote site WARNING : If this backup is from EPAP 16.1 or earlier release please use option --force7 Are you sure this backup is taken on EPAP 16.2 release? (y/n)y Do you want to restore Stats database? (y/n) y Running with force option! Skip disk space check.. remoteBIp = 0.0.0.0 There is no remote B PDB Unzipping backup file. This may take a while.. Running with force option! Skip compatibility check.. Stopping local PDBA Stopping local PDB mysql daemon No need to create backup directory.. Running ibbackup tool to restore DBWe trust you have received the usual lecture from the local System Administrator. It usually boils down to these three things: #1) Respect the privacy of others. #2) Think before you type. #3) With great power comes great responsibility.[sudo] password for mysql: mysql:<Restore Logs>..... Restore completed successfully. Wed Jan 29 02:37:23 EST 2025 [root@Donut-A free]# </pre>
--	--	--

Procedure A.53 E5-APP-B to APPD Card Replacement.

Procedure A.53 E5-APP-B to APPD Card Replacement

Note: Customers may follow this procedure to replace E5-APP-B card by APPD

S.No.	Steps	Check off (Ö) 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 UPGRADE ASSISTANCE.
2.	MPS X: Replace E5-APP-B card by APPD card.	Please follow the below procedures: Procedure for removing E5-APP-B Cards is given in Oracle Communications EAGLE Application B Card Hardware and Installation Guide, Release 47.0 in EPAP 17 documents. Procedure for installing APPD Cards is given in the Oracle Communications EAGLE Application D Card Hardware and Installation Guide, Release 47.0 in EPAP 18 documents.
3.	Procedure is complete.	Procedure is complete.

APPENDIX B INTERCONNECTION DIAGRAM

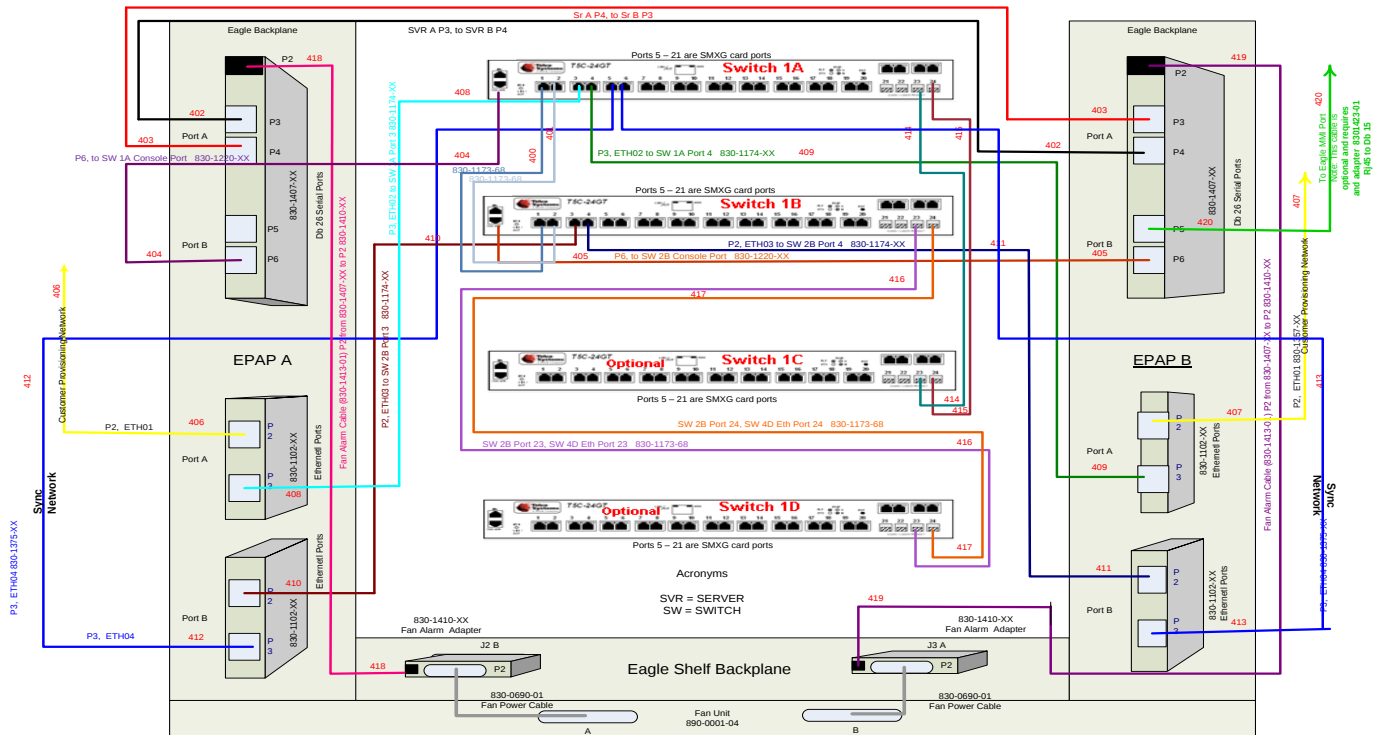


Figure 9: Interconnectivity Diagram for Sync Network Redundancy (Eth04 used for Sync Network)

