Oracle® Communications Performance Intelligence Center

Manufacturing Installation Procedure

Release 9.0

909-2240-01, Revision C

February 2014

ORACLE®

CHANGE HISTORY

Date	Version	Author	Comments	Approved (Yes/No)
17/09/2012	0.1	F. Cêtre	New Document	No
25/10/2012	0.2	JF Muller	Addition of DWS installation steps	No
29/10/2012	0.3	JF Muller	Update of DWS installation Rework of the flowcharts	No
29/10/2012	0.4	JF Muller	Fix flowcharts and broken links	No
20/11/2012	0.5	Ph Lang	Add Gen8	No
24/01/2013	0.7	F. Cêtre	Update NSP steps descriptions to remove ambiguity for onebox/four box steps.	No
25/01/2013	0.8	S.HAEGELIN	Resize /var/TKLC partition	No
25/02/2013	0.9	S.HAEGELIN	PR 210453	No
28/02/2013	0.10	D. Degiorgis	Correct escape sequence to disconnect Brocade switch console	No
12/03/2013	0.11	S.HAEGELIN	Update resize /var/TKLC partition	No
13/03/2013	0.12	D. Degiorgis	Correct some disk sizes for SAN templates	No
22/04/2013	0.13	S.HAEGELIN	Update the platform section for 9.0.1 and G8 support	No
23/04/2013	0.14	S.HAEGELIN	Update for 9.0.1 and G8 support	No
24/04/2013	0.15	S.HAEGELIN	Update for 9.0.1 and 4948E-F support	No
21/05/2013	0.16	S.HAEGELIN	Update TPD install screencopy	No
18/07/2013	0.17	S.HAEGELIN	Update to use the new IMF switch configurations	No
18/07/2013	0.18	S.HAEGELIN	Update to use the new Blade switch configurations	No
24/07/2013	0.19	S.HAEGELIN	Added reference to the switch rommon recovery procedure	No
26/07/2013	0.20	S.HAEGELIN	PV feedback	No
1/08/2013	0.21	S.HAEGELIN	PV feedback	No
2/08/2013	0.22	S.HAEGELIN	Blade Lab install	No
22/08/2013	0.23	S.HAEGELIN	Manufacturing desk review	No
22/08/2013	0.25	S.HAEGELIN	PV desk review	No
23/08/2013	1.0	S.HAEGELIN	PV desk review	Yes
23/08/2013	2.0	P. Lang	Clean revision marks	Yes
02/09/2013	2.2	S.HAEGELIN	Manufacturing remarks	No
05/09/2013	2.3	S.HAEGELIN	Added RMS Mediation switch config	No
06/09/2013	2.4	S.HAEGELIN	Manufacturing remarks	No
27/09/2013	2.5	S.HAEGELIN	Update in section 5.4.2	No
8/11/2013	2.6	S.HAEGELIN	Move the switch configuration instructions to the customer integration	No
8/14/2013	2.7	S.HAEGELIN	Add screen copy for the PM&C application configuration	No
8/27/2013	2.8	S.HAEGELIN	PR 223374	No
8/28/2013	2.9	S.HAEGELIN	32/64 bits TPD usage for blades	No
6/12/2013	2.10	S.HAEGELIN	Add warning about zone brocade config	No
21/01/2014	2.11	S.HAEGELIN	PR 234942	No
30/01/2014	2.12	B. Chappell	Oracle re-branding of title & legal pages.	No

21/02/2014	2.13	S.HAEGELIN	PR 237169	No
21/02/2014	3.0	B. Chappell	Accepted all changes & published as Rev C.	Yes

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1. INTRODUCTION

1.1 Document Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 1: Admonishments

	**DANGER**: (This icon and text indicate the possibility of *personal injury*.)
	**WARNING**: (This icon and text indicate the possibility of *equipment damage*.)
	**CAUTION**: (This icon and text indicate the possibility of *service interruption*.)

