# Oracle® Communications LSMS

Full Upgrade Guide Release 13.2 CGBU\_018937 Revision 5.0

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

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### 1. INTRODUCTION

### 1.1 Purpose and Scope

This document is designed to detail the steps necessary to upgarde the functionality of the LSMS 13.0 and LSMS 13.1 on E5APPB-02 to the LSMS 13.2.X on the E5APPB-02 cards.

This work is intended to be non-intrusive to the signaling network traffic and is to be performed within the limits of a normally scheduled maintenance window unless otherwise stated.

It will be necessary to halt the provisioning activity during the execution of the procedures outlined herein while a full database backup is being taken. Normal provisioning can resume once the full upgrade has completed. For any issues incurred in implementing any part of this document, follow the contact/escalation list.

1. Before initiating the migration, you must save the TMN Toolkit and OSI licenses file in a remote location in case backout will be required due to failure in upgrade. Also, verify the availability of a copy of the two license files with the customer and make them aware that the license files must be kept safe.

2. Before initiating the migration, also ensure to get the TMN Toolkit and OSI licenses from Artifex in advance for the new environment. Unless you have the new license files ready, do not start the upgrade. Contact Artifex to get the required licenses.

The individual running this procedure must be experienced and well proficient with the following platforms and technologies.

- Unix/Linux Admin
- VI Editor
- IP Networking
- Oracle LSMS Platform E5-APP-B (TPD through Initial Implementation)

If you do not have these skills or if you are not completely comfortable working in an Unix or Linux system environment,



### **STOP - DO NOT PROCEED**

### 1.2 References

- [1] Formal Peer Review, PD001866, latest version
- [2] Work Instruction Template, TM005023, latest version
- [3] Oracle Quality Manual, latest version
- [4] TPD Initial Product Manufacture User's Guide, 909-2130-001, Latest revision, Oracle
- [5] LSMS 13.2 Product Functional Specification, PF006203, Latest revision, Oracle
- [6] LSMS 13.2.X Upgrade/Installation Guide, Latest Version, Oracle
- [7] ELAP 10.0Upgrade/Installation ProcedureE56994, Current Version, Oracle
- [8] Query Server Installation and Upgrade Instructions, Latest Version, Oracle

### 1.3 Acronyms

### Table 1. Acronyms

BIOS	Basic Input Output System
DB	Database
E5-APP-B/E5APPB	Eagle5 Application Card class B cpu/board
E5APPB-02	E5 Based Application card installed with <b>480</b> G SSD Hard Drive
ELAP	Eagle LNP Application Processor
IPM	Initial Product Manufacture
LSMS	Local Service Management System
NAS	Network Attached Storage
NPAC	Number Portability Administration Centre
QS	Query Server
SERVDI	Support ELAP Reload Via Database Image
TPD	Tekelec Platform Distribution
MPS	Multi Purpose System

### **1.4 Definitions**

### Table 2. Definitions

Active LSMS	LSMS on which the sentry is running and it takes updates from the NPAC.
Standby LSMS	LSMS on which data is replicated from the Active LSMS.
System health check	Procedure used to determine the health and status of the LSMS server, typically performed using the TPD syscheck utility.

### 1.5 Terminology

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

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



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

1.	1A	1B	MPS X: Insert USB.	Insert media in USB drive
----	----	----	--------------------	---------------------------

### Figure 2. Example of a step that needs to be executed on both MPS A and MPS B servers

### **1.6 Required Materials**

- Two (2) target-release USBs or a target release ISO file.
- A terminal and null modem cable to establish a serial connection.
- 100mbps link is required for database transfer to remote server.
- System configuration information like NTP Server IP, App IP, ELAP IP etc.

Write down the system configuration information.

 App IP: \_\_\_\_\_

 App Gateway: \_\_\_\_\_

 NTP Server IPs: \_\_\_\_\_

 ELAP Server IPs: \_\_\_\_\_

 NPAC Server IPs: \_\_\_\_\_\_

 NMS IPs: \_\_\_\_\_\_

 Other IPs required: \_\_\_\_\_\_

• Passwords for users on the local system:

LSMS USERS								
login	MPS A password	MPS B password						
lsmsmgr								
lsmsadm								
lsmsall								
lsmsuext								
lsmsuser								
lsmsview								
root								
mysql dbroot user								
admusr								
Command-line								

### **Table 3: User Password Table**

Note: After the MPS servers are IPM'ed with TPD 7.0.x, then "root" user access is disabled. "admusr" can be used if required to access the MPS servers. After the installation of LSMS application the "root" user access is again enabled.

# 1.7 E5APPB Server (Rear)

Figure 3. E5-APP-B Server (Rear)

### 1.8 Switch Configuration

VLAN configuration on the switch is done based on the **Error! Reference source not found.** (LSMS/NAS S egmented Type Configuration). Please note that the VLAN IDs can be different based on the LAB network configuration.

Name |VTag| Rout If | Tagged ports | Untagged ports

```
default |1 | sw0 | |1/1/1-1/1/24
vlan2 |2 | |1/1/3,1/1/4 |
vlan3 |3 | |1/1/3,1/1/4 |
naspri-network |5 | |1/1/3,1/1/4,1/1/17 |
nassec-network |6 | |1/1/3,1/1/4,1/1/18 |
elap-network |159 | |1/1/3,1/1/4,1/1/19 |
gui-network |161 | |1/1/3,1/1/4,1/1/20 |
```

```
Optionally assign some name to the switch ports:
interface 1/1/3
name LSMS-A_NAS/ELAP/GUI
1
interface 1/1/4
name LSMS-B_NAS/ELAP/GUI
1
interface 1/1/17
name LSMS-A_NAS-pri
!
interface 1/1/18
name LSMS-B_NAS-sec
!
interface 1/1/19
name ELAP-network-uplink
1
interface 1/1/20
name Gui-network-uplink
```

### 1.9 Fallback

If for any reason a fallback to the original configuration is required, the procedure will be to re-IPM the server and install the old LSMS version.

### 2. GENERAL DESCRIPTION

This document defines the step-by-step actions performed to execute a software full upgrade to E5APPB-02.

The LSMS application can be installed, or upgraded based on the table below.

TPD Release for IPM	LSMS Initial Installation Release
7.0.x.0.0-86.40.0 or later	13.2.X
Full upgrade Source Release	Full upgrade Destination Release
13.0	13.2.X

### Table 4 Install-Full Ugrade paths for E5APPB-02

### \*Note : LSMS 13.2.X is supported on E5APPB-02 cards only

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



Figure 4: Full upgrade Path - LSMS 13.0 to 13.2.X



Figure 5: Full upgrade Path - LSMS 13.1 to 13.2.X

### 3. FULL UPGRADE PROCEDURES

### 3.1 Upgrade Timeline for LSMS Procedure Execution Order

### 3.1.1.1 Preparation phase

### Table 5: Timeline table for full upgrade preparation

	LSMS 1A			LSMS 1B			
Procedure	Task	1A	Task Start time (min)	1B	Task	Procedure	
1.0Procedure 1 -	Setup upgrade environment	5	0				
			5	5	Setup upgrade environment	1.0Procedure 1 -	
1.0Procedure 2 -	Pre Full upgrade Health Check	5	10				
1.0Procedure 3 - Error! Reference source not found.	Verify LSMS QS	10	15				
			25				

### 3.1.1.2 Maintenance Window Tasks

### Table 6: Timeline table for Maintenance Window Task

LSMS 1A					LSMS 1B			
Procedure	Access	Task	1A	Task	<b>1B</b>	Task	Access	Procedure
	Method			Start			Method	
				time				
				(min)				
1.0Procedure	Direct	Disconnect	10	0				
4 -	SSH	ELAP from						
1.0Procedure		LSMS						
5 -		Disconnect						
		NPAC from						
		LSMS						
1.0Procedure	Direct	Backup LSMS	120	10	10	IPM MPS B	Minicom	1.0Procedure
6 -	SSH	DB			0	server and NAS	mate for	8 -
						server	MPS B	
		Transfer					and	
1.0Procedure		Database to					Minicom	
7 -		Remote Server					nas for	
							NAS	
							server	
						Pre-Install	Minicom	
						Configuration	mate	

					Install the Application Configure Network interfaces using platcfg utility Configure Time Zone and Clock. TMN Toolkit and Marben OSI License Installation	Minicom mate Minicom mate Minicom mate	<ul> <li>1.0Procedure</li> <li>9 -</li> <li>Procedure 10</li> <li>1.0Procedure</li> <li>11 -</li> <li>1.0Procedure</li> <li>13 -</li> <li>1.0Procedure</li> </ul>
							16 -
1.0Procedure 8 - 1.0Procedure 9 -	Minicom mate	IPM MPS A server Pre-Install Configuration	60	130			
1.0Procedure 10 -	Minicom mate	Install the Application	25	190			
1.0Procedure	Minicom mate	LSMS Initial	15	215			
1.0Procedure	Minicom	Configure Time	5	230			
1.0Procedure 14 - OR 1.0Procedure 15 - Error! Reference source not found.	Minicom mate	Network Configuration for LSMS Cards. *Note: For Single Subnet Configuration execute Procedure 13 and for Segmented Subnet Configuration execute Procedure 14.	10	235			
1.0Procedure 16 -	Minicom mate	TMN Toolkit and Marben OSI License	5	245			
1.0Procedure	Minicom	Start LSMS	10	250			
1/-	Minicom	Post	5	260			
1.0Procedure 18 -	mate	Configuration Health Check					

### Software Upgrade Procedure

1.0Procedure	Minicom	Restore Database	60	265				
19 -	mate							
1.0Procedure	Minicom	Connect LSMS	15	325				
20 -	mate	13.2.X to NPAC						
1.0Procedure	Minicom	Connect LSMS	10	340	5	Accept the	Direct	1.0Procedure
22 -	mate	13.2.X to ELAP				upgrade	SSH	23 -
1.0Procedure	Minicom	Accept the	5	350				
23 -	mate	upgrade						
		Upgrade		355				
		Completed						

### 3.1.1.3 Post Upgrade Phase

LSMS 1A				LSMS 1B		
Procedure	Task	1A	Task Start time (min)	1B	Task	Procedure
1.0Procedure 21 -	Export the Database from LSMS 13.2.X to the Query Server	60	0			
			60			

### 3.2 Pre Full upgrade Steps

Check off ( $\sqrt{}$ ) each step as it is completed. Boxes have been provided for this purpose under each step number.

Should this procedure fail, Contact My Oracle Support following the instructions on the Appendix E.

### Procedure 1 - SETTING UP FULL UPGRADE ENVIRONMENT

### Procedure 1 - Setting Up Full upgrade Environment

S T P #	A	В	This procedure sets up the full upgrade environment. Estimated time: 5 minutes		
1.			<b>MPS X:</b> Login as root to MPS	<b>S</b> SH to MPS IP: login: <b>root</b> Password: <b><root_password></root_password></b>	
2.			MPS X: Start capture file.	Start a capture file using Iso Console, or by starting a local screen session and capturing its output.	
3.			MPS X: Access mate MPS via serial console	# minicom mate	
4.			mate MPS: Login as root.	console login <b>: root</b> Password: <b><root_password></root_password></b>	

### This procedure is complete!

### Procedure 2 - PRE-FULL UPGRADE SYSTEM HEALTH CHECK

*Note: This procedure may be executed outside of the maintenance window.* 

### Procedure 2 – Pre-Full upgrade System Health Check

S	This procedure determines the health of the MPS before and after full upgrade.		
Ė	Estimated time: 5 minutes		
Р #			
1.	MPS A and B: Log in to	Login: <b>root</b> Password: <b><root password=""></root></b>	
	the server as the user "root".		
		# date	
2.	MPS A and B:	Thu May 12 05:55:27 EDT 2016	
	Validate date, time and time zone to ensure accuracy.		
3.	MPS A and B:	Execute the following command on both LSMS A and B to verify the HA state of	
	Execute the "hastatus"	mated LSMS pair.	
	command to verify the HA state of this server.	# hastatus	
		Verify that the hastatus of one of the servers is Active and the other is Standby.	
		WARNING: If the output from the above command is anything else other than	
		"ACTIVE" and "STANDBY", do not proceed with this procedure and contact My	
		Oracle Support following the instructions on the Appendix E.	
4.	LSMS Standby server:	Execute the following command to verify that MySQL replication is working	
	Verify that the STANDBY	# tail /var/TKLC/lsms/logs/dbrenlMon log	
	is functioning properly.	If MuSOL replication is functioning correctly than the following output will be	
	is removed and property.	observed, make sure that at least the last line of your output matches the lines	
		below.	
		Wed May 18 0C.20.00 201C All tests recent on STANDRY	
		Wed May 18 06:20:09 2016 ATT tests passed on STANDBY	
		Wed May 18 $06.22.18$ 2016 All tests passed on STANDBY	
		Wed May 18 06:22:13 2010 ATT tests passed on STANDBY	
		Wed May 18 06:24:27 2016 All tests passed on STANDBY	
		Wed May 18 06:25:33 2016 All tests passed on STANDBY	
		Wed May 18 06:26:37 2016 All tests passed on STANDBY	
		wed May 18 06:27:42 2016 All tests passed on STANDBY	
		wed May 18 06:28:45 2016 All tests passed on STANDBY	
		Wed May 18 06:29:50 2016 All tests passed on STANDBY	

### Procedure 2 – Pre-Full upgrade System Health Check

		<b>WARNING:</b> If at least the last line of your output does not match the lines above then do not proceed with this upgrade and contact My Oracle Support following the instructions on the Appendix E.
5.	LSMS Active server:	Execute the following command to verify that MySQL replication is working
	Verify that the ACTIVE server's MySOL replication	<pre># tail /var/TKLC/lsms/logs/dbreplMon.log</pre>
	is functioning properly.	If MySQL replication is functioning correctly then the following output will be observed, make sure that at least the last line of your output matches the lines below.
		Thu Jun 9 05:30:13 2016 EVENT: LSMS_EVENT_MON ACTION: CLEAR MSG: DB Monitoring Good Thu Jun 9 05:30:13 2016 All tests passed on ACTIVE Thu Jun 9 05:31:14 2016 All tests passed on ACTIVE Thu Jun 9 05:32:16 2016 All tests passed on ACTIVE
		<b>WARNING:</b> If at least the last line of your output does not match the lines above then do not proceed with this upgrade and contact My Oracle Support following the instructions on the Appendix E.
6.	MPS A and B:	# syscheck
	Execute syscheck	Running modules in class disk
		OK
		Running modules in class services
		ОК
		Pupping modules in class system
		OK
		Running modules in class lsmshc
		OK OK
		Running modules in class hardware
		ок
		Running modules in class proc
		ок
		Running modules in class net
		LOG LOCATION: /var/TKLC/log/syscheck/fail_log
7.	LSMS Active server:	Execute the following command on the ACTIVE LSMS server to display the
	Capture the output of 'sentry status' command	current LSMS sentry status:
I	sentry status command	1

**Procedure 2 – Pre-Full upgrade System Health Check** 

		# sentry status	
		<b>NOTE</b> : Verify that the output displays a Status of "running" for all processes; the regional processes (npacagents) may or may not be associated in the Comment field. If the output from this command displays any other Status than "running" contact My Oracle Support following the instructions on the Appendix E.	
		Capture the output from this command and make it available to Oracle Technical Services if required.	
8.	LSMS Active server:	# ssh backupserver	
		# syscheck	
	SSH to NAS server and	Running modules in class disk	
	execute systemet.	ок	
		Running modules in class services	
		ОК	
		Pupping modules in class system	
		OK	
		Running modules in class lsmshc	
		ОК	
		Running modules in class hardware	
		ОК	
		Bunning modules in class proc	
		Running modules in class net	
		ок	
		LOG LOCATION: /var/TKLC/log/syscheck/fail_log	
9.	Repeat on the day of the	All Health Checks should be repeated the day of the full upgrade. If any problems	
	scheduled full upgrade	are encountered, resolve before proceeding further.	
	This procedure is complete!		