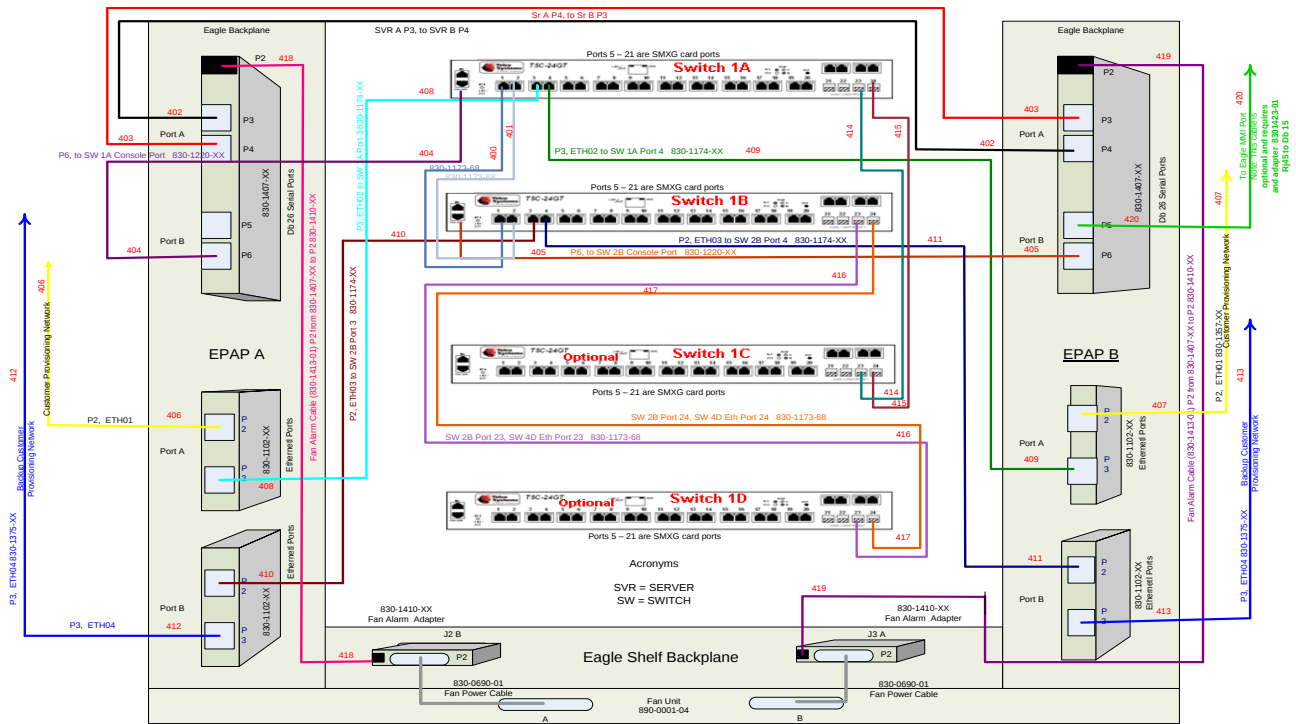
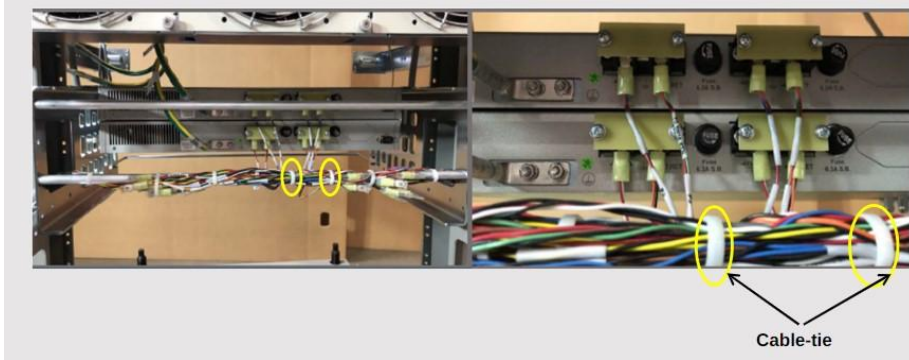
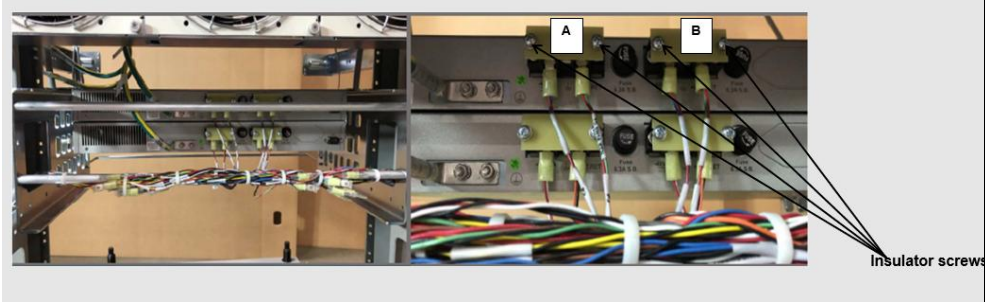
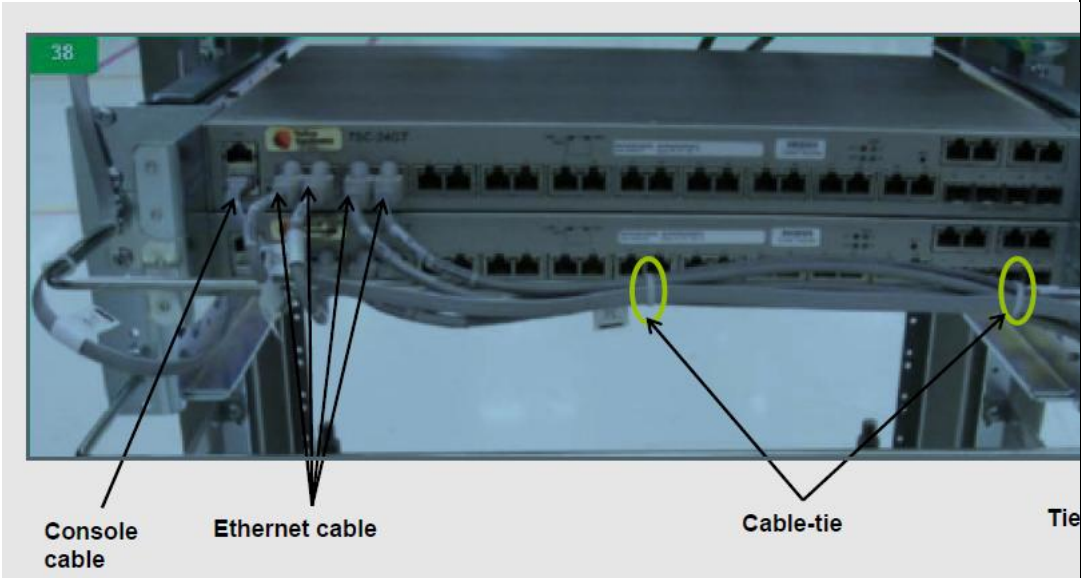