1.2 Reference Documents

Platform 6.x HP Configuration Procedure Reference 909-2209-001 Revision E, January 2013
Platform 5.0 Generic HP c-Class Networking Interconnect TR006851
TPD Initial Product Manufacture —TPD 5.0+ 909-2130-001 Revision C, July 2012
HP Solutions Firmware Upgrade Pack Upgrade Procedures 2.2 909-2234-001 Revision A, September 2012
EAGLE SW Compatibility Matrix SS005887 v18
PIC 9.0 Planning Guide
HP Gen8 Blade Support for PIC FE007228
HP Gen8 RMS Support for PIC FE007119
Tekelec default passwords TR006061

1.3 Related Publications

For information about additional publications that are related to this document, refer to the *Release Notice* document. The *Release Notice* document is published as a part of the *Release Documentation* and is also published as a separate document on the Tekelec Customer Support Site.

1.4 Documentation Availability, Packaging and Updates

Tekelec provides documentation with each system and in accordance with contractual agreements. For General Availability (GA) releases, Tekelec publishes a complete PIC 9.0 documentation set. For Limited Availability (LA) releases, Tekelec may publish a documentation subset tailored to specific feature content or hardware requirements. Documentation Bulletins announce a new or updated release.

The Tekelec PIC 9.0 documentation set is released on NSP iso.

Note: Customers may print a reasonable number of each manual for their own use.

Documentation is updated when significant changes are made that affect system operation. Updates resulting from Severity 1 and 2 Problem Reports (PRs) are made to existing manuals. Other changes are included in the documentation for the next scheduled release. Updates are made by re-issuing an electronic file to the customer support site. Occasionally, changes are communicated first with a Documentation Bulletin to provide customers with an advanced notice of the issue until officially released in the documentation. Documentation Bulletins are posted on the Customer Support site and can be viewed per product and release.

1.5 Scope And Audience

This document describes the procedures to install a PIC system at Release 9.0.

This document is intended for use by internal Tekelec manufacturing, PSE, SWOPS, and many times partners personnel trained in software installation on both rackmount and c-class blades system. A working-level understanding of Linux and command line interface is expected to successfully use this document.

It is strongly recommended that prior to performing an installation of the operating system and applications software, on either a rackmount or c-class blades system, the user read through this document.

Note: The procedures in this document are **not** necessarily in a sequential order. There are flow diagrams in the Incremental Upgrade Overview chapter that provide the sequence of the procedures for each component of this PIC system. Each procedure describes a discrete action. It is expected that the individuals responsible for installing the PIC system should reference these flow diagrams during this installation process.

1.6 Requirements and Prerequisites

1.6.1 Hardware Requirements

PIC release 9.0 supports the following hardware for the Manufacturing Installation:
http://signal.tekelec.com/Depts/salesmktg/ProductInformationLibrary/Forms/FeaturePlanningGuides.aspx
http://signal.tekelec.com/sites/Engg/FeatureReqtsSpec/Shared%20Documents/FE007228.doc
http://signal.tekelec.com/sites/Engg/FeatureReqtsSpec/Shared%20Documents/FE007119.docx