### Procedure 3 - VERIFY LSMS QUERY SERVER

Procedure 3 - Verify LSMS Query Server

S This procedure determines if the LSMS 13.0/13.1 has an Optional Query Server.
 E P

#	Estimated time: 10 minutes			
1.	<b>LSMS Active server:</b> Log in to the server as the user "lsmsadm".	Login: lsmsadm Password: <lsmsadm_password></lsmsadm_password>		
2.	<b>LSMS Active server:</b> Verify if the Query Server Feature is active on the LSMS System.	<pre>\$ /usr/TKLC/lsms/tools/lsmsdb -c queryservers /usr/TKLC/lsms/tools/lsmsdb: Query Server Feature is not enabled. OR cs2-bss2 (<lsms ip="" query="" server="">) Connected OR cs2-bss2 (<lsms ip="" query="" server="">) Disconnected</lsms></lsms></pre>		
3.	LSMS Active server: Note down the Query Server IP Address (es).	If the Query Server exists on the LSMS System, note the IP address (es) for later use.		
4.	LSMS Query server:	SSH to Query Server IP:		
	Log in to customer's query server as root and record the	login: root Password: <root_password></root_password>		
	MySQL version	<b>\$ mysql -V</b> mysql Ver 14.14 Distrib 5.6.29, for solaris10/11 (sparc) using EditLine wrapper		
		Note: The minimum acceptable version is 5.6.29. Query servers that are at less than 5.6.29 must be upgraded before running the query server procedure. Please refer to the document [8] to upgrade the Query Server.		
	This procedure is complete!			

### 3.3 Data Backup before Full upgrade

### Procedure 4 - DISCONNECT ELAP FROM LSMS

### **Procedure 4 - Disconnect ELAP from LSMS**

S T E P #	This procedure disconnects the ELAP from LSMS. Estimated time: 5 minutes Note: This procedure needs to be executed on all the connected ELAPs.		
1.	<b>ELAP Active server:</b> Verify ELAP 10.0 install	<ul> <li>NOTE: Verify the following.</li> <li>1. ELAP 10.0 is successfully installed and configured.</li> <li>2. ELAP 10.0 is connected to Eagle for data download</li> </ul>	
2.	LSMS Active server: Log in to the server as the user "lsmsadm".	Login: <b>lsmsadm</b> Password: <b><lsmsadm_password></lsmsadm_password></b>	

### Procedure 4 - Disconnect ELAP from LSMS

3.	LSMS Active server:	\$ eagle status		
	Disconnect the connected ELAPs	Look for all connected ELAPs and disconnect each of them.		
		<pre>\$ eagle stop <elap clli=""> eagle: Stopping eagle: eagleagent STPA stopped at Tue Apr 26 05:48:52 2016</elap></pre>		
4.	<b>ELAP Active server:</b> Login to ELAP GUI	Login to the ELAP (connected to LSMS) GUI through VIP as uiadmin.		
5.	ELAP Active server: Disable the Bulk Download	Go to menu Maintenance -> LSMS HS Bulk Download -> Change Enabled Click on 'Disable LSMS Bulk Download for this ELAP' button.		
		ELAP_A_NAME Change LSMS HS Bulk Download Enabled		
		INFO: The LSMS Bulk Download for this ELAP is currently Enabled.		
		CAUTION: This action will Disable the LSMS Bulk Download for this ELAP.		
		Disable LSMS Bulk Download for this ELAP		
		Thu. December: 26: 2013: 22::45::49: EST 2013 © Tekelec, Inc., All Rights Reserved.		
		ELAP_A_NAME Change LSMS HS Bulk Download Enabled		
		SUCCESS: The LSMS Bulk Download for this ELAP is now Disabled.		
		Thu Becenber 26 2013 22:48:14 EST 2013 © Tekelec, Inc., All Rights Reserved.		
6.	<b>ELAP Active server:</b> Disable the LSMS Connection	Go to menu Maintenance -> LSMS Connection -> Change Enabled Click on 'Disable LSMS Connection' button.		
		ELAP_A_NAME Change LSMS Connection Allowed		
		1 INFO: The LSMS Connection is currently Enabled.		
		CAUTION: This action will Disable the LSMS Connection.		
		Disable LSMS Connection		
		101 December 20 2013 22:48-49 201 2013 © Tekdec, Inc., All Rights Reserved.		
		ELAP_A_NAME Change LSMS Connection Allowed		
		SUCCESS: The LSMS Connection is now Disabled.		
		Thu December 26 2013 22:55:58 EST 2013 © Tekelec, Inc., All Rights Reserved.		
7.	All connected ELAPs: Disconnect LSMS connection	Repeat the steps 4 to 6 for all ELAPs connected to LSMS.		
	This procedure is complete!			

### Procedure 5 - DISCONNECT NPAC FROM LSMS

### **Procedure 5 - Disconnect NPAC from LSMS**

S T E This procedure disconnects NPAC from LSMS.

### Procedure 5 - Disconnect NPAC from LSMS

P #	Estimated time: 5 minutes	
1.	<b>LSMS Active server:</b> Log in to the server as the user "lsmsadm".	Login: <b>lsmsadm</b> Password: <b><lsmsadm_password></lsmsadm_password></b>
2.	LSMS Active server: Stop all connected NPAC regions	Execute the following command to list the active NPAC regions <b>\$ dbnames -n all -a</b> Canada CanadaDB MidAtlantic MidAtlanticDB Midwest MidwestDB Northeast NortheastDB Southeast SoutheastDB WestCoast WestCoastDB Western WesternDB Note: The above output shall vary depending on LSMS configuration. Execute the following command to stop an NPAC region. <b>\$ lsms stop <region name=""></region></b> Checking if npacagent is runningYes. Stopping npacagent OK. npacagent stopped: wed Jan 2 05:52:42 2014 Command complete. Execute the above command for all active regions.
3.	LSMS Active server: Login to LSMS GUI	Login to LSMS Active GUI through VIP as 'lsmsall' user.
4.	<b>LSMS Active server:</b> Deactivate all active regions	Click on the NPAC region. Go to the menu Configure -> LNP System -> NPAC -> Modify -> Primary Uncheck the 'Activate Region' checkbox and click 'OK'.

### **Procedure 5 - Disconnect NPAC from LSMS**

	5 Modify LNP System NPAC < Canada, primary>	×
	SMS Name Region8 NPAC Canada	Activate Region
	NPAC OSI Address           PSEL         cw7         TSEL         NSAP         10         248         10         5	
	LSMS OSI Address	
	PSEL psel SSEL ssel TSEL NSAP 10 248 10 78	3
	NPAC FTP Address	
	Modify NPAC Component?	
Note: Similarly, Deactivate all the active NPAC regions.           This procedure is complete!		

### Procedure 6 - BACKUP LSMS DB

**Procedure 6 - Backup LSMS DB** 

S T	This procedure outlines the steps to backup the LSMS DB.			
E P	Estimated time: 90 minutes			
#	NOTE: The estimated time may differ depending on the DB size.			
1.	<b>LSMS Active server:</b> Log in to the server as the user "root"	Login: <b>root</b> Password: <b><root_password></root_password></b>		
2.	LSMS Active server: Record DB counts	# lsmsdb -c counts		
3.	<b>LSMS Active server:</b> Remove existing DB snapshots	<pre># rm -rf /var/TKLC/lsms/free/mysql-snapshot-* # rm -rf /var/TKLC/lsms/free/snapinfo.sql</pre>		
4.	LSMS Active server: Enable "QUERY_SERVER" and "RESYNCDB_QUERY_S ERVER" Feature	Execute below command to verify "QUERY_SERVER" and "RESYNCDB_QUERY_SERVER" feature is enabled: # 1smsdb -c features   grep -w QUERY_SERVER # 1smsdb -c features   grep -w RESYNCDB_QUERY_SERVER If these features are not enabled then execute the below commands to enable them:		

### Procedure 6 - Backup LSMS DB

		# su - lsmsadm \$ dbcfginternal OUERY SERVER Y
		Provide the "Customer Service ID"
		<pre>\$ dbcfginternal RESYNCDB_QUERY_SERVER Y</pre>
		s exit
5.	LSMS Active server:	# lsmsdb -c snapshot
	Backup the LSMS DB	WARNING: This command may cause a brief interruption in traffic being sent from the NPAC to connected network elements and local LSMS provisioning may be INTERRUPTED.
		Do you want to continue? [Y/N]Y Creating snapshot of the database partition, please wait File descriptor 5 (socket:[34104267]) leaked on lvcreate invocation. Parent PID 28676: /usr/TKLC/lsms/tools/lsmsdb Logical volume "dbbackup" created The database is available to the application again. Disk snapshot created successfully. Snapshot mounted successfully. Created snapinfo.sql file successfully MidAtlanticDB/ MidAtlanticDB/NumberPoolBlock.frm MidAtlanticDB/ServiceProvNetwork.MYD
		Logical volume "dbbackup" successfully removed
		<b>Note:</b> The execution time of the above command shall vary according to the DB size.
		<ul> <li>Verify that the following snapshot files are created at /var/TKLC/lsms/free directory:</li> <li>mysql-snapshot-noreplDB.tar.gz</li> <li>mysql-snapshot-supDB.tar.gz</li> <li>mysql-snapshot-<regiondb>.tar.gz</regiondb></li> <li>snapinfo.sql</li> </ul>
6.	LSMS Active server: Verify the snapshot files for all existing NPAC regions	Execute the following command and verify that the snapshot files are created for all the NPAC regions listed in the command output. Note: The below command shows only the regions for which the DB exists.
		<pre># lsmsdb -c dblist CanadaDB MidAtlanticDB MidwestDB NortheastDB ReplTestDB SoutheastDB SoutheastDB WestCoastDB WestCoastDB WesternDB logDB mysql noreplDB performance_schema supDB</pre>
7.	LSMS Active server:	Execute the following command on LSMS Active server CLI to take MySQL dump of the supDB database.

### Procedure 6 - Backup LSMS DB

	Take MySQL dump of supDB.	<pre># mysqldump -udbroot -p[dbroot_password] supDB &gt; /var/TKLC/lsms/free/supDBdump.sql</pre>
		<b>Note:</b> Below warning message can be ignored if displayed: Warning: Using a password on the command line interface can be insecure.
8.	LSMS Active server: Take MySQL dump of	Create MySQLUserGrants.sql file listing all the users and their privileges using the following shell script MySQLUser.sh in the root directory:
	mysql.user.	File: MySQLUser.sh <i>MYSQL_CONN="-udbroot -ppassword"</i>
		<pre>mysql \${MYSQL_CONN}skip-column-names -A -e "SELECT CONCAT('SHOW GRANTS FOR ''',user,'''@''',host,''';') FROM mysql.user WHERE user&lt;&gt;'''   mysql \${MYSQL_CONN}skip- column-names -A   sed 's/\$/;/g'  sed 's/IDENTIFIED BY PASSWORD/IDENTIFIED BY/g' &gt; /var/TKLC/lsms/free/MySQLUserGrants.sql</pre>
		Note: Edit MYSQL_CONN for the proper connection properties and this will generate the MySQLUserGrants.sql file with grant statements from the 5.0 machine that you can source into the 5.6 machine.
		Run the MySQLUser.sh file to generate MySQLUserGrants.sql
		# chmod +x MySQLUser.sh # ./MySQLUser.sh
		The content of the MySQLUserGrants.sql will be like: GRANT USAGE ON *.* TO 'Ismsadm'@'%' IDENTIFIED BY '570851ac3cc01499';
		Edit the .sql file and replace the password of all the users with plain text password to contain something like: GRANT USAGE ON *. * TO 'Ismsadm'@'%' IDENTIFIED BY 'password- in-plain-text';
		Note: There is no way to reverse the hash to recover the plain text. So the customer has to provide us the plain text passwords or we can assign default passwords which the customer/end user can change later on.
9.	LSMS Active server: Log into the Active LSMS server GUI	Login to LSMS GUI as Ismsall user.
10.	LSMS Active server: Record the configured MySQL Port	Go to "Admin -> MySQL Port -> View" and record the configured MySQL Port.
11.	<b>LSMS Active server:</b> Record the configured ELAP Credentials	Go to "Configure -> LNP System -> EMS -> View" and record the configured ELAP Credentials.
		This procedure is complete!