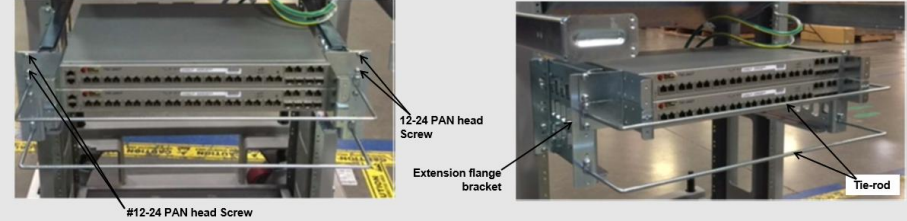
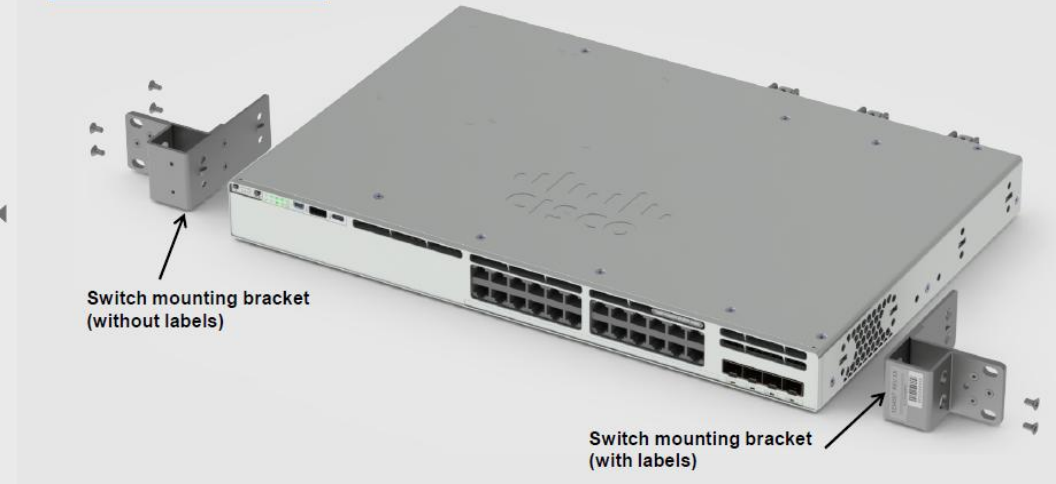
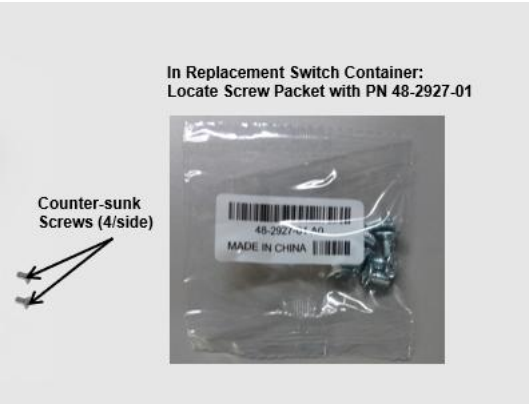
Figure 10: Default Interconnectivity Diagram (Eth04 used for Backup Provisioning Network)

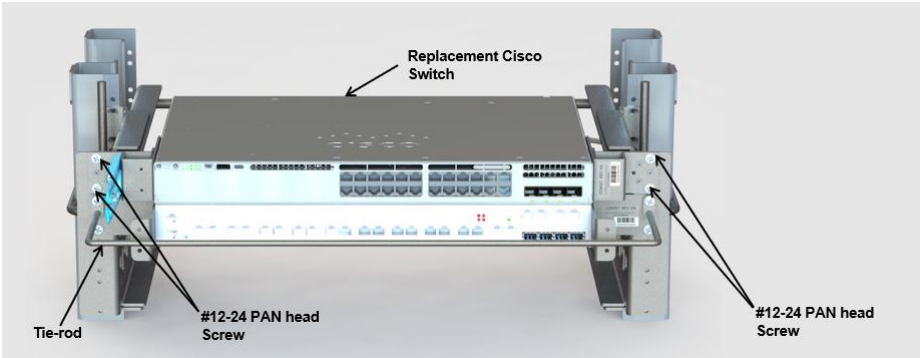
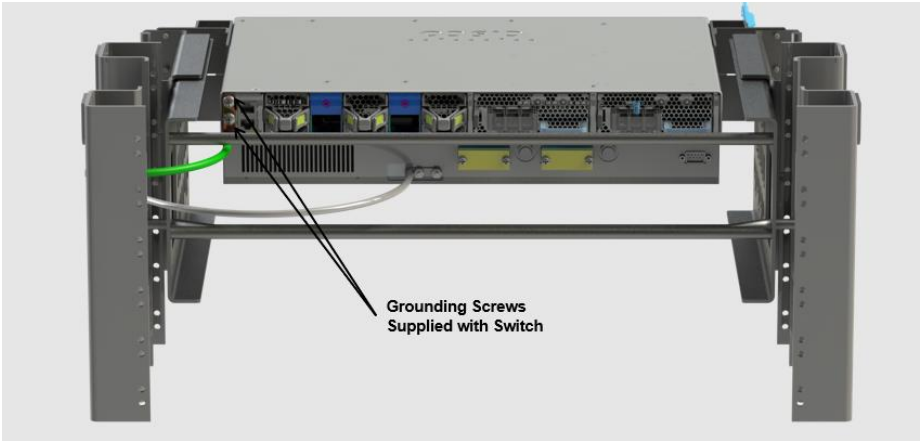
APPENDIX C TELCO TO CISCO SWITCH REPLACEMENT

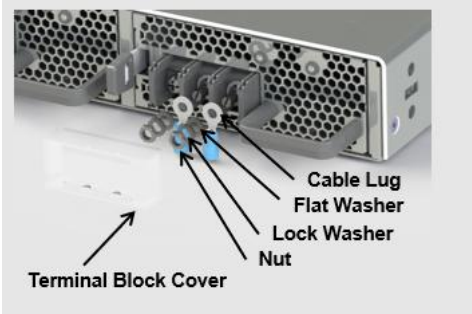
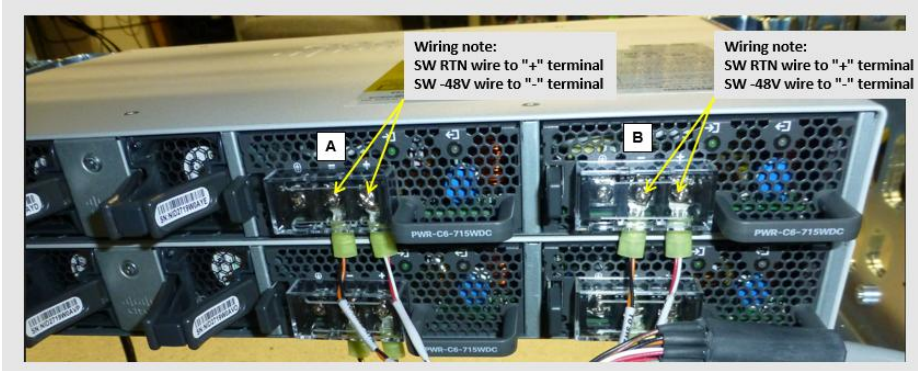
SWITCH REPLACEMENT