POWER	PRODUCT	CABINET P/N	TECHNICAL REFERENCE (T.R)	SYSTEM INTERCONNECT (S.I)
G8&D2700 PRODUCT				
AC	CTRL CABINET (NSP IXP) RM	870-3115-03&04	821-0042-02	892-0098-03
AC	Extension CABINET (IXP) RM	870-3115-01&02	821-0043-02	892-0099-02
AC	PMF CABINET RM	870-3115-06&07	821-0045-02	892-0101-02
AC	BASE STORAGE C-Class	870-3115-10	821-0049-02	892-0103-11
AC	EXTENSION STORAGE C-Class	870-3115-09		892-0103-12
AC	COMPUTE C-Class	870-3115-11		892-0103-13
AC	NETWORK C-Class	870-3115-12		892-0103-14
DC	IMF DC ENTREPRISE 44U RM NEBS	870-3115-08	821-0054-02	892-0105-02
DC	IMF DC ENTREPRISE 42U RM	870-3115-05	821-0048-02	
G6&D2700 PRODUCT				
AC	CTRL CABINET (NSP IXP) RM on HP G6	870-3021-XX	821-0042-01	892-0098-XX
AC	Extension CABINET (IXP) RM on HP G6	870-3022-XX	821-0043-01	892-0099-01
AC	PMF CABINET RM on HP G6	870-3023-XX	821-0045-01	892-0101-01
AC	BASE STORAGE C-Class on HP G6 (P2000 & D2700)	870-3042-01	821-0049-01	892-0103-01
AC	EXTENSION STORAGE C-Class on HP G6 (P2000 & D2700)	870-3042-02		892-0103-02
AC	COMPUTE C-Class on HP G6 (P2000 & D2700)	870-3042-03		892-0103-03
AC	NETWORK C-Class on HP G6 (P2000 & D2700)	870-3042-04		892-0103-04
AC	LAB TRIAL C-Class on HP G6 (P2000 & D2700)	870-3042-05		892-0103-05
DC	IMF DC ENTREPRISE 36U RM on HP G6	870-3039-01	821-0046-01	892-0102-01
DC	IMF DC ENTREPRISE 42U RM on HP G6	870-3031-01	821-0048-01	892-0105-01
AC	IMF AC ENTREPRISE 42U RM on HP G6	870-3063-XX	821-0050-01	892-0107-01
G5&MSA PRODUCT				
AC	*BASE STORAGE on C-Class on HP G6 (MSA2000 & MSA2012)*	*870-3020-01*	*821-0044-01*	*892-0100-01*
AC	*EXTENSION STORAGE on C-Class on HP G6 (MSA2000 & MSA2012)*	*870-3020-02*		*892-0100-02*
AC	*COMPUTE on C-Class on HP G6 (MSA2000 & MSA2012)*	*870-3020-03*		*892-0100-03*
AC	*NETWORK on C-Class on HP G6 (MSA2000 & MSA2012)*	*870-3020-04*		*892-0100-04*
AC	*LAB TRIAL on C-Class on HP G6 (MSA2000 & MSA2012)*	*870-3020-05*		*892-0100-05*
AC	*BASE STORAGE on C-Class on HP G5*	*870-3010-01*	*821-0037-01*	*892-0093-01*
AC	*EXTENSION STORAGE on C-Class on HP G5*	*870-3010-02*		*892-0094-01*
AC	*COMPUTE on C-Class on HP G5*	*870-3010-03*		*892-0095-01*
AC	*NETWORK on C-Class on HP G5*	*870-3010-04*		*892-0094-02*
AC	*LAB TRIAL on C-Class on HP G5*	*870-3010-05*		*892-0096-01*
TEKII & TEKIII PRODUCT				
DC	IMF DC ENTREPRISE RM on TEK II (T1100) with CISCO2950 redundant WAN	870-0211-01	TR005727	892-0072-02
DC	IMF DC ENTREPRISE RM on TEK II (T1100) with CISCO4948			892-0078-01
DC	IMF DC ENTREPRISE RM on TEK III (T1200)	870-3009-01	821-0038-10	892-0091-08

1.6.2 Software Requirements

The following software is required for the PIC 9.0 installation.
Note: For specific versions and part numbers, see the PIC 9.0 Release Notice (910-6618-01).

All Servers
IXP (32bits)
IXP DWS (64bits)
Oracle 10 (32 bits) for IXP 12 disk config and NSP (for DR)
Oracle 11 (32 bits) for IXP 24/25 disk config (for DR)
Oracle 11 (64bits) for DWS 24/25 disk config (fresh)
NSP
Weblogic
xMF for Tek2 (32bits)(TPD3)
xMF for HP & Tek3 (32bits)(TPD5)
xMF for HP Gen8 (64bits)(TPD5)
xDR Builder
Report Server
PPS
MSW
ATM 155
SM – used with MSW
Falco
Firmware
HP SOLUTIONS FIRMWARE
TPD Versions
TPD Linux XMF TEK2/
TPD Linux HP (&TEK 3 (32bits)
TPD Linux HP (Gen8) (64bits)
PM&C
PM&C
PM&C (for blade Gen8)
TVOE
Analytics
TDM Voice (ISUP)
UM-MSU Accounting
Roaming SMS
Roaming Access
SIGTRAN Transport

1.6.3 License Requirements

Licenses required for software installation of PIC 9.0 are embedded licenses and do not require an explicit license key be applied. The exception to this is the license for Business Objects for the Report Server Platform.