### Procedure 7 - TRANSFER DATABASE TO REMOTE SERVER

### **Procedure 7 - Transfer Database to Remote Server**

S	This procedure transfers the d	atabase backup from the LSMS server to the remote server.
E	Estimated time: 30 minutes	
Р #	Note: 100mbps link is requir	red for database transfer to remote server.
1.	LSMS Active server: Log in to the server as the user "root"	Login: <b>root</b> Password: <b><root_password></root_password></b>
2.	<b>LSMS Active server:</b> Verify Connectivity between the <b>LSMS</b> and the remote server. If the remote server cannot be pinged, verify the network connectivity.	<pre># ping <remote ip=""> -c 3 PING <remote ip=""> (<remote ip="">) 56(84) bytes of data. 64 bytes from <remote ip="">: icmp_seq=1 ttl=64 time=0.022 ms 64 bytes from <remote ip="">: icmp_seq=2 ttl=64 time=0.020 ms 64 bytes from <remote ip="">: icmp_seq=3 ttl=64 time=0.020 ms <remote ip=""> ping statistics 3 packets transmitted, 3 received, 0% packet loss, time 2001ms rtt min/avg/max/mdev = 0.020/0.020/0.022/0.005 ms</remote></remote></remote></remote></remote></remote></remote></pre>
3.	<b>LSMS Active server:</b> List the snapshot files	<pre># ls -lrt /var/TKLC/lsms/free/*snapshot* # ls -lrt /var/TKLC/lsms/free/supDBdump.sql # ls -lrt /var/TKLC/lsms/free/MySQLUserGrants.sql</pre>
4.	<b>Remote server:</b> Remove the existing DB snapshot files	<pre># rm /var/TKLC/lsms/free/mysql-snapshot-* # rm /var/TKLC/lsms/free/supDBdump.sql # rm /var/TKLC/lsms/free/MySQLUserGrants.sql</pre>
5.	LSMS Active server: Copy snapshot files to a Remote Server.	Transfer all the NPAC region DB snapshot files, the MySQL dump of supDB and the MySQL dump of mysql.user Note: The NPAC regions are: CanadaDB, MidAtlanticDB, MidwestDB, NortheastDB, SoutheastDB, SouthwestDB, WestCoastDB and WesternDB <b># scp</b> -p /var/TKLC/1sms/free/mysql-snapshot- <npac region&gt;.tar.gz root@<remote ip="">:<remote ip="" path=""> Password: <root_password> <b># scp</b> -p /var/TKLC/1sms/free/supDBdump.sq1 root@<remote IP&gt;:<remote ip="" path=""> Password: <root_password> <b># scp</b> -p /var/TKLC/1sms/free/MySQLUserGrants.sq1 root@<remote ip="">:<remote ip="" path=""> Password: <root_password> <b>0r</b> <b># cd /var/TKLC/1sms/free/</b> <b># sftp <username>@<ip< b=""> address of remote computer&gt; Connecting to <ip address="" computer="" of="" remote=""> The authenticity of host '<ip address="" computer="" of="" remote="">' 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="" computer="" of="" remote="">' (DSA) to the list of known hosts. <username>@<ip address="" computer="" of="" remote="">'s password: <username>@<ip address="" computer="" of="" remote="">'s password:</ip></username>"</ip></username></ip></ip></ip></ip<></username></b></root_password></remote></remote></root_password></remote></remote </root_password></remote></remote></npac 

### **Procedure 7 - Transfer Database to Remote Server**

		<pre>sftp&gt; cd <target directory=""> sftp&gt; put mysql-snapshot-<npac region="">.tar.gz Uploading mysql-snapshot-<npac region="">.tar.gz sftp&gt; put supDBdump.sql Uploading supDBdump.sql sftp&gt; put MySQLUserGrants.sql Uploading MySQLUserGrants.sql sftp&gt; bye</npac></npac></target></pre>					
6.	<b>Remote Server:</b> Verify the snapshot files are present on the remote server.	<pre># ls -lrt /var/TKLC/lsms/free/*snapshot* # ls -lrt /var/TKLC/lsms/free/supDBdump.sql # ls -lrt /var/TKLC/lsms/free/MySQLUserGrants.sql</pre>					
	This procedure is complete!						

### 3.4 IPM and LSMS 13.2.X Installation

### Procedure 8 - IPM MPS SERVER WITH 64 BIT TPD 7.0.X

S T E P #	A	В	NAS	This procedure will re Estimated time: 45 mi Note : Below proce servers. MPS X:	Fhis procedure will remove the LSMS application and all the data from the server.         Estimated time: 45 minutes         Note : Below procedure needs to be executed on both MPS A, MPS B and NAS servers.         MPS X:       Reboot server			
				Insert TPD 7.0.x USB media into the USB port				
2.				MPS X: Press 'del' key to enter the BIOS. Enter System Time and System Date.	Main Advanced PCIPhP Boot Security C System Overview MIBIOS Version :08.00.15 Build Date:11/19/12 ID :0ACAA003 Processor Intel(R) Xeon(R) CPU L5238 & 2.66GHz Speed :2666MHz Count :1 System Memory Size :8192MB System Time [00:11:59] System Date [Ved 04/20/2016] V02.61 (C) Copyright 1985-2006, American M	<pre>hipset Exit * Use [ENTER], [TAB] * or [SHIFT-TAB] to * select a field. * * Use [+] or [-] to * configure system Time. * * * * * * * * * * * * * * * * * * *</pre>		

### Procedure 8 - IPM MPS Server with 64 bit TPD 7.0.x

Full Upgrade for LSMS 13.2

3.			MPS X:		
			Select Root $\rightarrow$ Hard	Main Advanced PCIPnP Boot Security Cl	nipset Exit
			Disk Drives ontion	**************************************	**************************************
			Disk Diffes option	* Boot Settings	* Specifies the *
				* * Boot Settings Configuration	* Priority sequence *
				*	* from available *
				* * Boot Device Priority	* Hard Drives. *
				* * Hard Disk Drives	1
				*	
				*	* *
				,	* *
				*	* *
				1	* *
				*	* * Select Screen *
				*	* Enter Go to Sub Screen *
				*	* F1 General Help *
				*	* F10 Save and Exit *
				1	* ESC Exit *
					1 1
				·· ***********************************	· ·******************************
				v02.61 (C)Copyright 1985-2006, American Me	gatrends, Inc.
4.			MPS X:		
			Press 'Enter' kev	Boot	
			and select USB as	***********	***********************
			the 1 <sup>st</sup> Drive	Hard Disk Drives	* Specifies the boot *
				1st Drive [USB-SMART USB]	* sequence from the *
				* 2nd Drive [HDD:P1-INTEL SSDSC]	t t
				* 3rd Drive [HDD:PO-INTEL SSDSC]	• •
				7	* *
				*	• •
					* *
		_		*	
				*	
				*	
				*	* * Select Screen *
				*	* ** Select Item *
					* +- Change Option *
				* +	* Fl General Help *
				1	* ESC Exit *
				*	* *
				*	* *
				******	*****
				v02.61 (C)Copyright 1985-2006, American Me	gatrends, Inc.
5.			MPS X:		
			Press 'Esc' key and		
			select Boot Device		
			Priority		

Procedure 8 - IPM MPS Server with 64 bit TPD 7.0.x



Procedure 8 - IPM MPS Server with 64 bit TPD 7.0.x

Procedure	8 -	IPM	MPS	Server	with	64 b	oit TPD 7.0.x	
I I OCCUAIT C	•		TITE D					

			Main Advanced PCIPnP Boot Security (	Chipset Exit
			***************************************	
			* Exit Options	* Exit system setup *
			Sava Changes and Evit	t changes t
			* Discard Changes and Exit	t t
			* Discard Changes	* F10 key can be used *
			1	* for this operation. *
			* Load Optimal Defaults	
			* Load Failsafe Defaults	• •
			*	•
				1 1
				1 1
			*	t t Solert Screen t
				* ** Select Item *
				* Enter Go to Sub Screen *
			*	* F1 General Help *
			•	* F10 Save and Exit *
			•	* ESC Exit *
			*	
			*	* *
			v02_61_/ClConveight_1985_2006hwerigen_A	lacatrande Tne
			Voz.01 (c)copyright 1905-2000, American r	legaciendo, inc.
0				
0.		MPS X:		
		Select [OK] to save	Main Advanced PCIPnP Boot Security (	Shipset Exit
		the configuration	t Twit Ontions	t Puit anatom actum
		changes.	- Exic operans	* Exit System Setup -
			Save Channes and Evit	* changes
		The energy	* Discard Changes and Exit	* *
		The server will	* Discard Changes	* F10 key can be used *
		heat propert will	1	* for this operation. *
		boot prompt will	* Load Optimal D************************************	***********
		appear.	* Load Failsafe *	*
			* * Save configuration changes and ex.	it setup? * *
			* *	* *
			* *************************************	*******
			* * [Ok] [Cancel]	* *
			* *************************************	**************************************
			• • • • • • • • • • • • • • • • • • •	* ** Select Item *
				* Enter Go to Sub Screen *
				* F1 General Help *
				* F10 Save and Exit *
				* LSC LX1C
			-	

9.		MPS X:	子 labts10512.labs.nc.tekelec.com - PuTTY
		Start the IPM process by entering the TPDlvm command at the boot prompt.	<pre>Welcome to Tekelec Platform Distribution! Release: 7.0.3.0.0_86.41.0 Arch: x86_64 For a detailed description of all the supported commands and their options, please refer to the Initial Platform Manufacture document for this release. In addition to linux &amp; rescue TPD provides the following kickstart profiles: [ TPD   TPDnoraid   TPDlvm   TPDcompact   HDD ] Commonly used options are: [ console=<console_option>[,<console_option>] ] [ primaryConsole=<console_option>] ] [ rdate=<server_ip> ] [ scrub ] [ reserved=<size1>[,<sizen>] ] [ diskconfig=HWRAID[,force] ] [ dirves=<device>[,device] ] [ guestArchive ] To install using a monitor and a local keyboard, add console=tty0 woot: TPDlvm scrub</device></sizen></size1></server_ip></console_option></console_option></console_option></pre>
10.		 MDS V.	
		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.	mounting /dev/pts (unix98 pty) filesystem done mounting /sys filesystem done anaconda installer init version 13.21.239 using a serial console trying to remount root filesystem read write done mounting /tmp as tmpfs done running install running /sbin/loader detecting hardware waiting for hardware to initialize
11.		MPS X: Once the drive formatting and file system creation steps are complete, the screen at right will appear indicating that the package installation has begin.	Welcome to Oracle Linux Server for x86_64 Package Installation 18% Packages completed: 160 of 830 Installing groff-1.18.1.4-21.el6.x86_64 (5 MB) A document formatting system
12.		MPS X:	

		Once all the packages have been successfully installed, the screen at right will appear letting you know the installation process is complete. <b>Remove USB</b> media before <b>Reboot.</b> <b>On MPS server</b> press <enter> to reboot the system and continue with the next step.</enter>	Welcome to Oracle Linux Server for x86_64 Complete Congratulations, your Oracle Linux Server installation is complete. Please reboot to use the installed system. Note that updates may be available to ensure the proper functioning of your system and installation of these updates is recommended after the reboot. Reboot
13.		MPS X: Press 'del' key to enter the BIOS	MainAdvancedPCIPNPBootSecurityChipsetExitSystem Overview*Use [ENTER], [TAB]*or [SHIFT-TAB] to*AMIBIOS* select a field.***Version :08.00.15*select a field.**Build Date:11/19/12*Use [+] or [-] to**ID:0ACAA003*configure system Time.**Processor****Processor****Speed:2666HHz***System Nemory**Select Screen*Size:8192HB***Select Item*System Time[01:15:27]*Tab*System Time[Wed 04/20/2016]*F10***
14.		MPS X: Select Boot → Hard Disk Drives option	

			Rein Mersund DOTRED Press	inant Puit
			Aalh Advanced PCIPhP Boot Security Cr	11psec Exic
			* Boot Settings	* Specifies the *
			* *************	* Boot Device *
			* * Boot Settings Configuration	* Priority sequence *
			" * * Root Device Priority	* Hard Drives *
			* * Hard Disk Drives	* # *
			*	* *
			*	* *
			*	* *
			*	*
				1 1
			*	* * Select Screen *
			*	* ** Select Item *
			*	* Enter Go to Sub Screen *
			*	* F1 General Help *
			*	* F10 Save and Exit *
			*	* ESC Exit *
			*	1
			*	• • • • • • • • • • • • • • • • • • • •
			v02.61 (C)Convright 1985-2006, American Me	gatrends. Inc.
				give anney and t
15.		N CD CL X		
		MPS X:	Boot	
		Press 'Enter' key	******	******
		and select HDD:P0	* Hard Disk Drives	* Specifies the boot *
		as the 1 <sup>st</sup> Drive		* sequence from the *
			* 2nd Drive [HDD:P1-INTEL SSDSC]	* available devices. *
			* 3rd Drive [USB:SMART USB]	* *
			•	*
				1 1
				* *
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			*	* *
			1	* * * *
				* ** Select Item *
			*	* +- Change Option *
			*	* F1 General Help *
				* F10 Save and Exit *
				* LDC EXIC *
			•	*
			****	*****
			v02.61 (C)Copyright 1985-2006, American Me	egatrends, Inc.
16.		MPS X:		
		Press 'Esc' kev and		
		select Boot Device		
	 	 Priority		