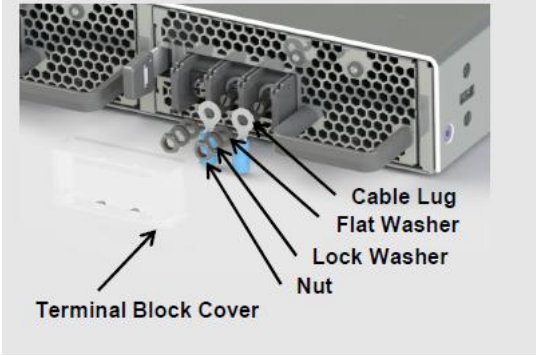
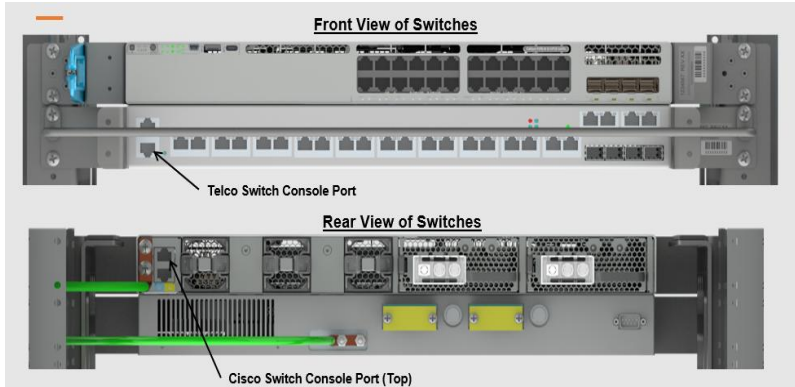
	This procedure is for replacing the Telco switch with the Cisco switch. Check off (✓) each step as it is completed. Boxes have been provided for this purpose under each step number. IF THIS PROCEDURE FAILS, CONTACT MY ORACLE SUPPORT AND ASK FOR ASSISTANCE.
The following tools are required to perform this procedure: • Grounding Strap (Wrist or Heel) • #2 Phillips Screwdriver • #3 Phillips Screwdriver • 1/4" Nut Driver or Socket • 5/16" Nut Driver or Socket • Wire Cutter (to cut Tie-wraps) • Diagonal Cutter (to cut Tie-wraps) • Multi Meter • Tie Wraps • Electrical Tape • Cable Tags / Marker (to label all cables)	
1. ☐ Disable and disconnect switch power	- 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. - Once the switch is off, unscrew and remove the terminal-block insulator covers from both terminals blocks A and B. - With covers removed, using a Multi Meter, ensure that there is no power. - Ensure that the power leads are marked -48V & RTN. - 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.  Note: This procedure will reference replacing the Switch #1 location (top). Same procedure for other switch locations.
2. ☐ Disconnect ground cable	- Remove the Switch Ground Wire from the grounding point, by loosening and removing Hex nut, Flat washer, and External tooth washer. - Leave Ground Wire dangling. Do not disconnect ground wire attached to cabinet/frame.

	from switch	Note: Hardware removed, nut and washers are NOT required on replacement switch. 
3. □	Disconnect Front ENET and Console Cables	- 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. - Disconnect the Console and Ethernet cables from Telco switch being replaced. Leave the cables dangling. (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. 
4. □	Remove the Switch being replaced	- 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. 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.

		 #12-24 PAN head Screw 12-24 PAN head Screw Extension flange bracket Tie-rod
5. ☐	Assemble the replacement Cisco Switch	Attach the mounting brackets with Cisco switch assembly.  Switch mounting bracket (without labels) Switch mounting bracket (with labels) - Locate the supplied mounting brackets and screws from the Switch package. - 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. - Insert four screws, supplied with each switch, and tighten.  In Replacement Switch Container: Locate Screw Packet with PN 48-2927-01 Counter-sunk Screws (4/side) - Repeat the steps b and c for the other side of the switch. - Attach optional Cable Manager. - Locate Cable Manager and Screw from replacement Switch packaging. - Attach the Cable Manager to the rack mounting bracket using the supplied screw.

		 Cable manager Cable manager Mounting screw
6. ☐	Install replacement Cisco Switch	a. Align replacement Cisco Switch in the slot where the original switch was removed.  Replacement Cisco Switch Tie-rod #12-24 PAN head Screw #12-24 PAN head Screw b. Using screws removed from step 4, insert the four (4) PAN head screws (Two (2) on either side of the switch) and tighten. Note: If tie-rod was removed in step 4, reattach at this time.
7. ☐	Reattach the ground cable	Reattach the chassis ground wire (from Step 3) to switch where shown. Use Screws provided with replacement Cisco Switch.  Grounding Screws Supplied with Switch In Replacement Switch Container, locate grounding screw packet with PN 48-2381-01.

		
8. ☐	Connect power to the replacement Cisco Switch	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: <u>SW RTN wire to "+" terminal</u>, <u>SW -48V wire to "-" terminal</u>  f. Reattach protective cover.

		 g. Repeat the above steps for the B feed connection.
9. □	Reattach Console Cable and Ethernet Cables	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. b. Plug-in the Ethernet cables to Replacement Cisco Switch. Note: The Switch locations are marked on cable from Step 3.
10 □	Reapply power	a. Double check all the connections are in their proper place and are secure. b. Reinstall the A and B feed power fuses (removed in Step 1) one at a time. c. Check the switch power supply LED to ensure power is up. Then, install the other fuse and again check power supply LED. The following image shows the switch is now ready to be set up and configured.  The replacement switch is now ready to be setup and configured.
11 .	Configure the new	Refer to the following procedure “Switch Configuration” to configure the new Cisco Switch.