The following license is required for this installation:

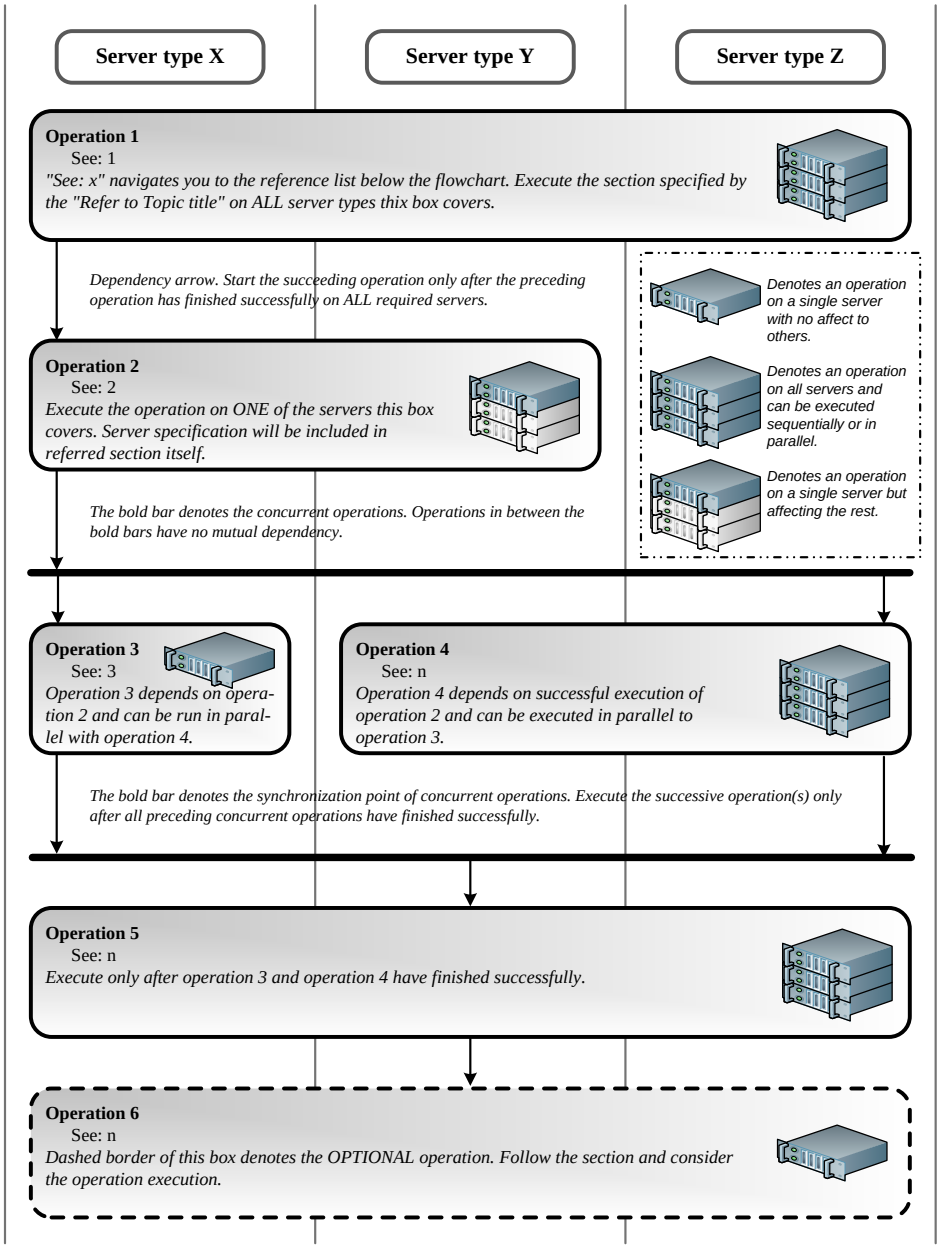
• BOE License

2. INSTALLATION OVERVIEW

This section provides installation overview information for the PIC 9.0 system by using flowcharts that depict the sequence of procedures for each subsystem and their associated servers.