			Main Advanced PCIPnP Boot Security Ch	nipset Exit
			*************	*****
			* Boot Settings	* Specifies the *
			t & Boot Settings Configuration	* BOOU DEVICE *
			t	t t
			* * Boot Device Priority	• •
			* * Hard Disk Drives	•
			1	
			* *	
			*	• •
			1	•
			* •	* * Select Screen *
			*	* Enter Go to Sub Screen *
				* F1 General Help *
			*	* F10 Save and Exit *
			*	* ESC Exit *
			*	1
			T ************************************	*
			v02.61 (C)Copyright 1985-2006, American Me	gatrends, Inc.
				y
17.		MPS X.		
			Boot	
		Verify that the 1 <sup>st</sup>	*****	* * * * * * * * * * * * * * * * * * * *
		Boot Device is set	* Boot Device Priority	* Specifies the boot *
		to HDD:P0.	t lat Post Device [UDD.DO_INTEL S2D20]	* sequence from the *
			* ISC BOOC DEVICE [HDD:FO-INIEL SSDSC]	* available devices. *
			*	* A device enclosed in *
			*	* parenthesis has been *
			*	* disabled in the *
			*	* corresponding type *
			*	* menu. *
			*	* *
			*	* *
			*	* * Select Screen *
			*	* ** Select Item *
			*	* +- Change Option *
			*	* Fi General help *
			*	* ESC Exit *
			*	* *
			*	* *
			***************************************	**********************
			v02.61 (C)Copyright 1985-2006, American Me	gatrends, Inc.
18				
10.		MPS X:		
		Press 'Esc' key and		
		select <i>Exit</i> $\rightarrow$ <i>Save</i>		
		Changes and Exit		
		option		

			Main Advanced PCIPnP Boot Security Ch	ipset
			* Exit Options	* Exit system setup *
			Save Changes and Exit	* after saving the * * changes. *
			* Discard Changes and Exit	* *
			* Discard Changes	* F10 key can be used *
			t t Load Ontimal Defaults	* for this operation. *
			* Load Failsafe Defaults	
			*	* *
			*	
			•	* * Select Screen *
			*	* ** Select Item *
				* F1 General Help *
			*	* F10 Save and Exit *
				* ESC Exit *
			÷	:
			********	*****
			vO2.61 (C)Copyright 1985-2006, American Me	gatrends, Inc.
10				
19.		MPS X:	Wain Minners DOTDED Date Committee of	in and Rule
		Select [OK] to save	tain Advanced Perpip Dubt Security on	**************************************
		the configuration	* Exit Options	* Exit system setup *
		changes. The server	* *************************************	* after saving the *
		will reboot.	* Save Changes and Exit * Discard Changes and Exit	* changes. *
			* Discard Changes	* F10 key can be used *
			* · · · · · · · · · · · · · · · · · · ·	* for this operation. *
			* Load Optimal D************************************	
			* * Save configuration changes and exit	setup? *
			1 1	
				********
			Cancel]	tititititiert Screen t
			e de la companya de l	* ** Select Item *
			•	* Enter Go to Sub Screen *
				* F1 General Help *
				* ESC Exit *
				* *
			*	* *
			**************************************	**************************************
			forfor (of copyright 1963-2000) wher toan he	Sucrement They
			When the message "Upstart Job ntdMgr: started"	', is displayed, press the
			Enter Key to get the Login prompt.	, <b>.</b>
20.		<b>MPS X:</b> Log in to	console login: root	
		the server as the	passworu. < <b>root_passworu</b> > 	
		 user "root"		
21.		MPS X:	# getPlatRev	
			7.0.x.0.0-y.z.0	

Procedure 8 - IPM MPS Server with 64 bit TPD 7.0.x

		Verify that the platform revision is same as the ISO used.		
This procedure is complete!				

### Procedure 9 - PRE INSTALL CONFIGURATION

S T E	A	В	This procedure will perfor Estimated time: 15 min	rm the initial configuration required for LSMS installation.
P #			Note: Below proced	ure needs to be executed on both MPS A and MPS B servers.
1.			<b>MPS X:</b> Log in to the server as the user "root"	Login: <b>root</b> <b>Password:</b> <root_password></root_password>
2.			MPS X: Switch user to platcfg. Select "Server Configuration" Menu	<pre># su - platcfg Main Menu Maintenance Diagnostics Server Configuration Remote Consoles Network Configuration Security Exit</pre>
3.			MPS X: Select "Hostname" Menu	Server Configuration Menu Hostname Designation/Function Configure Storage Set Clock Time Zone Exit
4.			<b>MPS X:</b> Change the host name.	Select Edit and press [ENTER]

### **Procedure 9 – Pre-Install Configuration**

### **Procedure 9 – Pre-Install Configuration**

		Set the Hostname as "Ismspri" on Server A and as "Ismssec" on Server B and press "OK".	Image: Options in the serial console, some console output might come when the user is using the serial console to configure the LSMS. Those serial output are harmless and can be ignored.
5.		MPS X: Verify that the Hostname is correct then select and press "Exit". Otherwise repeat the step above.	Hostname Configuration Current Hostname: lsmspri
6.		<b>MPS X:</b> Navigate to the Designation Information screen.	Select Designation/Function and press [ENTER]

### **Procedure 9 – Pre-Install Configuration**




### **Procedure 9 – Pre-Install Configuration**

# Procedure 10 - INSTALL THE LSMS APPLICATION

### **Procedure 10 - Install the LSMS Application**

S T E P #	A	в	This procedure installs Estimated time: 25 minutes Note : Below proce	This procedure installs the application on the server. Estimated time: 25 minutes Note : Below procedure needs to be executed on both MPS A and MPS B servers.		
1.			<b>MPS X:</b> Log in to console the server as the user "root"	Console Login: <b>root</b> <b>Password:</b> <root_password></root_password>		
2.			MPS X: Perform Procedure in 3.6A.1 or copy LSMS 13.2.X ISO to /var/TKLC/upgrade directory.			
3.			MPS X: Start platcfg utility by logging in as platcfg user.	# su - platcfg		

#### Full Upgrade for LSMS 13.2

**Procedure 10 - Install the LSMS Application** 



		<pre>Early Checks failed for the next upgrade Look at earlyChecks.log for more info tarting Early UpgradeChecks() for Upgrade::EarlyPolicy::TPDEarlyChecks upgrade policy Verified server is not pending accept of previous upgrade ERROR: Raid mirrors are syncing! ERROR: railed 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 : [raid] md1 : active raid sdb2[1] sdb2[0] 262080 blocks super 1.0 [2/2] [UU] [======</pre>
5.	MPS X: Exit the platcfg menu	Select Exit and press [ENTER] to return to the Maintenance Menu.

			Main Menu Maintenance Diagnostics Server Configuration Security Network Configuration Remote Consoles Exit
6.		MPS X: Ignore disk mirroring before LSMS installation	<pre># echo "IGNORE_EARLY_CHECKS=1" &gt; /var/TKLC/log/upgrade/tmp_upgrade.conf Verify: # cat /var/TKLC/log/upgrade/tmp_upgrade.conf IGNORE_EARLY_CHECKS=1</pre>
7.		MPS X: Validate the upgrade media Use the "Arrow" and the [ENTER] keys to navigate the Menu options as shown to choose the upgrade media.	On the platofg "Main Menu", select Maintenance 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         Choose Upgrade Media Menu         /media/sdc1/TPD.install-7.0.3.0.0 86.44.0-OracleLinux6.7-x86 64.iso = 7.0.3.0.0 86.44.0         LSNS-13.2.0.0.0 132.6.0-x86 64.iso = 13.2.0.0.0 132.6.0         Exit
			The results of the validation will be displayed, similar to the example below. Press the "enter" key to continue.
		Press any key to return to the menu and then press Exit all way back to the Maintenance Menu	<pre>Validating cdrom **********************************</pre>
8.		<b>MPS X:</b> Navigate to the Initiate Upgrade menu.	Select the Initiate Upgrade menu and press [ENTER].
		Use the "Arrow" and the [ENTER] keys to navigate the Menu options as shown to choose the upgrade media.	Validate Media         Early Upgrade Checks         Initiate Upgrade         Copy USB Upgrade Image         Non Tekelec RPM Management         Accept Upgrade         Reject Upgrade         Exit         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

			Select the desired upgrade media and press [ENTER].
			Choose Upgrade Media Menu /media/sdc1/TPD.install-7.0.3.0.0_86.44.0-OracleLinux6.7-x86_64.iso - 7.0.3.0.0_86.44.0 LSMS-13.2.0.0.0_132.6.0-x86_64.iso - 13.2.0.0.0_132.6.0 Exit
9.		MPS X: 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.
			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
			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.
10.		MPS X: Upgrade completed	After the final reboot, the screen displays the login prompt as in the example below.
			1462266947: Upstart Job TKLCsnmp-subagent: started ####################################
			1462266947: Upstart Job syscheck: started ####################################
			1462266947: Upstart Job tpdProvd: started ####################################
			1462266949: Upstart Job ntdMgr: started ####################################
			Oracle Linux Server release 6.7 Kernel 2.6.32-573.18.1.el6prerel7.0.3.0.0_86.44.0.x86_64 on an x86_64
			lsmspri login:
11.		MPS X: Login as root user.	Login: <b>root</b> <b>Password:</b> <root_password></root_password>
12.		MPS X : Check the upgrade and warnings	<b># grep "Upgrade returned success"</b> /var/TKLC/log/upgrade/upgrade.log 1248284646:: Upgrade returned success!
			<pre># grep -i error /var/TKLC/log/upgrade/upgrade.log 1466151711::ERROR: Raid mirrors are syncing! 1466151711::ERROR: md2 is syncing! 1466151711::ERROR: earlyUpgradeChecks() code failed for Upgrade::EarlyPolicy::TPDEarlyChecks 1466151711::ERROR: Failed running earlyUpgradeChecks() code 1466151711::Ignoring errors as requested by IGNORE_EARLY_CHECKS</pre>
			Theses errors would be expected if user ignores early upgrade check.
			# grep -1 error /var/IKLC/10g/upgrade/ugwrap.10g There should be no error output.
			# grep -1 warning /var/TKLC/log/upgrade/upgrade.log

			The following warning are expected:
			1448101919::WARNING: Source file does not existcannot get
			ditt! 1448101919··WARNING· TKICIsms-Config-1 4 4-13 2 0 0 0 132 8 0·
			Current hostname "Ismspri" being reset to default.
			1448101919::WARNING: SOURCE: /var/lib/misc/prelink.force
			diff
			1448101919::WARNING: SOURCE: /etc/sysconfig/ntpdate
			1448101919::WARNING: Source file does not existcannot get
			1448101920::WARNING: SOURCE: /etc/svsconfig/network-
			scripts/ifcfg-eth03
			1448101920::WARNING: Source file does not existcannot get
			1448101920::WARNING: SOURCE: /etc/sysconfig/network-
			scripts/route-eth01
			1448101920::WARNING: Source file does not existcannot get
			1448101920::WARNING: SOURCE: /etc/sysconfig/network-
			scripts/ifcfg-eth02
			diff!
			1448101920::WARNING: SOURCE: /etc/sysconfig/network-
			scripts/itctg-eth04   1448101920::wapNING: Source file does not exist cannot get
			diff!
			1448101920::WARNING: SOURCE: /etc/sysconfig/network-
			1448101920::WARNING: Source file does not existcannot get
			diff!
			1448101920::WARNING: SOURCE: /etc/ntp/crypto/pw
			diff!
			1448101920::WARNING: SOURCE: /etc/rc.d/init.d/jexec
			diff!
			1448101920::WARNING: SOURCE: /etc/php.d/soap.ini
			1448101920::WARNING: Source file does not existcannot get
			1448101921::WARNING: SOURCE:
			/etc/.java/.systemPrefs/.systemRootModFile
			diff!
			1448101921::WARNING: SOURCE:
			/etc/.java/.systemPrefs/.system.lock
			diff!
			1448101921::WARNING: SOURCE: /etc/udev/rules.d/90-dm.rules
13.		MPS X:	# rpm -qi TKLClsms
		Verify LSMS	Name : TKLC1sms Relocations: (not relocatable)
		release.	Release : 13.2.0.0.0_132.7.0 Build Date: Fri 06 May 2016 05:25:35 PM GN
			T Install Date: Tue 10 May 2016 11:24:22 AM GMT Build Host: diablo_9 tekelec com
			Group : TKLC/Application Source RPM: TKLC1sms-13.31.0-13.2.0.0.0_13
			2.7.0.src.rpm Size : 217882395 License: ≣ TEKELEC 2004-2016
			Signature : (none)
			Packager : <open systems=""> URL : http://www.tekelec.com/</open>
			Summary : Oracle Communications LSMS Package
			Description : This is the Oracle Communications LSMS Package. The mackage installs LSMS software
			Local Service Management System (LSMS) is a secure and reliable
		<u> </u>	Local Number Portability (LNP) system.
			This procedure is complete:

### Procedure 11 - CONFIGURE NETWORK INTERFACE USING PLATCFG UTILITY

#### S This procedure configures the network interfaces and makes the E5APPB servers accessible to the network. Т Е в Estimated time: 5 minutes Ρ # Console Login: root 1. MPS X: Password: <root password> Login as root user. # su - platcfg MPS X: 2. Login to platcfg utility Main Menu MPS X: 3. Configure Maintenance Network Diagnostics Interface Server Configuration Security Network Configuration Remote Consoles Exit Network Configuration Menu SNMP Configuration Network Interfaces Routing Configure Network Network Bridges Iptables IPSEC Configuration Resolv Stunnel Modify Hosts File Configure Switch Exit

#### Procedure 11 – Configure Network Interfaces using platcfg utility



Procedure 11 – Configure Network Interfaces using platcfg utility





# Procedure 11 – Configure Network Interfaces using platcfg utility

		Message
		Interface Edited
		Press any key to continue
		Select "Exit" until you exit from the platcfg utility.
6.	MPS X:	Network Configuration Menu
	Configure default route	SNMP Configuration
	delaut route.	Network Interfaces
		Network Bridges Configure Network
		Routing
		NTP
		Iptables IPSEC Configuration
		Resolv
		Stunnel
		Modify Hosts File
		Exit
		IP Version Menu
		IPv4
		IPv6
		EXT.