☐	Cisco Switch	
--------------------------	--------------	--

CISCO SWITCH CONFIGURATION

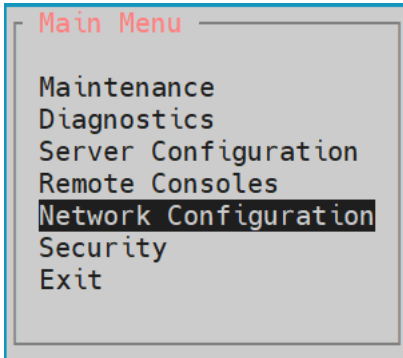
Note: Contact My Oracle Support atleast 48 hours before the scheduled start of the switch configuration process, to obtain the Enable secret key.

S T E P #	This procedure Configures the Cisco Switches on an Installed APPD EPAP 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.	NOTE: THIS IS IMPORTANT CONNECT the cross-over cable from Port 1 of Switch1A to Port 1 of Switch1B. DISCONNECT the cross-over cable from Port 2 of Switch1A to Port 2 of Switch1B. Similarly while Configuring Switch1C and Switch1D Disconnect the cable from port 24 and connect back post configuration done. Please make a note that the switch configuration should only be attempted by a skilled technician and not 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. NOTE: the following should be the sequence of switch configuration. Switch1B > Switch1A > Switch1C > Switch1D Make sure to enable and start tftp service by using following commands if not started earlier :- sudo systemctl start tftp sudo systemctl enable tftp
2. ☐	Do minicom to enter the cisco switch console. Command – "minicom	<pre>[root@Donut-B epapall]#</pre> <pre>[root@Donut-B epapall]# minicom switch1B</pre>

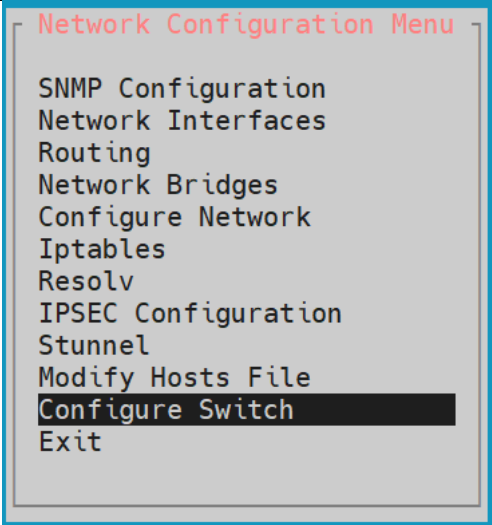
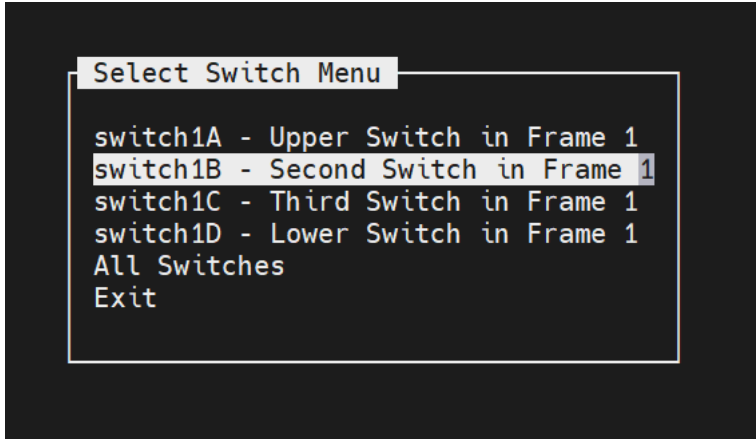
Note: Contact My Oracle Support atleast 48 hours before the scheduled start of the switch configuration process, to obtain the Enable secret key.

	switch1A" for the console cable connected to MPS-A and for console cable connected to MPS-B use "minicom switch1B".	
3. ☐	MPS X: Do not enter in the initial config dialog in the freshly connected cisco switch.	Autoinstall will terminate if any input is detected on console --- System Configuration Dialog --- Would you like to enter the initial configuration dialog? [yes/no]:no
4. ☐	MPS X: Enter an Enable secret key :- NOTE: Please note that this key is predetermined. If the key to be entered here is not known contact My Oracle support for assistance	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. ----- secret should be of minimum 10 characters and maximum 32 characters with at least 1 upper case, 1 lower case, 1 digit and should not contain [cisco] ----- Enter enable secret: Confirm enable secret:
5. ☐	MPS X: Press 0 and enter	The following configuration command script was created: enable secret 9 \$9\$/0zJZO.MDLzHsE\$0APNpw6gMhNRkdv5.CjQnxF1.rJtyDBiTQ7F2/Nr1YU ! end [0] Go to the IOS command prompt without saving this config. [1] Return back to the setup without saving this config. [2] Save this configuration to nvram and exit. Enter your selection [2]: 0 % You can enter the setup, by typing setup at IOS command prompt Press RETURN to get started!