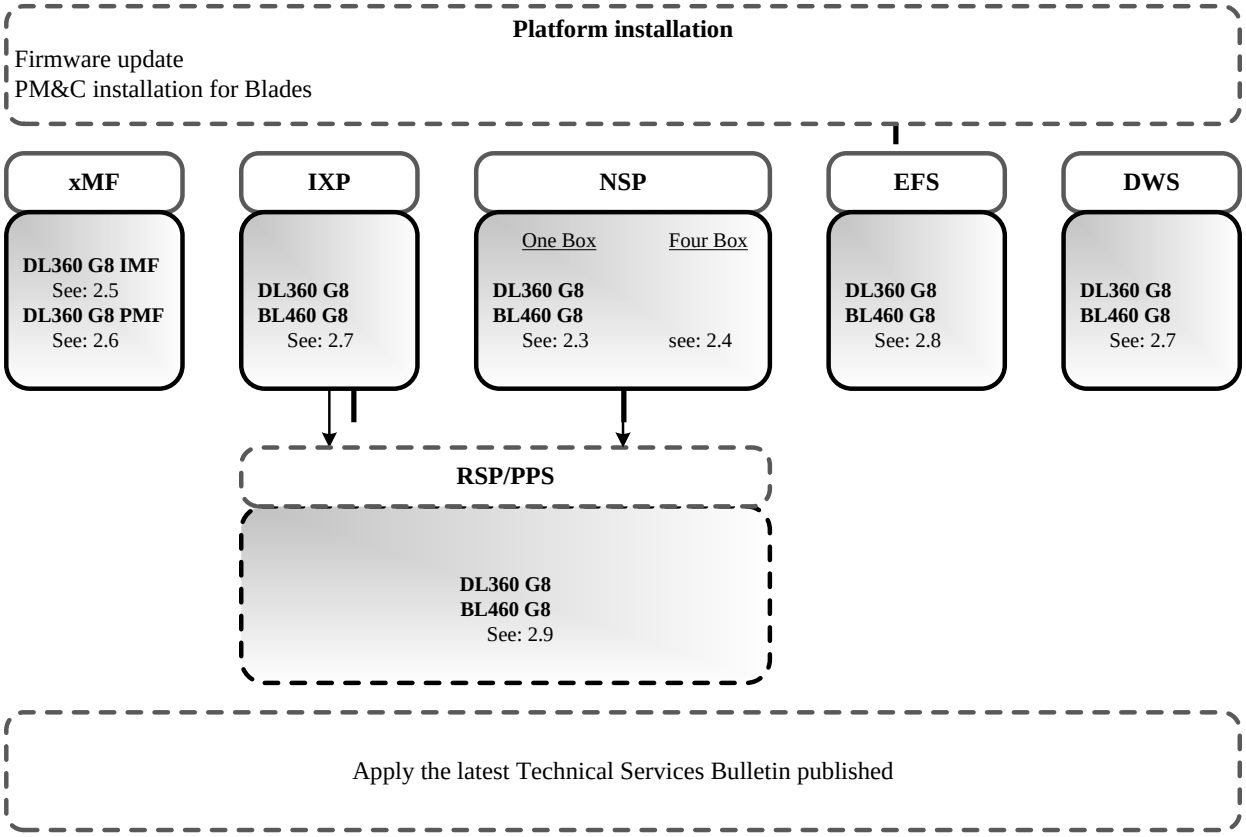
2.1 Flowchart Description

The flowcharts within each section depict the sequence of procedures that need to be executed to install the specified subsystem.
Each flowchart contains the equipment associated with each subsystem, and the required tasks that need to be executed on each piece of equipment. Within each task, there is a reference to a specific procedure within this manual that contains the detailed information for that procedure.



2.2 PIC High Level Manufacturing

This flowchart describes PIC high-level manufacturing installation overview. IXP/NSP/DWS/xMF/EFS components can be installed in parallel. For RSP/PPS the NSP and IXP components must be installed first. Referring to graphic below, the HW type applicable to each component is identified and for each HW type, the applicable flowchart is identified by section of this document where it is located.



Note: Each reference to BL460 Gen8 hardware includes PM&C software installation. PM&C is usually installed once per PIC system. A single PM&C installation is shared with IXP and NSP.