Procedure 11 – Configure Network Interfaces using platcfg utility

			IPv4 Stat:	ic Routes		-
	Interface	Type	lddress	Netmask	Edit Exit	
	Type:	default default oute Ac te ute Route Based R A (*) def	default tion Menu touting	() host		
		OK	Cancel			



# Procedure 11 – Configure Network Interfaces using platcfg utility

# **3.5 Initial Configuration**

# Procedure 12 - LSMS INITIAL CONFIGURATION

<b>∽</b> ⊢шР#	This procedure does the initial configu Estimated time: 15 minutes	uration on the LSMS servers.
1.	<b>MPS A:</b> Log in to the server as the user "root".	Login: <b>root</b> Password: <b><root_password></root_password></b>



7.	MPS A:	Query for FirstTimeConfig::013RootAdmUsrKeyExchange
		Enter admusr password:
	Enter password for "admusr" Select <b>OK</b> and press <b>[ENTER]</b>	OK Cancel
8.	MPS A: Enter the NAS password used to login into NAS console. Accept the default serial port (ttyS2) when prompted for the path to the NAS console device.	Query for FirstTimeConfig::05BackupConfig Enter the NAS root password for NAS configuration:: Enter path to NAS console device:: /dev/ttyS2 OK Cancel
	Select OK and press [ENTER]	
9.	A message is displayed indicating the	root Key Exchange was successful.
	A message is displayed indicating the	lsmsadm Key Exchange was successful.
	A message is displayed indicating the	admusr Key Exchange was successful.
	A message is displayed indicating the	Time Synchronization was successful.
	A message is displayed indicating the	Database creation was successful.
	A message is displayed indicating the	NAS Backup Configuration was successful.
	A message is displayed indicating the	inhibiting of the node was successful.
	Select Exit and press [ENTER] repea	tedly to exit lsmsmgr
10.	MPS A:	#ssh mate
	Switch to mate	
11.	MPS B:	# su - lsmsmgr
	Start lsmsmgr	
12.	MPS B: Select "Initial Configuration"	Main Menu Initial Configuration Maintenance Diagnostics Server Configuration Network Configuration Exit

10		Select munning options
$\square$	MPS B:	Select running options
	Select OK and press [ENTER]	Run All: (*) yes ( ) no
	Select OK and press [EITTEK]	OK Cancel
14.	MPS B:	Query for FirstTimeConfig::05BackupConfig
		Enter the NAS root password for NAS configuration:: Enter path to NAS console device:: /dev/ttyS2
	Enter the NAS password used to	
		OK
	Select <b>OK</b> and press [ENTER]	
15.	A message is displayed indicating the	Database creation was successful.
	A message is displayed indicating the	NAS Backup Configuration was successful.
	Select Exit and press [ENTER] repea	tedly to exit lsmsmgr
16.	MPS B:	# minicom mate
	Log into the LSMS B server via minicom.	
17.	MPS A:	# init 6
$\Box$	Perform init 6 to reboot the LSMS B	
	caru.	Watch for errors during boot process.
		When the login prompt is displayed, exit from minicom.
18.	MPS A:	# minicom mate
	Log into the LSMS A server via minicom.	
19.	MPS B:	# init 6
	Perform init 6 to reboot the LSMS A	Watch for errors during boot process.
	card.	When the login prompt is displayed, exit from minicom.
		This procedure is complete!

# Procedure 13 - CONFIGURE TIME ZONE AND CLOCK

# Procedure 13 – Configure Time Zone and Clock.

P       Note: Below procedure needs to be executed on both MPS A and B servers.         1.       MPS X: Log in to the server as the user "root".         2.       MPS X: Start         3.       MPS X:: Verify time configuration and press [ENTER].         3.       MPS X:: Verify time configuration         3.       MPS X:: Verify time configuration         5.       Select Server Configuration and press [ENTER].         Initial Configuration       Main Menu         Initial Configuration       Network Configuration         Bagnostics       Server Configuration         Network Configuration       Network Configuration         Select Time Zone and press [ENTER].       Select Clock         Fine Zone       Exit         The screen shows the current time zone setting.       The screen shows the current time zone setting.	S T E	This procedure configures the time zone and clock. Estimated time: 5 minutes					
1.       MPS X: Log in to the server as the user 'root'       Login: Foot Password>         2.       MPS X: Start Issmmgr utility by logging in as Ismsmgr user.       # su - Ismsmgr         3.       MPS X:: Verify time Zone.       Select Server Configuration and press [ENTER].         3.       MPS X:: Verify time Zone.       Select Server Configuration Main Menu Initial Configuration Maintenance Diagnostics         Server Configuration       Network Configuration Menu Server Configuration Menu Initial Configuration         Select Time Zone and press [ENTER].       Select Time Zone and press [ENTER].         Select Time Zone and press [ENTER].       Select Clock Time Zone and press [ENTER].         The screen shows the current time zone setting.       The screen shows the current time zone setting.         Copyright (C) 2003, 2016, Oracle and/or ics affiliates. Allgagage Options taggage Hoggageet Issues	P #	Note: Below procedure needs to be executed on both MPS A and B servers.					
2.       MPS X: Start Ismsmgr utility by logging in as Ismsmgr user.       # su - lsmsmgr         3.       MPS X:: Verify time zone.       Select Server Configuration and press [ENTER].         Initial Configuration Maintenance Diagnostics       Initial Configuration Network Configuration Exit         Select Time Zone and press [ENTER].       Select Time Zone and press [ENTER].         Select Time Zone and press [ENTER].       Set Clock Time Zone Exit         The screen shows the current time zone setting.         Copyright (C) 2003, 2016, Oracle and/or its affiliates. Allagageu Options tagaget Time Zone Configuration	1.	<b>MPS X:</b> Log in to the server as the user "root".	Login: <b>root</b> Password: <b><root_password></root_password></b>				
3.       MPS X:: Verify time zone.       Select Server Configuration and press [ENTER].         Main Menu       Initial Configuration         Maintenance       Diagnostics         Server Configuration       Network Configuration         Network Configuration       Select Time Zone and press [ENTER].         Select Time Zone and press [ENTER].       Select Clock         Time Zone       Set Clock         Time Zone       Exit         The screen shows the current time zone setting.       The screen shows the current time zone setting.         Copyright (C) 2003, 2016, Cracle and/or its affiliates, Allagage Options tagged Hostname: lsmbsec       X         Time Zone       Time Zone Configuration	2.	<b>MPS X:</b> Start lsmsmgr utility by logging in as lsmsmgr user.	# su - 1smsmgr				
Time Zone: America/New_York Hardware Clock Set to GMT: yes If this is not correct, select Edit and press [ENTER]. If the time zone is correct select Exit press [ENTER] and skip the next step	3.	MPS X:: Verify time zone.	Select Server Configuration and press [ENTER].  Main Menu Initial Configuration Maintenance Diagnostics Server Configuration Exit Select Time Zone and press [ENTER].  Select Time Zone and press [ENTER].  Set Clock  Set Clock  Set Clock  Set Clock  Set Clock  Time Zone Exit  The screen shows the current time zone setting.  Copyright (C) 2003, 2016, Oracle and/or its affiliates. Alliqqqu Options tqqqqqk  Rostname: lamssec  Time Zone Configuration Time Zone: America/New_York  Ardware Clock Set to GMT: yes  If this is not correct, select Edit and press [ENTER].  If the time zone is correct select Exit press [ENTER].				
4.     MPS X: Change time zone.     Select appropriate time zone and press [ENTER].	4.	MPS X: Change time zone.	Select appropriate time zone and press [ENTER].				

Procedure 13 – Configure Time Zone and Clock.



**Procedure 13 – Configure Time Zone and Clock.** 

		Enter correct time.
		Change Date and Time Date: 05/20/2016 Time: 15:36:37
		Use right arrow to get to <b>OK</b> and press <b>[ENTER]</b> .
6.	MPS X: Exit the lsmsmgr menu	Select Exit and press [ENTER] to return to the Main Menu. Set Clock Time Zone Exit Select Exit and press [ENTER]. The "Ismsmgr" utility terminates. Main Menu Initial Configuration Maintenance Diagnostics Server Configuration Network Configuration Exit This procedure is complete!
		The Proceeder of Complete

# Procedure 14 - SINGLE SUBNET CONFIGURATION FOR LSMS MPS CARDS

Procedure 14 - Single Subnet Configuration for LSMS MPS Cards.

S This procedure configures the system as single subnet at the customer site.
 E Estimated time: 10 minutes
 #

# Procedure 14 - Single Subnet Configuration for LSMS MPS Cards.

1.	<b>MPS A:</b> Log in to the server as the user "root".	Login: <b>root</b> Password: <b><root_password></root_password></b>
2.	<b>MPS A:</b> Start lsmsmgr utility as lsmsmgr user.	# su - 1smsmgr
3.	MPS A: Change the network configuration	Select Network Configuration and press [ENTER].
		Select Network Reconfiguration and press [ENTER].
		Select Yes to proceed to Network configuration. lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq
		Do you want to execute "/usr/TKLC/lsms/tools/lsmsnetAdm-bin/lsmsnetadm.cgi"? Type "Y/y" to continue and the next screen will appear and press the right arrow key to
		follow the link Select <b>Single</b> from the Subnet Type menu and then select <b>Continue</b> .

# **Procedure 14 - Single Subnet Configuration for LSMS MPS Cards.**

		LSMS Net Admin>
		Network configuration will cause a service interruption! lqqqqqqqqqqqq
		x segmented x Subnet Type:x single
		wdddddddddi
		Continue
4.	MPS A: Enter network values.	Using the up and down arrows, scroll through the text fields, entering the desired values ( to enter the netmask, highlight the field and then use the enter key or right arrow key to display the dropdown menu, choose the desired value from the list) for each fields:
		In a single subnet configuration, the Application, EMS, and NPAC networks are collapsed onto one interface. This is the interface that holds the NPAC network on a segmented network configuration.
		System Number: LE1632AB55
		Primary Server Hostname:lsmspri
		Secondary Server Hostname:lsmssec
		APP/NPAC/EMS Network
		Pingable Gateway: 192.168.59.250 [•] Critical
		Primary IP: 192.168.59.30 Netmask: [255.255.255.0]
		Secondary IP: 192.168.59.31 Netmask: [255.255.255.0]
		VIP: 192.168.59.32
		Default Route IP: 192.168.59.250
		NTP Server: 10.250.32.10
		Start Over Submit
		Once the values are entered press the down arrow to select the "Submit" button and press the right arrow to follow the link.
		<ul> <li>Note: The System Number shall be as follows:</li> <li>LEYYWWMMXX</li> <li>Where: <ul> <li>LE is the new System Number Prefix for LSMS.</li> <li>YY = YEAR - vear of the system shipment</li> </ul> </li> </ul>
		<ul> <li>WW= WEEK – calendar week of the YY year when the system is shipped</li> </ul>
		• MM = MANUFACTURER (if other than TKLC) – Here 00 as Manufacturer is Oracle
		$\circ$ XX = number in line of systems shipped that week

# Procedure 14 - Single Subnet Configuration for LSMS MPS Cards.

MPS A: Apply	If the values pass a sanity test for validity, then the "Confirm" button will be visible. Us
network settings	the down arrow to select "Confirm" and press the right arrow to apply the changes. If the
	sanity tests failed, the reasons will be stated. Use the left arrow key to go back to the edit
	screen.
	SYSTEM NUM = LE1632AB55
	SUBNET TYPE = single
	HOSTNAME PRI = lamanri
	HOSTNAME_FRC = lamagec
	NDACPTNGGW = 192 168 59 250
	NPAC CRIT =
	NDACTP PRI = 192 168 59 30
	$MPACIF_FRI = 192.100.39.30$ MDACMASK DDI = 255 255 255 0
	$NPACTA SK_{FRI} = 233.233.233.0$
	NPACIP_SEC = 192.100.59.31
	$NPACMASK_{SEC} = 255.255.255.0$
	VIP = 192.168.59.32
	DEFROUTEIP = $192.168.59.250$
	NTPSERVER = 10.250.32.10
	The data is same OK to continue!!!
	Network configuration will cause a service interruption!
	Start Over
	Confirm
	The execution could take a few minutes, be patient. The screen will eventually report the status of the completion. If an error occurs, contact My Oracle Support following the instructions on the Appendix E.
	Type " <b>q</b> " and then " <b>y</b> " to exit the Network Configuration.
	<<< LSMS Net Add
	SYSTEM NUM = LE11111111
	SUBNET_TYPE = Single HOSTNIME PRI = lsmsnri
	HOSTNAME_SEC = 1smssec
	NPACPINGGW = 192.168.59.250
	NPAC_CRIT =
	NPACIP_PRI = 192.168.59.30
	NPACIP SEC = 192.168.59.31
	NPACMASK_SEC = 255.255.255.0
	VIP = 192.168.59.32
	DEFROUTEIP = 192.168.59.250 NTPSERVER = 10.250.32.10
	Performing remote configuration Performing local configuration
	OK to close utiltity (press 'q' 'y' to exit)





# Procedure 15 - SEGMENTED CONFIGURATION FOR LSMS CARDS

#### **Procedure 15 - Segmented Configuration for MPS LSMS Cards**

STEP#	This procedure configures Estimated time: 10 minutes	the system as segmented subnet at the customer site.
1	MPS A: Log in to the server	Login: root
	as the user "root".	Password: <root_password></root_password>
2	MPS A · Start Ismsmor	# su - lsmsmgr
<u>_</u> .	utility by login of lememor	
	utility by logili as islinging	
	user	
3.	MPS A: Change the	Select Network Configuration and press [ENTER].
	network configuration	
	Ũ	

# Procedure 15 - Segmented Configuration for MPS LSMS Cards

		Main Menu
		Initial Configuration Maintenance Diagnostics
		Network Configuration Exit
		Select Network Reconfiguration and press [ENTER].
		Network Configuration Menu Network Reconfiguration SNMP Configuration Routing NTP IPSEC Configuration Modify Hosts File Exit
		Select Yes to proceed to Network configuration.
		x
		x WARNING: This action is service impacting. Are you sure? x lqqqqk lqqqqq; x No x x Yes p x mqqqqj mqqqqq; x X
		A lynx driven screen will appear with the following prompt;
		Do you want to execute "//usr/TKLC/lsms/tools/lsmsnetAdm- bin/lsmsnetadm.cgi"?
		Type "Y/y" to continue and the next screen will appear and press the right arrow key to follow the link
		Select Segmented from the Subnet Type menu and then select Continue.
		Network configuration will cause a service interruption!         lqqqqqqqqqq        lqqqqqqqqqq        x segmented x         Subnet Type:x single x        mqqqqqqqqqqj         Continue
4.	<b>MPS A:</b> Enter network values.	Using the up and down arrows, scroll through the text fields, entering the desired values ( to enter the netmask, highlight the field and then use the enter key or right

# Procedure 15 - Segmented Configuration for MPS LSMS Cards

	arrow key to display the dropdown menu, choose the desired value from the list) for each fields:
	System Number: LE11111111
	Primary Server Hostname:lsmspri
	Secondary Server Hostname:lsmssec
	NPAC Network
	NPAC Pingable Gateway: 192.168.60.250 [ ] Critical
	Primary NPAC IP: 192.168.60.3 Netmask: [255.255.255.0 _]
	Secondary NPAC IP: 192.168.60.4 Netmask: [255.255.255.0 ]
	APP Network
	APP VLAN ID: 159
	APP Pingable Gateway: 192.168.59.250 [•] Critical
	Primary APP IP: 192.168.59.3 Netmask: [255.255.255.0 _]
	Secondary APP IP: 192.168.59.4 Netmask: [255.255.255.0]
	APP VIP: 192.168.59.5
	EMS Network
	EMS VLAN ID: 161
	EMS Pingable Gateway: 192.168.61.250 [ ] Critical
	Primary EMS IP: 192.168.61.38 Netmask: [255.255.255.0 ]
	Secondary EMS IP: 192.168.61.51 Netmask:[255.255.255.0]
	Default Route IP: <b>192.168.59.250</b>
	NTP Server: 10.250.32.10
	Start Over Submit
	Note: The System Number shall be as follows:
	• LEYYWWMMXX
	• Where:
	• $YY = YEAR - year of the system shipment$
	• WW= WEEK – calendar week of the YY year when the system is shipped
	• $MM = MANUFACTURER$ (if other than TKLC) – Here 00 as
	<ul> <li>Manufacturer is Oracle</li> <li>XX = number in line of systems shipped that week</li> </ul>
	*Default route should be the route of the APP IP address.