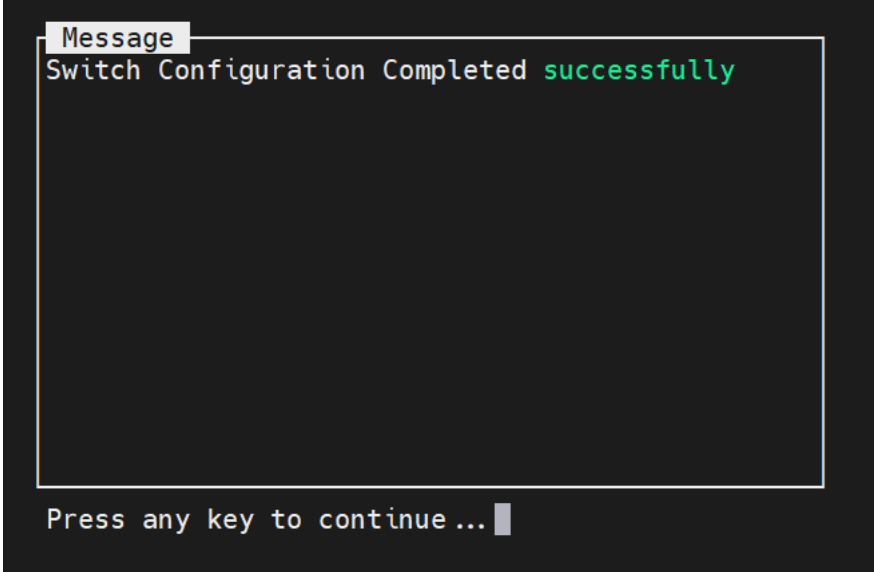
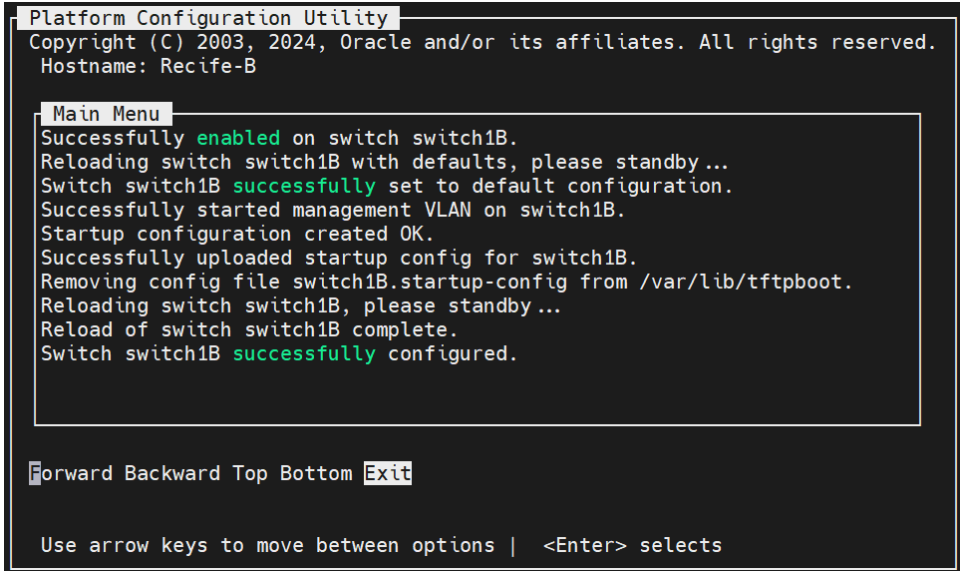
Note: Contact My Oracle Support atleast 48 hours before the scheduled start of the switch configuration process, to obtain the Enable secret key.

6. ☐	MPS X: Initial configuration building done.	Press RETURN to get started!
7. ☐	MPS X: Write "enable" and provide the password set in step 4	Switch>enable Password:
8. ☐	MPS X: Once the switch is enabled to take configuration > sign changes to the # sign	Switch>enable Password: Switch#
9. ☐	MPS X: Write command – "Configure terminal with no logging enabled"	Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#no logging console Switch(config)#exit Switch#exit
10. ☐	MPS X: Exit from the minicom	Ctrl+A and then Press Z. This will exit the minicom console and you will come back to the server terminal.
11. ☐	MPS B: Navigate to the Network Configuration Menu.	On the platcfg Main Menu , select Network Configuration and press [ENTER]. 
12. ☐	MPS B: Navigate to the Configure Switch menu	On the Network Configuration menu, select Configure Switch and press [ENTER].

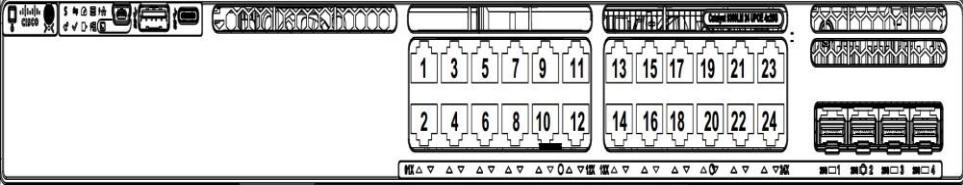
Note: Contact My Oracle Support atleast 48 hours before the scheduled start of the switch configuration process, to obtain the Enable secret key.

		
13.	☐ MPS B: Select Switch1B.	On the Select Switch Menu, select Switch1B – Second Switch in Frame 1 and press [ENTER]. 
14.	☐ MPS B: Confirm Switch 1B Configuration.	Select Yes and press [ENTER] to configure Switch 1B. 

Note: Contact My Oracle Support atleast 48 hours before the scheduled start of the switch configuration process, to obtain the Enable secret key.

15. ☐	MPS B: Switch Configuration Screen.	Configuring the switch takes about 10 minutes, once completed press any key to continue and then click Exit.   

Note: Contact My Oracle Support atleast 48 hours before the scheduled start of the switch configuration process, to obtain the Enable secret key.

16. ☐	MPS X: Similarly need to configure all other connected cisco switches.	Use the steps mentioned from step 2 - 15. Make sure to select the proper switch as per the switch location for eg Switch1A,switch1C etc. NOTE: the following should be the sequence of switch configuration. Switch1B > Switch1A > Switch1C > Switch1D
17. ☐	Connect the cross-over cable from Port 2 of Switch1A to Port 2 of Switch1B.	
18. ☐	Ping to Confirm connectivity. Note: Ip address 192.168.2.1 associated with Switch1A , ip address 192.168.2.2 associated with Switch1B , ip address 192.168.2.3 with Switch1C and ip address 192.168.2.4 with Switch1D.	Ping from all the newly connected switches to the mentioned IP address (192.168.2.1, 192.168.2.2, 192.168.2.3, 192.168.2.4, 192.168.2.100, 192.168.2.200), till you see an 100% success rate. <pre> switch1D#ping 192.168.2.1 Sending 5, 100-byte ICMP Echoes to 192.168.2.1, timeout 2 sec, delay 0 sec: Press Esc for break !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms switch1D#ping 192.168.2.2 Sending 5, 100-byte ICMP Echoes to 192.168.2.2, timeout 2 sec, delay 0 sec: Press Esc for break !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms switch1D#ping 192.168.2.3 Sending 5, 100-byte ICMP Echoes to 192.168.2.3, timeout 2 sec, delay 0 sec: Press Esc for break !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms switch1D#ping 192.168.2.4 Sending 5, 100-byte ICMP Echoes to 192.168.2.4, timeout 2 sec, delay 0 sec: Press Esc for break !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms switch1D#ping 192.168.2.100 Sending 5, 100-byte ICMP Echoes to 192.168.2.100, timeout 2 sec, delay 0 sec: Press Esc for break !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 0/1/5 ms switch1D#ping 192.168.2.200 </pre>

Note: Contact My Oracle Support atleast 48 hours before the scheduled start of the switch configuration process, to obtain the Enable secret key.

		Sending 5, 100-byte ICMP Echoes to 192.168.2.200, timeout 2 sec, delay 0 sec: Press Esc for break !!!! Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms switch1D#
19. ☐	Procedure complete.	Procedure is complete.