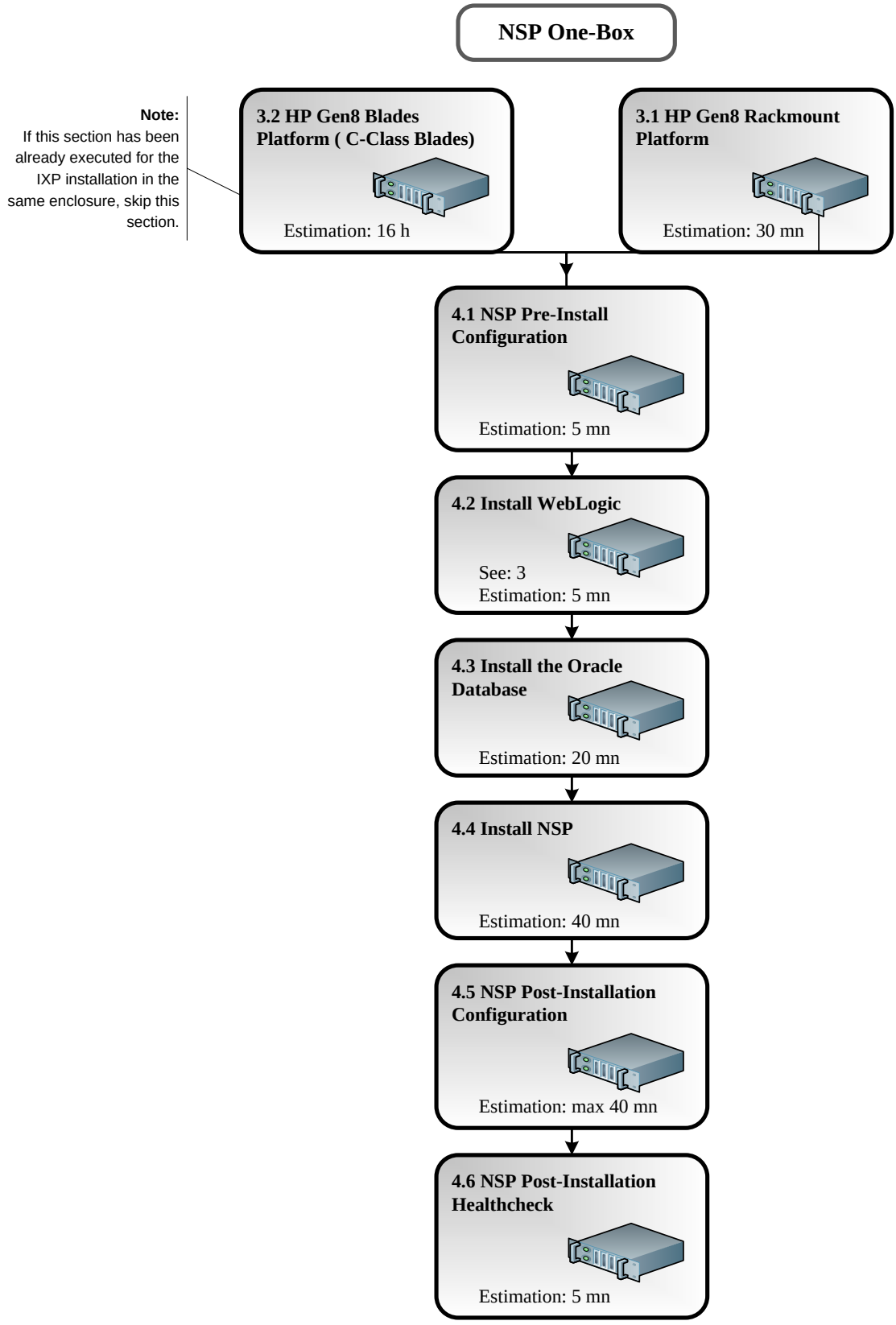
Note: NSP may be One-Box configuration or Four-Box configuration per system. There is only one NSP instance per PIC system.