Procedure 15 - Segmented Configuration for MPS LSMS Cards

		Once the values are entered press the down arrow to select the "Submit" button and press the right arrow to follow the link.
5.	MPS A: Apply network settings	If the values pass a sanity test for validity, then the "Confirm" button will be visible. Use the down arrow to select "Confirm" and press the right arrow to apply the changes. If the sanity tests failed, the reasons will be stated. Use the left arrow key to go back to the edit screen.
		key to go back to the edit screen. SYSTEM_NUM = LE1111111 SUBNET_TYPE = segmented HOSTNAME_BRI = 1smspri HOSTNAME_SEC = 1smssec NPACPINGGW = 192.168.60.250 NPACCRIT = NPACIP_PRI = 192.168.60.3 NPACMASK_RI = 225.255.255.0 NPACIP_SEC = 192.168.60.4 NPACMASK_SEC = 255.255.05 APPINGGW = 192.168.59.3 APPE_RIT = APPIP_SEC = 192.168.59.4 APPMASK_PRI = 255.255.255.0 VIP = 192.168.61.250 EMS_PINGGW = 192.168.61.250 EMS_PINGGW = 192.168.61.38 EMSMASK_SEC = 255.255.255.0 DEMS_PINGE = 192.168.61.38 EMSMASK_SEC = 255.255.0 MARASK_SEC = 255.255.0 The data is sane OK to continue!!! Network configuration will cause a service interruption! Start Over Confirm The execution could take a few minutes, be patient. The screen will eventually report the status of the completion. If an error occurs, contact My Oracle Support following the instructions on the Appendix E.
		Type " <b>q</b> " and then " <b>y</b> " to exit the Network Configuration.

# Procedure 15 - Segmented Configuration for MPS LSMS Cards

		<<< LSMS Net A SYSTEM NUM = LE11111111	dmin:
		SUBNET_TYPE = single	
		HOSTNAME_PRI = 1smspri	
		HOSTNAME_SEC = 1smssec	
		NPACPINGGW = 192.168.59.250	
		NPACIP PRI = 192.168.59.30	
		NPACMASK_PRI = 255.255.255.0	
		NPACIP_SEC = 192.168.59.31	
		NPACMASK_SEC = 255.255.255.0	
		VIP = 192.166.59.32 DEFROUTEIP = 192.168.59.250	
		NTPSERVER = 10.250.32.10	
		Performing remote configuration	
		Performing local configuration	
		OK to close utiltity (press 'q' 'y' to exit)	
		Commands: Use arrow keys to move, '?' for help, 'q' to quit, '<-' to go bac	:k.
6	<b>MPS A:</b> Exit the lsmsmgr	Salast Exit and proce (ENTER) to return to the Main Manu	
о. П	menu	Network Configuration Menu	
		Network Reconfiguration	
		SNMP Configuration	
		Pouting	
		NTD	
		NIF IDSEC Configuration	
		Madific Users File	
		Modify Hosts File	
		EXIC	
		Select <b>Exit</b> and press [ENTER]. The "platcfg" utility terminates.	
		Main Menu	
		Initial Configuration	
		Maintenance	
		Diagnostics	
		Server Configuration	
		Network Configuration	
		Exit	
		This procedure is complete!	
-			

# Procedure 16 - TMN TOOLKIT AND MARBEN OSI LICENSE INSTALLATION

Note: Valid Licenses need to be installed on both A and B LSMS servers.

Contact NE Technologies Inc. to get a valid license file by providing

- 1. host name, lsmspri for A and lsmssec for B; and
- 2. Mac address for Ethernet interface eth01 (interface name after IPM'ed but before LSMS installation) or eth0 (interface name after LSMS installation).

### Procedure 16 - TMN Toolkit and Marben OSI License Installation

S T		This procedure will ins	tall the TMN Toolkit and Marben OSI License to both A and B LSMS servers.
E P #		Estimated time: 5 minute	28
1.		<b>MPS X:</b> Log in to the server as the user "root"	Login: <b>root</b> Password: <b><root_password></root_password></b>
2.		<b>MPS X:</b> Install the TMN toolkit license file	Copy the TMN Toolkit license file to /usr/local/netech/etc/license path following any steps mentioned in 3.6C.1 or 3.6C.2
3.		<b>MPS X:</b> Install the Marben OSI License file	Copy Marben OSI License string using below command: # echo " <marben license="" osi="" string="">" &gt; /usr/TKLC/osi/conf/license</marben>
4.		<b>MPS X:</b> Restart the system	Reboot the system to take effect # reboot
			This procedure is complete!

### Procedure 17 - START LSMS SERVICES

S T P #	This procedure starts the LSMS services. Estimated time: 10 minutes	
1.	<b>MPS A:</b> Log in to the server as the user "root".	Login: <b>root</b> Password: <b><root_password></root_password></b>
2.	MPS A: Start lsmsmgr	# su - lsmsmgr
3.	MPS A: Start Node - This will make node active and start application	On the "Main Menu", select Maintenance and press [ENTER].

Main Menu Initial Configuration Maintenance Diagnostics Server Configuration Network Configuration Exit
Select Start Node and press [ENTER]. Maintenance Menu LSMS Node Status Start Node Stop Node Inhibit Node Backup and Restore Exit
Select Yes to confirm node startup press [Enter]
Press Enter once the node is uninhibited successfully. [root@lsmspri ~]# su - lsmsmgr LSMS starting up on lsmspri Uninhibiting local node Uninhibit of the local node completed successfully! Press enter to continue

Maintenance Menu         LSMS Node Status         Start Node         Stop Node         Inhibit Node         Backup and Restore         Exit         Select Exit and press [Enter] to exit the lsmsmgr menu.         Main Menu         Initial Configuration         Maintenance
Diagnostics Server Configuration Network Configuration
Exit
4.     MPS A:     #ssh mate       Switch to mate     #ssh mate
5.     MPS B: Log in to the server as the user "root".     Login: root Password>
6. MPS B: # su - lsmsmgr
7. MPS B: Start Node - This will make node standby and start application Main Menu Initial Configuration Maintenance Diagnostics Server Configuration Network Configuration Exit
Select Start Node and press [ENTER].

Maintenance Menu         LSMS Node Status         Start Node         Stop Node         Inhibit Node         Backup and Restore         Exit         Select Yes to confirm node startup press [Enter]
Start Node Confirm Node Startup Yes No Press Enter once the node is uninhibited successfully.
<pre>[root@lsmssec ~]# su - lsmsmgr LSMS starting up on lsmssec Checking status from active mate Running status on lsmspri node Copying DB from active mate. Local node will become standby. This may take a while LSMS shutting down lsmssec Syncing Binary Logs Syncing mate:/mnt/snap/ to /var/TKLC/lsms/db/ Sync'ed LSMS starting up on lsmssec Uninhibiting node lsmssec Startup of local node successful Press enter to continue</pre>
Select Exit and press [Enter] to return to Main Menu.

Maint LSMS No Start I Stop No Inhibit Backup Exit Select Exit Mainter Diagnos Server	And Restore	e lsmsmgr menu.
Server Networl Exit	Configuration Configuration	
This procedure is complete!		

# Procedure 18 - POST CONFIGURATION HEALTH CHECK

# **Procedure 18 – Post Configuration Health Check**

STEP#	This procedure determines the health of the Server after an installation. This procedure will perform a syscheck on each LSMS server.Estimated time:5 minutes	
1.	<b>MPS A and B:</b> Log in to the server as the user "root".	Login: <b>root</b> Password: <b><root_password></root_password></b>
2.	<b>MPS A and B:</b> Validate date, time and time zone to ensure accuracy.	<b># date</b> Thu May 12 05:55:27 EDT 2016
	<b>MPS A and B:</b> Execute the "hastatus" command to verify the HA state of this server.	<ul> <li>Execute the following command on both LSMS A and B to verify the HA state of mated LSMS pair.</li> <li># hastatus</li> <li>Verify that the hastatus of one of the servers is Active and the other is Standby.</li> <li>WARNING: If the output from the above command is anything else other than "ACTIVE" and "STANDBY", do not proceed with this procedure and contact My Oracle Support following the instructions on the Appendix E.</li> </ul>

# **Procedure 18 – Post Configuration Health Check**

3.	LSMS Standby server:	Execute the following command to verify that MySQL replication is working correctly on the STANDBY LSMS server:
	STANDBY server's	<pre># tail /var/TKLC/lsms/logs/dbreplMon.log</pre>
	MySQL replication is functioning properly.	If MySQL replication is functioning correctly then the following output will be observed, make sure that at least the last line of your output matches the lines below.
		Thu May 12 05:58:12 2016 All tests passed on STANDBY FIPS integrity verification test failed. FIPS integrity verification test failed. Thu May 12 05:59:19 2016 All tests passed on STANDBY FIPS integrity verification test failed. FIPS integrity verification test failed. Thu May 12 06:00:25 2016 All tests passed on STANDBY FIPS integrity verification test failed. FIPS integrity verification test failed. FIPS integrity verification test failed. FIPS integrity verification test failed. Thu May 12 06:01:32 2016 All tests passed on STANDBY WARNING: If at least the last line of your output does not match the lines above then do not proceed with this upgrade and contact My Oracle Support following the
		instructions on the Appendix E.
4.	MPS A and B:	# syscheck
	Execute syscheck	Running modules in class disk
		ОК
		Running modules in class hardware
		ок
		Running modules in class lsmshc
		OK Running modules in class net
		ОК
		Running modules in class proc
		ОК
		Running modules in class services
		ОК
		Running modules in class system
		Running modules in class system OK
		Running modules in class system OK Running modules in class upgrade
		Running modules in class system OK Running modules in class upgrade OK • LOG LOCATION: /var/TKLC/log/syscheck/fail log
5	I SMS Active server:	Running modules in class system OK Running modules in class upgrade OK • LOG LOCATION: /var/TKLC/log/syscheck/fail_log Execute the following command on the ACTIVE LSMS server to display the current
5.	LSMS Active server:	Running modules in class system OK Running modules in class upgrade OK • LOG LOCATION: /var/TKLC/log/syscheck/fail_log Execute the following command on the ACTIVE LSMS server to display the current LSMS sentry status:

Full Upgrade for LSMS 13.2

# **Procedure 18 – Post Configuration Health Check**

		<b>NOTE</b> : Verify that the output displays a Status of "running" for all processes; the regional processes (npacagents) may or may not be associated in the Comment field. If the output from this command displays any other Status than "running" contact My Oracle Support following the instructions on the Appendix F
		Capture the output from this command and make it available to Oracle Technical Services if required.
This procedure is complete!		