APPENDIX D SWOPS SIGN OFF.

Discrepancy List

[illegible]

APPENDIX E CUSTOMER SIGN OFF

Sign-Off Record

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

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

Sign your name, showing approval of this procedure, and email this page and the above completed Table to Oracle, email: 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 Oracle 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.

Oracle Signature: _____ Date: _____

Customer Signature: _____ Date: _____

APPENDIX F MAJOR CHANGES IN EPAP 17.0

In EPAP Release 17.0, live provisioning is supported for upgrade of DUAL PDB site that is where Active and Standby PDB are present in the form of PDBonly EPAP or Mixed-EPAP.

Note: In case of Dual PDBonly when Standby PDBA is successfully upgraded, connected and in sync with all the other nodes, perform switchover between Active Pdba and Standby Pdba.

Following steps will be taken to support live provisioning:

1. Bring both PDBonly/Mixed-EPPAP to same label, Check all counts (DN/IMSI/NE ...) are same. Stop provisioning briefly for 5 minutes to achieve the same.
2. Truncate the replLog and requests table. For more information, see step 6 of section A.26.
3. On the Active side keep the remote PDBA as it is i.e. Active PDBA has a remote PDBA. This will make sure replLog and request tables keeps updated when live provisioning will happen in the Active site during Standby side upgrade.
4. On the Standby side, make the remote PDBA as 0.0.0.0 i.e. Standby site does not have an Active PDBA. This is the site that will be upgraded.
5. Home the Non-PROVs to the Active PDBA.
6. Home the RTDB on Mixed EPAP towards its local PDBA
Note: This step is not valid for Non-Prov and PDBonly sites.
7. Upgrade the Standby PDBA from 16.3/16.4 to 17.0
8. After the upgrade of Standby PDB is complete, change the remote PDBA address of Standby from 0.0.0.0 to the IP of Active PDBA. Start PDBA.
9. See that Standby PDBA syncs all the data from Active PDBA that was provisioned during upgrade.

Note: This Appendix is for reference only. Details mentioned in this Appendix are applied in [section 3.4.3](#) and [section 3.4.5](#).

APPENDIX G FPGA FLASH UTILITY

All E5APPD cards already include the required flash programming utilities. Users can use these built-in tools and follow the flashing/programming steps described later in this document.

NOTE: It is recommended to use console access instead of direct IP access to the cards, since the procedure involves card reboot and IP connectivity may be lost during the process.

Pre-requisite and Key Points

Before programming a new FPGA image, ensure the following:-

1. **Before proceeding, please download the FPGA binary from OSDC(Oracle Software Delivery Cloud). Verify that the FPGA binary size is correct as present on OSDC. The APPD hardware may get stuck if a wrong binary is used in this procedure. Please contact Oracle support in case of any doubt.**

For the latest FPGA binary, the size and checksum of the binary is mentioned below:

```
[epapdev@Cres-B free]$ ls -lrt appd_fpga_ver_443.bin
```

```
-rw-r----- 1 epapdev epap 8388608 May 29 02:11 appd_fpga_ver_443.bin
```

```
[epapdev@Cres-B free]$ sha256sum appd_fpga_ver_443.bin
```

```
6e25de1f820edc473bee59a8b14d98814dd8e714866e50d7ac86e43e11dcbd34
appd_fpga_ver_443.bin
```

In case the binary is updated, please use the same commands to verify as given above.

2. **Root access** required to run FPGA Flash utility. So make sure, you are in root.
3. All FPGA Flash Utility files are stored at path **/var/TKLC/FPGA/** and new FPGA binary must be copied at this path only.
4. Try to keep binary name simple, avoid special characters in file name. Filename must **not exceed 255 characters** including extension. Rename accordingly, if required.
5. This is critical process. This utility should only be performed when new FPGA image needs to be flashed.
6. Any interruption by user (like trying to terminate process, console access etc) during utility run or for any wrong steps performed may lead to unexpected device behaviour. It may also lead to device to get hang/stuck. So, please be careful while attempting utility.
7. On successful writing on flash, **it will take around 7 minutes and then device will reboot** and after reboot device will be booted with new FPGA and then new FPGA needs to be activated as mentioned below in flashing steps.
8. For any unexpected behaviour during programming or any failure or no response till 10 minutes (no reboot or no console logs or linux console access available), please run "**dmesg**" command to check complete logs for FPGA Utility.

9. Do not delete any file which is already available at path `/var/TKLC/FPGA/` (specifically **fpga_flash_util.ko** and **fpga_activate_util.ko**), doing so will lead to do loss of FPGA Flash Utility and TPD needs to be performed on that device for recovery.

Steps to program new FPGA image to APPD devices

1. Copy new FPGA image/binary which needs to be programmed in APPD device at below path- **`/var/TKLC/FPGA/`**. The new FBGA binary is kept at path **`/usr/TKLC/epap/bin/appd_bin/appd_fpga_ver_443.bin`**
2. Traverse to same above path **`/var/TKLC/FPGA/`** and run below command to start programming new image. "fpga_flash_util.ko" is located at `/var/TKLC/FPGA/`
`insmod fpga_flash_util.ko fpga_bin=bin_file_name_to_program.bin`

For Example: If filename of binary is `fpga_ver_xxxx_e5appd.bin` then, below command should be used-

```
insmod fpga_flash_util.ko fpga_bin=fpga_ver_xxxx_e5appd.bin
```

Note:

A. `bin_file_name_to_program.bin` is same file name which is being copied in Step-1, which needs to program. Please make sure to enter correct file name with extension (.bin) in above command and there should not be any extra character or space.

B. Successful programming will take around 7 minutes, Linux console will be inaccessible during this time. Once programming is done successfully, **device will restart** after that. After reboot, APPD will be loaded with new FPGA but it is still not activated.

3. To activate new programmed FPGA after reboot, traverse to path `/var/TKLC/FPGA/` and run below command located at here-
`insmod fpga_activate_util.ko`
4. Now run below command to unload above activation utility to free up resources-
`rmmod fpga_activate_util.ko`

Logs for FPGA in case of success or failure scenarios

Success Logs

For programming new FPGA-

FPGA_FLASH_UTIL: Estimated time is ~7 min for success. System will reboot on success after 7 min!!

FPGA_FLASH_UTIL: Current_Version=0x9400043b ,Target_Version=0x94000443

FPGA_FLASH_UTIL: Erasing Trial Space....