# 3.6 Data Migration

# Procedure 19 - **RESTORE DATABASE**

### **Procedure 19 - Restore Database**

S	This procedure restores the database on the LSMS server.		
T E P #	Estimated time:60 minutes		
		Loging not	
1.	MPS A server:	Password: <root_password></root_password>	
	Log in to the server as the user "root".		
2.	MPS A server:	Transfer all the NPAC region DB snapshot files, supDB MySQL dump and users	
	Copy the snapshot files	MySQL dump from the Remote server to current LSMS A server.	
	from the Remote server to		
	the current LSMS Active	Note: The NPAC regions are: CanadaDB, MidAtlanticDB, MidwestDB,	
	server.	NortheastDB, SoutheastDB, SouthwestDB, WestCoastDB and WesternDB	
		<pre># scp -p root@<remote ip="">: <remote ip="" path="">/mysql-snapshot- <npac region="">.tar.gz /var/TKLC/lsms/free Password: <root_password></root_password></npac></remote></remote></pre>	
		<pre># scp -p root@<remote ip="">:<remote ip="" path="">/supDBdump.sq7 /var/TKLC/lsms/free Password: <root_password></root_password></remote></remote></pre>	
		<pre># scp -p root@<remote ip="">:<remote ip="" path="">/ MySQLUserGrants.sq1 /var/TKLC/lsms/free</remote></remote></pre>	
		Password: <root_password></root_password>	
3.	MPS A and B server: Stop LSMS processes	Note: Execute this step on Standby LSMS server first followed by the active LSMS server.	
		# su – lsmsmgr	

Procedure 19 - Restore Database

		Main Menu Initial Configuration Maintenance Diagnostics Server Configuration Network Configuration Exit
		Maintenance Menu LSMS Node Status Start Node Stop Node Inhibit Node Backup and Restore Exit
		Stop Node This could cause a service interruption, are you sure? Yes No
		Node shutdown completed successfully.
		Press any key to continue Exit the lsmsmgr menu.
4.	MPS A and B: Execute the "hastatus" command to verify the HA state of this server.	Execute the following command on both LSMS A and B to verify the HA state of mated LSMS pair. # hastatus

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# **Procedure 19 - Restore Database**

		Verify that the hastatus of both the servers is 'UNINITIALIZED "INHIBITED"'.
		<b>WARNING</b> : If the output from the above command is anything else other, do not proceed with this procedure and contact My Oracle Support following the instructions on the Appendix E.
5.	MPS A server:	# cd /var/TKLC/lsms/db
	Extract the snapshot data from the archive tar files	Restore the <regiondb> with the regional database name (For example:</regiondb>
	copied from LSMS.	CanadaDB) # tar -xzvf /var/TKLC/lsms/free/mysql-snapshot-
		<regiondb>.tar.gz</regiondb>
6.	MPS A server:	Execute the below commands: # service mysgl start
	Restore supDB and MySQL	
	Users.	Restore the 'supDB' # mysql -udbroot -p[dbroot_password] supDB < /var/TKLC/lsms/free/supDBdump.sql
		Restore MySQL users # mysql -udbroot -p[dbroot_password] < (van (TKLC) [see (free (MySQL user Creater eq]
		# service mysql stop
		<b>Note</b> . Below warning message can be ignored if displayed
		Warning: Using a password on the command line interface can be insecure.
7.	MPS A server:	Remove the snapshot files.
	Remove the snapshot mes	# cd /var/TKLC/lsms/free
		# rm -f supDBdump.sql
		# rm -t MySQLUserGrants.sql
8.	MPS A server: Check ownership of	Verify dbadm:dbadm ownership of all database files and directories.
	database files	# cd /var/TKLC/lsms/db # ls -ltr <db name=""></db>
		where <db name=""> is supDB or <region>DB,</region></db>
		where <region> is the name of an NPAC region.</region>
		If any databases have ownership other than dbadm:dbadm, change them using this command:
		# chown -R dbadm:dbadm <db name=""></db>
9.	LSMS Active Server:	Execute the below commands:
	Make supDB schema changes	<pre># service mysql start</pre>
		Make supDB schema changes
		Kun the following script from the bin directory # su - lsmsadm
		# cd /usr/TKLC/lsms/bin
#### **Procedure 19 - Restore Database**

		<pre># ./dbMigration13_2</pre>	
		Following would be the expected output : ************************************	
		Caution!!! Please enter correct details below, otherwise DB might get corrupt ************************************	
		Enter the LSMS source release for full upgrade (13.0/13.1): 13.0 INFO: supDB changes from LSMS 13.0 to LSMS 13.1 done successfully. INFO: supDB changes from LSMS 13.1 to LSMS 13.2.X done successfully.	
		# exit # service mysql stop	
10.	MPS A and B server: Start LSMS processes	Note: Execute this step on LSMS A server first followed by LSMS B server.	
	I	# startNode	
11.	MPS A and B: System Heath Check	Execute Procedure 17 - to verify the system health check after DB full upgrade.	
12.	LSMS Active server: Login to LSMS GUI	Login to LSMS Active GUI as Ismsall user.	
13.	LSMS Active server: Configure MySQL Port	Refer to the recorded value of MySQL Port in 23Procedure 6 - step 10. If the MySQL Port is default port, then skip the next step. Otherwise, go to "Admin -> MySQL Port -> Modify" and configure the port recorded from LSMS 13.0/13.1.	
14.	<b>LSMS Active server:</b> Verify the ELAP Credentials	Go to "Configure -> LNP System -> EMS -> View" to verify the ELAP Credentials are identical to the recorded value of the ELAP Credentials in Procedure 6 - step 11.	
		Otherwise, go to "Configure -> LNP System -> EMS -> Modify" and configure the ELAP Credentials recorded from LSMS 13.0/13.1.	
	This procedure is complete!		

## Procedure 20 - CONNECT LSMS 13.2.X TO NPAC

#### **Procedure 20 - Connect LSMS to NPAC**

S T	This procedure connects the LSMS to the NPAC.
E P #	Estimated time:15 minutes
NOT	E: Execute this procedure only when the NPAC region is not visible on the LSMS GUI, after the DB is restored.

#### Procedure 20 - Connect LSMS to NPAC

1.	MPS X: Verify LSMS installation	<ol> <li>Note:</li> <li>LSMS 13.2.X is successfully installed and configured.</li> <li>NAS is successfully installed and configured.</li> </ol>	
2.	<b>LSMS Active server:</b> Login to LSMS Active GUI	Login to LSMS Active GUI through VIP as Ismsall user.	
3.	LSMS Active server: Update NPAC Customer ID	Click on the NPAC region. Go to the menu Configure -> LNP System -> LSMS -> Modify Enter the new LNP SPID in the 'NPAC Customer ID' field and fill appropriate information in all other fields. Modify LNP System LSMS NPAC Customer ID Component Info Contact Info Platform Type ISMS Platform Supplier Oracle Platform SW Release 13.2 Platform Model 1.0 Component? OK Cancel	
4.	<b>LSMS Active server:</b> Create NPAC region(s) and connect it to the NPAC	Click on the NPAC region. Go to the menu Configure -> LNP System -> NPAC -> Modify -> Primary Enter the NPAC IP in the 'NSAP' field and NPAC FTP Address and check the 'Activate Region' checkbox. Fill the information in all other tabs.	

#### **Procedure 20 - Connect LSMS to NPAC**

Modify LNP System NPAC <midatlantic, primary=""></midatlantic,>
SMS Name       Mid-Atlantic Regional NPAC SMS       Image: Activate Region         Address Info       Component Info       Contact Info       Comm Info
NPAC OSI Address       PSEL cw1     SSEL cw1       TSEL     NSAP       10     248       248     10
LSMS OSI Address
PSEL psel SSEL ssel TSEL NSAP 10 248 10 78
NPAC FTP Address           10         248         10         5
Modify NPAC Component?
This procedure is complete!

# Procedure 21 - EXPORT THE DATABASE FROM LSMS 13.2.X TO THE QUERY SERVER

#### Procedure 21 – Export the Database from LSMS 13.2.X to the Query Server

STEP#	This procedure provides the steps to export the database from the LSMS 13.2.X system to the query server. Estimated time: 30 minutes	
1.	<b>LSMS Active server:</b> Login as root.	Login to LSMS 13.2.X CLI as root user.
2.	<b>LSMS Active server:</b> Remove the existing DB snapshot files	<pre># rm /var/TKLC/lsms/free/mysql-snapshot-* # rm /var/TKLC/lsms/free/snapinfo.sql</pre>
3.	<b>LSMS Active server:</b> Create a snapshot	<pre># lsmsdb -c snapshot WARNING: This command may cause a brief interruption in traffic being sent from the NPAC to connected network elements and local LSMS provisioning may be INTERRUPTED. Do you want to continue? [Y/N]Y Creating snapshot of the database partition, please wait lvcreate WARNING: the snapshot will be automatically disabled once it gets full lvcreate INFO: using default snapshot chunk size of 64 KB for "/dev/vgapp/dbbackup" lvcreate logical volume "/dev/vgapp/dbbackup" successfully created</pre>

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Procedure 21 – Exp	ort the Database	from LSMS	13.2.X to the	<b>Ouerv Server</b>

	-	
		The database is available to the application again. Disk snapshot created successfully. mount: block device /dev/vgapp/dbbackup is write-protected, mounting read-only Snapshot mounted successfully. Created snapinfo.sql file successfully CanadaDB/ CanadaDB/db.opt CanadaDB/SubscriptionVersion.frm CanadaDB/SubscriptionVersion.MYI CanadaDB/SubscriptionVersion.MYD CanadaDB/NumberPoolBlock.frm CanadaDB/NumberPoolBlock.MYI CanadaDB/ServiceProvNetwork.frm CanadaDB/ServiceProvNetwork.frm CanadaDB/ServiceProvNetwork.MYI CanadaDB/ServiceProvNetwork.MYI CanadaDB/ServiceProvNetwork.MYI CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.frm CanadaDB/ServiceProvLRN.myI """""
4.	<b>LSMS Active server:</b> Verify the snapshot	# cd /var/TKLC/lsms/free
		<pre>[root@lsmspri free]# ls mysql-snapshot-SouthwestDB.tar.gz mysql-snapshot-supDB.tar.gz mysql-snapshot-CanadaDB.tar.gz mysql-snapshot-WestCoastDB.tar.gz mysql-snapshot-MidAtlanticDB.tar.gz snapinfo.sql mysql-snapshot-MidwestDB.tar.gz mysql-snapshot-NortheastDB.tar.gz mysql-snapshot-SoutheastDB.tar.gz</pre>
5.	LSMS Active server: Copy snapshot files to LSMS 13.2.X Query Server	Transfer all the NPAC region DB snapshot files.
	or a Remote Server.	<b>Note:</b> The NPAC regions are: CanadaDB, MidAtlanticDB, MidwestDB, NortheastDB, SoutheastDB, SouthwestDB, WestCoastDB and WesternDB
		<pre># scp -p /var/TKLC/lsms/free/mysql-snapshot-<npac region="">.tar.gz root@<query ip="" server="">:/usr/mysql1</query></npac></pre>
		<pre># scp -p /var/TKLC/1sms/free/snapinfo.sq1 root@<query ip="" server="">:/usr/mysql1</query></pre>
		or
		<pre># sftp <username>@<ip address="" computer="" of="" remote=""> Connecting to <ip address="" computer="" of="" remote=""> The authenticity of host '<ip address="" computer="" of="" remote="">' 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="" computer="" of="" remote="">' (DSA) to the list of known hosts. <username>@<ip address="" computer="" of="" remote="">'s password: sftp&gt; cd <target directory=""> sftp&gt; put mysgl-snapshot-<npac region="">.tar.gz</npac></target></ip></username></ip></ip></ip></ip></username></pre>

### Procedure 21 – Export the Database from LSMS 13.2.X to the Query Server

		Unloading mysal-snanshot-~NPAC regions tar az
		sftp> put snapinfo.sql
		sftp> bye
6.	LSMS 13.2.X Query	login: <b>root</b>
	Server:	Password:< <b>root_password</b> >
	Server	
7.	LSMS 13.2.X Query	# cd /opt/mysql/mysql/bin
	Server: Shutdown the Mysal server	<pre># ./mysqladmin -u root -p shutdown Enter password:</pre>
8.	LSMS 13.2.X Ouerv	# cd /usr/mysql1
	Server:	<pre># gunzip -c mysql-snapshot-<regiondb>.tar.gz   tar -xvf -</regiondb></pre>
	Extract the data for EACH	
	with regional database name	
		<pre># rm mysql-snapshot-<regiondb>.tar.gz</regiondb></pre>
	has extracted.	
9.	LSMS 13.2.X Query	# cd /opt/mysql/mysql/bin
	Server:	
	the Query Server.	# ./mvsgld safeskip-slave-start &
		1255 # Starting myseld daemon with databases from /usr/mysel1.
10.	LSMS 13.2.X Query Server:	# ./mysql -u root -p
	Start the Mysql command	
	line utility	Mysql> <b>reset master;</b> Query OK, 0 rows affected (0.23 sec)
	Reset the configuration	
1	information for master	
1		mysqı> <b>reset sıave;</b> Query OK, O rows affected (0.19 sec)
	Reset the configuration	
	information for slave	<pre>mysql&gt; source /usr/mysql1/snapinfo.sql Ouerv OK, 0 rows affected (0.17 sec)</pre>
1	Configure the query server	
	to start replication from the	
	master.	
11.	LSMS Active server: As	[root@lsmspri root]# <b>rm /var/TKLC/lsms/free/mysql-snapshot*</b>
	intermediate tarballs from	
1	the LSMS 13.2.X server.	
	As the root user remove the	[root@]smspri root]# rm //ar/TKLC/]sms/free/spaninfe_ca]
1	snapinfo.sql script from the	
1	LSMS 13.2.X server	

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12.	LSMS 13.2.X Query Server:	<b>NOTE:</b> EMS changes may cause the Query server to disconnect. These steps will help prevent the disconnect.
	Start the Mysql command line utility	login: root # /opt/mysql/mysql/bin/mysql -u root -p
13.	LSMS 13.2.X Query Server:	mysql> <b>SET GLOBAL SQL_SLAVE_SKIP_COUNTER = 100;</b> Query OK, 0 rows affected
	Prepare the Query Server for the EMS Configuration	
14.	LSMS 13.2.X Query Server:	Perform Error! Reference source not found
	Validate the operation of the	
	query server.	
This procedure is complete!		

#### Procedure 21 – Export the Database from LSMS 13.2.X to the Query Server

## Procedure 22 - CONNECT LSMS 13.2.X TO ELAP

#### Procedure 22 - Connect LSMS to ELAP

S T	This procedure connects the L	SMS to ELAP.	
E P #	Estimated time:10 minutes		
1.	ELAP Active server: Login to ELAP GUI	Login to ELAP GUI through VIP as uiadmin.	
2.	<b>ELAP Active server:</b> Enable the LSMS Connection	Go to menu Maintenance -> LSMS Connection -> Click on 'Enable LSMS Connection' button.	Change Enabled
		ELAP_A_NAME	Change LSMS Connection Allowed
		<b>1</b> INFO: The LSMS Connection is currently Disabled.	
		CAUTION: This action will Enable the LSMS Connection.	
		Enable LSMS Connecton Fri December 27 2013 02:02:56 EST 2013@Tetalscipe All Rights Reserved	
		ELAP_A_NAME	Change LSMS Connection Allowed
		SUCCESS: The LSMS Connection is now Enabled.	
		Fri December 27 2013 02:03:19 EST	
		2013 © Tekelec, Inc., All Rights Reserved.	

#### **Procedure 22 - Connect LSMS to ELAP**

3.	<b>ELAP Active server:</b> Enable the bulkload.	Go to menu Maintenance -> LSMS HS Bulk Download -> Change Enabled Click on 'Enable LSMS Bulk Download for the ELAP' button.	
		ELAP_B_NAME	Change LSMS HS Bulk Download Enabled
		<b>1</b> INFO: The LSMS Bulk Download for this ELAP is currently Disabled.	
		CAUTION: This action will Enable the LSMS Bulk Download for this ELAP.	
1		Endole LOMS DUR JOWINGGU IOI IIIS ELAP Thu June 09 2016 08:50:33 EDT	
1		Copyright © 2015-2016, Oracle and/	or its affiliates. All rights reserved.
		After clicking on the button, success messa	ge will be displayed.
		SUCCESS The LSMS HS Bulk Download	l is now enabled.
		This procedure is complete!	

### Procedure 23 - ACCEPT THE UPGRADE

#### **Procedure 23 – Accept the upgrade.**

S T E P #	A	В	This procedure will accept th Estimated time: 5 minutes	e upgrade.
1.			<b>MPS X:</b> Log in to the server	Login: root password
			as the user root.	
2.			MPS X: Start platcfg	# su - platcfg
			utility.	
3.			MPS X: Accept Upgrade	
				On the "Main Menu", select Maintenance and press [ENTER]. Main Menu Maintenance Diagnostics Server Configuration Network Configuration Remote Consoles Exit Select the "Upgrade" menu and press [ENTER].

**Procedure 23 – Accept the upgrade.** 

	1 loccuure 2	o meeept the upgi	uuci
			Maintenance Menu Upgrade Backup and Restore View Mail Queues Restart Server Save Platform Debug Logs Exit
			Select the "Accept 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
			Note: The "Reject Upgrade" menu is also available after the LSMS installation. However, this option should not be used after the first installation of application. It should be used in subsequent upgrades to return to a previous application release.
			Select Yes and press [ENTER].  Main Menu Do you really want to accept the upgrade?
			Yes
			Called with options:accept Loading Backout::BackoutType::RPM Accepting Upgrade Executing common accept tasks Setting POST_UPGRADE_ACTION to ACCEPT in upgrade info. Cleaning backout directory. Clearing Upgrade Accept/Reject alarm. Cleaning message from MOTD. Removing SWAP /dev/mapper/vgroot-plat_swap from fstab. Removed 1 swap entries from fstab

### **Procedure 23 – Accept the upgrade.**

			++ Message ++ I
			The accept has completed.
			Press any key to continue
This procedure is complete!			

## APPENDIX A. ISO IMAGE COPY FROM USB MEDIA

Assumption: The USB media contains the desired LSMS ISO.

## A.1 ISO IMAGE COPY FROM USB MEDIA

#### Appendix A.1 - ISO Image copy from USB media

S T E P #	1A	1B	This procedure provi	This procedure provides instructions to copy an ISO image from an USB media.			
1.			MPS X: Insert USB.	Insert media in USB drive			
2.			MPS X: Log in to the server as the "root" user.	[hostname] consolelogin: root password: password			
3.			<b>MPS X:</b> Run syscheck to make sure there is no error.	Execute the following command: <b># syscheck</b> The output should look like: [root@hostname ~]# syscheck Running modules in class proc OK Running modules in class services OK Running modules in class disk Running modules in class hardware OK Running modules in class net LOG LOCATION: /var/TKLC/log/syscheck/fail_log			
4.			<b>MPS X:</b> Verify ISO image doesn't already exist.	Execute the following command to perform directory listing: <b># ls -al /var/TKLC/upgrade</b> The output should look like: [root@hostname ~]# ls -al /var/TKLC/upgrade total 16 dr-xr-xr-x 2 root root 4096 Oct 22 16:31 . dr-xr-xr-x 21 root root 4096 Oct 18 13:40 If an ISO image exists, remove it by executing the following command: <b># rm -f /var/TKLC/upgrade/<iso image=""></iso></b>			
5.			MPS X: Delete unwanted ISOs from USB media.	Execute the following command to create a directory to mount the USB media: <b># mkdir -p /mnt/usb</b> Execute the following command to get the USB drive name: <b># fdisk -1  grep FAT</b> The output should look like: /dev/sdc1 * 1 812 831472 6 FAT16 Execute the following command to mount the USB media using the USB drive name from the output above:			

			<pre># mount /dev/sdc1 /mnt/usb</pre>
			Execute the following command to perform directory listing and verify the file name format is as expected: # ls -al /mnt/usb
			The output should look like: [root@hostname ~]# # ls -al /mnt/usb total 629400 dr-xr-xr-x 2 root root 4096 Dec 5 13:33 . dr-xr-xr-x 22 root root 4096 Dec 5 13:55 . -rw-r-r 1 root root 829595648 Dec 5 16:20 LSMS- 13.2.0.0.0_132.6.0-x86_64.iso Only one ISO file should be listed, if additional files are listed, execute the following command to remove unwanted ISOs: # rm -f /mnt/usb/ <iso_name>.iso For e.g., # rm -f /mnt/usb/ LSMS-13.2.0.0.0_132.6.0-x86_64.iso</iso_name>
6.		MPS X: Verify space exists for	Execute the following command to verify the available disk space: <b># df -h /var/TKLC</b>
		130.	The output should look like: [root@lsmspri log]# df -h /var/TKLC Filesystem Size Used Avail Use% Mounted on /dev/mapper/vgroot-plat_var_tklc 3.9G 1.2G 2.5G 32% /var/TKLC
			Verify that there is at least 620M 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. Contact Technical Services beforehand if removing files other than the /var/TKLC/upgrade directory as removing files is dangerous.
7.		Copy iso from mounted path to	Execute the following command to copy ISO: # cp /mnt/usb/ <xyz.iso> /var/TKLC/upgrade/</xyz.iso>
		the destination path	Execute the following command to unmount the USB media: <b># umount /mnt/usb</b>
8.		MPS X: Verify ISO image exists.	Execute the following command to perform directory listing: # ls -al /var/TKLC/upgrade The output should look like: [root@lsmspri log]# ls -al /var/TKLC/upgrade total 895152 drwxrwxr-x. 2 root admgrp 4096 Apr 20 17:16 . dr-xr-xr-x. 20 root root 4096 Apr 20 18:01 -r 1 admusr admgrp 916621312 Apr 20 17:16 LSMS- 13.2.0.0.0_132.6.0-x86_64.iso
	1		Repeat this procedure from step 5 if LSMS ISO file is not as expected.

9.			MPS X: Logout from server.	Logout from the server by executing the following command: # logout	
10.			MPS X: Remove USB media.	Remove media from USB drive.	
	This procedure is complete!				

# A.2 Copying LSMS backups from NAS to USB

S T P #	NAS	This procedure prov	ides instructions to copy LSMS backups from NAS to USB.
1.		NAS: Insert USB.	Insert media in USB drive
2.		NAS: Log in to the server as the "root" user.	[hostname] consolelogin: root password: password
3.		NAS: Run syscheck to make sure there is no error.	Execute the following command: <b># syscheck</b> The output should look like: [root@hostname ~]# syscheck Running modules in class proc OK Running modules in class services OK Running modules in class system OK Running modules in class disk Running modules in class hardware OK Running modules in class net LOG LOCATION: /var/TKLC/log/syscheck/fail_log
4.		NAS: Mount the USB media.	Execute the following command to create a directory to mount the USB media: <b># mkdir -p /mnt/usb</b> Execute the following command to get the USB drive name: <b># fdisk -1  grep FAT</b> The output should look like: /dev/sdc1 * 1 812 831472 6 FAT32 Execute the following command to mount the USB media using the USB drive name from the output above: <b># mount /dev/sdc1 /mnt/usb</b> Note: There should be space available in the USB. If not, clean up files until there is space available.
5.		Copy backup files to the mounted path	Execute the following command to copy ISO: # cp <backup files=""> /mnt/usb/ While copying backup files to USB, Following error is expected: cp: failed to preserve ownership for `/mnt/usb/<backup_file>': Operation not permitted</backup_file></backup>

		<b>Note:</b> Please note the ownership of the backup files before copying. Therefore, after restoring the backups to server after IPM'ing , verify the ownership of backup files. If not matched, change the ownership with the <b>"chown"</b> command.
6.	<b>NAS:</b> Verify backup files exists	Execute the following command to perform directory listing: # ls -al /mnt/usb/ List of backup files should be displayed. Execute the following command to unmount the USB media: # umount /mnt/usb
7.	NAS: Logout from server.	Logout from the server by executing the following command: <b># logout</b>
8.	NAS: Remove USB media.	Remove media from USB drive.

## APPENDIX B. START AND VERIFY REPLICATION ON QUERY SERVER

#### Appendix B – Start and Verify REPLICATION ON Query Server

S T E P #	This procedure provides the steps to start and verify Replication on the query server <b>This step is performed only if a query server exists in the customer system.</b> Estimated time:30 minutes		
1.	LSMS 13.2.X		
_	Query Server:	mysals start slave:	
Ш	Start Replication.	Query OK, 0 rows affected (0.00 sec)	
	Verify the replication status on the Query Server. NOTE: If the Slave_IO_Running and Slave_SQL_Running column values are set to YES, the status is good and the next step can be skipped. If the Slave_IO_Running and Slave_SQL_Running column values are set to NO, wait a few minutes and then repeat the "show slave status \G;" command If the values are still NO, proceed to the next step.	<pre>mysql&gt; show slave status \G; ************************************</pre>	

S T E	This procedure provide	This procedure provides the steps to start and verify Replication on the query server This step is performed only if a query server exists in the customer system		
P #	Estimated time:30 minutes			
2.	LSMS 13.2.X Query Server:	<pre># tail /usr/mysql1/*.err Record error here:</pre>		
	<b>OPTIONAL:</b> If the			
	Slave_IO_Running and Slave_SQL_Running column values are set to NO, the status is	Contact My Oracle Support following the instructions on the Appendix E and ask for <b>FULL UPGRADE ASSISTANCE.</b>		
	not good and the error will need to be investigated.			
	Look at last few lines of error log, and record the error.			
3.	LSMS Active Server: Login to the LSMS Primary server as	Login: lsmsadm Password: <lsmsadm_password></lsmsadm_password>		
	Ismsadm.	[lsmsadm@lsmspri lsmsadm] <b>\$ lsmsdb -c queryservers</b> cs2-bss2 ( <query ip="" server="">) Connected</query>		
	Verify the Query Server is Connected.			

## APPENDIX C. COPYING LICENSE FILE ON THE LSMS SERVER

# C.1 Copying File Using SCP

S	This procedure will hel	p copying the license file from a desktop to LSMS server		
Т				
Ε				
P				
#				
1.	Server X: Login to	Loging to server using ID and password where license file is copied		
$  \sqcup  $	server where license file			
	is present			
2.	Server X: SCP the file	scp <license file=""> root@<lsms ip="">: /usr/local/netech/etc/license</lsms></license>		
	from server to LSMS			
	server			
3.	LSMS MPS: Check if	Run command to check for license file :		
	the license file has been	<pre>\$ cat /usr/local/netech/etc/license</pre>		
ÍÍ	copied correctly	Expected Output :		
ÍÍ		Contents of license file should be displayed		
	This procedure is complete!			

# C.2 Copying File Using USB

S	This procedure will help conving the license file from a deskton to LSMS server			
т	This procedure will lie	p copying the needse the norm a desktop to Ebitib server		
E				
P				
#				
	Server X: Copy license	Connect USB to desktop and copy the license file from desktop to USB.		
	file to USB			
2.	LSMS MPS: Confirm	Connect the USB to LSMS MPS which contains the license file and check on how it is		
	how the USB is	enumerated using command :		
	enumerated on LSMS	\$dmesg   grep -i "removable disk"		
	server	Expected output		
		sd 6:0:0:0: Attached scsi removable disk sdc		
		This shows USB is enumerated as /dev/sdc		
3.	LSMS MPS: Determine	Run command fdisk –1 on enumerated name device to determine partition name :		
	the partition name	\$fdisk –l /dev/sdc		
	1			
		Expected Output :		
		Disk /dev/sdc: 2013 MB, 2013265920 bytes		
		256 heads, 63 sectors/track, 243 cylinders		
		$\int \frac{1}{2} \int $		
		Device Boot Start End Blocks Id System		
		/dev/sdc1 * 1 110 887008+ b w95 FAT32		
		This shows that partition name is /dev/sdc1		

4.	<b>LSMS MPS:</b> Copy license file from USB to MPS	Run below command to copy the license file from USB <b>\$mkdir -p /tmp/usb</b> <b>\$ mount /dev/sdc1 /tmp/usb</b>		
5.	LSMS MPS: Copy license file from /tmp directory	<pre>\$ cp /tmp/usb/<license-file> /usr/local/netech/etc/license</license-file></pre>		
6.	<b>LSMS MPS:</b> Check if the license file has been copied correctly	Run command to check for license file : <b>\$ cat /usr/local/netech/etc/license</b> Expected Output : Contents of license file should be displayed		
7.	<b>LSMS MPS:</b> Unmount the USB	Unmount the USB using command : <b>\$umount /tmp/usb</b>		
	This procedure is complete!			

# APPENDIX D. SWOPS SIGN OFF.

Date	Test Case	Description of Failures and/or Issues. Any CSR's / RMA's issued during Acceptance. Discrepancy	Resolution and SWOPS Engineer Responsible	Resolution Date:

# **Discrepancy List**

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# APPENDIX E. MY ORACLE SUPPORT

CAUTION: Use only the guide downloaded from the Oracle Technology Network (OTN) (http://www.oracle.com/technetwork/indexes/documentation/oracle-comms-tekelec-2136003.html).

Before upgrading your system, access the **My Oracle Support** web portal (<u>https://support.oracle.com</u>) and review any Knowledge Alerts that may be related to the System Health Check or the Upgrade.

Before beginning this procedure, contact My Oracle Support and inform them of your upgrade plans. If installing for an Oracle customer on a customer site, obtain the customer's Support Identifier (SI) before requesting assistance.

Web portal (preferred option): My Oracle Support (MOS) (https://support.oracle.com/)

Phone: Contact your local Oracle Global Customer Support Center (http://www.oracle.com/support/contact.html)

Make the following selections on the Support telephone menu:

- 1. Select '2' for New Service Request
- 2. Select '**3**' for Hardware, Networking and Solaris Operating System Support

3. Select '1' for Technical Issues and when talking to the agent, please indicate that you are an existing Tekelec customer