FPGA_FLASH_UTIL: Writing new image from 'appd_fpga_ver_443.bin' file....

FPGA_FLASH_UTIL: FPGA Programming Success. Restarting system.....

For Activating new FPGA-

FPGA_ACTIVATE_UTIL: Start.

FPGA_ACTIVATE_UTIL: FPGA Version:0x94000443 Activated....

FPGA_ACTIVATE_UTIL: Done.

Failure Logs

Please note that the below mentioned logs are just an example of failure. There can be other logs too in case of failure. Please contact Oracle Support in case of failure.

FPGA_FLASH_UTIL: Failed. Exiting....

FPGA_FLASH_UTIL: Set Trial Mode Failed. Exiting....

FPGA_FLASH_UTIL: FPGA Programming Failed. Clearing Trial Mode. Exiting....

FPGA_FLASH_UTIL: Micron Flash Init Failed. Exiting....

FPGA_FLASH_UTIL: Failed to open "appd_fpga_ver_443.bin " file. Please check bin filename and refer utility manual for steps.

FPGA_FLASH_UTIL: Source and Target Versions are same, can not be upgraded!!

APPENDIX H BIOS FLASH UTILITY

All E5APPD cards already include the required flash programming utilities. Users can use these built-in tools and follow the flashing/programming steps described later in this document.

NOTE: It is recommended to use console access instead of direct IP access to the cards, since the procedure involves card reboot and IP connectivity may be lost during the process.

Pre-requisite and Key Points

Before programming a new BIOS image, ensure the following:-

1. Before proceeding, please download the BIOS binary from OSDC(Oracle Software Delivery Cloud). Verify that the BIOS binary size is correct as present on OSDC. The APPD hardware may get stuck if a wrong binary is used in this procedure. Please contact Oracle support in case of any doubt.

For the latest BIOS binary the size and checksum is as mentioned below:

```
[epapdev@Cres-B free]$ ls -lrt appd_bios_ver_008.bin
```

```
-rw-r----- 1 epapdev epap 16777216 May 29 02:11 appd_bios_ver_008.bin
```

```
[epapdev@Cres-B free]$ sha256sum appd_bios_ver_008.bin
```

```
9646443aab4c009c3ad71695185352b162f8c9cba28f8df010c6cb7f1ebbc665  
appd_bios_ver_008.bin
```

In case the binary is updated, please use the same commands to verify as given above.

2. **Root access** required to run BIOS Flash utility. So make sure, you are in root.
3. All BIOS Flash Utility files are stored at path **/var/TKLC/BIOS/** and new BIOS binary must be copied at this path only.
4. Try to keep binary name simple, avoid special characters in file name. Filename must **not exceed 255 characters** including extension. Rename accordingly, if required.
5. This is critical process. This utility should only be performed when new BIOS image needs to be flashed.
6. Any interruption by user (like trying to terminate process, console access etc) during utility run or for any wrong steps performed may lead to unexpected device behaviour. It may also lead to device to get hang/stuck. So, please be careful while attempting utility.
7. On successful writing on flash, **it will take around 22 minutes and then device will reboot** and after reboot device will be booted with new BIOS and then new BIOS needs to be activated as mentioned below in flashing steps.
8. For any unexpected behaviour during programming or any failure or no response till 25 minutes (no reboot or no console logs or Linux console access available), please run "**dmesg**" command to check complete logs for BIOS Utility.
9. Do not delete any file which is already available at path **/var/TKLC/BIOS/** (specifically **bios_flash_util.ko** and **bios_activate_util.ko**), doing so will lead to loss of BIOS Flash Utility and TPD needs to be performed on that device for recovery.

Steps to program new BIOS image to APPD devices

1. Copy new BIOS image/binary which needs to be programmed in APPD device at below path-
/var/TKLC/BIOS/. The new BIOS binary is kept at path
/usr/TKLC/epap/bin/appd_bin/appd_bios_ver_008.bin
2. Traverse to same above path **/var/TKLC/BIOS/** and run below command to start BIOS image flash utility. "bios_flash_util.ko" is located at **/var/TKLC/BIOS/**
insmod bios_flash_util.ko bios_bin=bin_file_name_to_program.bin

For Example: If filename of binary is bios_ver_xxxx_e5appd.bin then, below command should be used-

insmod bios_flash_util.ko bios_bin=bios_ver_xxxx_e5appd.bin

Note:

A. bin_file_name_to_program.bin is same file name which is being copied in Step-1, which needs to program. Please make sure to enter correct file name with extension (.bin) in above command and there should not be any extra character or space.

B. This flash utility will take around 22 minutes for successful programming and device console will be unavailable during this. Once the new image is written successfully, device will restart after that. And after reboot, APPD will be loaded with new BIOS but it is still not activated.

Note: While rebooting, keep eye on screen to see on which version BIOS is booting. There is no separate utility to check BIOS version in APPD.

3. To activate new programmed BIOS after reboot, go to path **/var/TKLC/BIOS/** and run below command-
insmod bios_activate_util.ko
4. Now run below command to unload above activation utility to free up resources-
rmmod bios_activate_util.ko

Logs for BIOS in case of success or failure scenarios

Success Logs

For programming new BIOS-

BIOS_FLASH_UTIL: Estimated time is ~22 min for success. System will reboot on success after 22 minutes!!

BIOS_FLASH_UTIL: Erasing the BIOS flash.

BIOS_FLASH_UTIL: Writing BIOS image from 'appd_bios_ver_008.bin' file.

BIOS_FLASH_UTIL: Set Trial Mode.

BIOS_FLASH_UTIL: BIOS Programming Success. System Restart needed to reflect new BIOS.

For Activating new BIOS-

BIOS_ACTIVATE_UTIL: Start.
BIOS_ACTIVATE_UTIL: BIOS Activated....
BIOS_ACTIVATE_UTIL: Done.

Failure Logs

Please note that the below mentioned logs are just an example of failure. There can be other logs too in case of failure. Please contact Oracle Support in case of failure.

BIOS_FLASH_UTIL: Failed. Exiting....
BIOS_FLASH_UTIL: BIOS Programming Failed. Exiting.
BIOS_FLASH_UTIL: Failed to open 'appd_bios_ver_008.bin' file. Please check bin filename and refer utility manual for steps.
BIOS_FLASH_UTIL: SPI Flash Init Failed. Exiting.
BIOS_FLASH_UTIL: CS Trial Set Failed. Exiting.