Note: The latestTechnical Service Bulletin (TSB) are available on Design Suport web page

http://signal/Depts/custservice/gtac/dessupportias/default.aspx

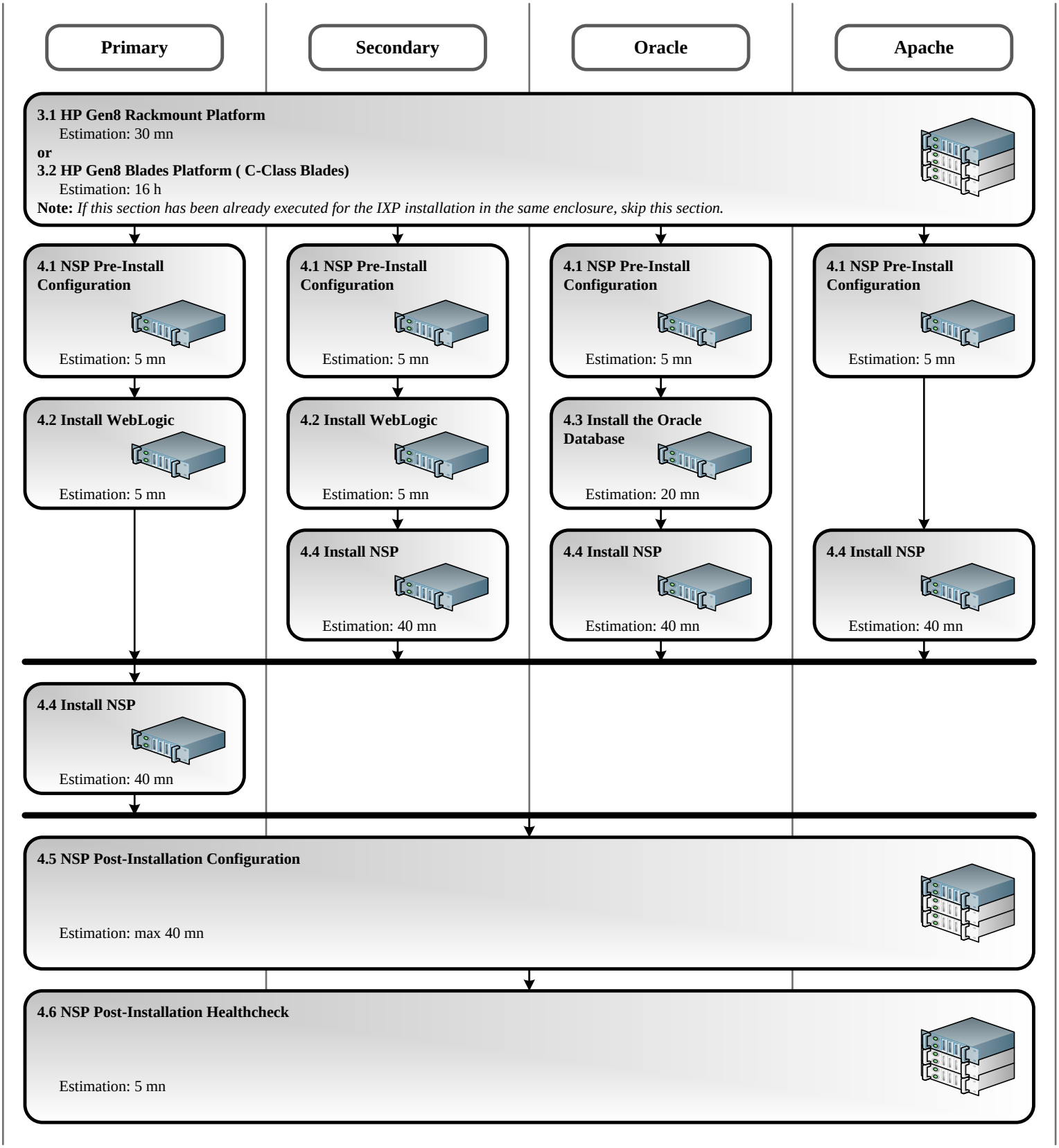
2.3 NSP DL360/BL460 Gen8 Onebox

This flowchart depicts the sequence of procedures that must be executed to install the NSP One-box setup.



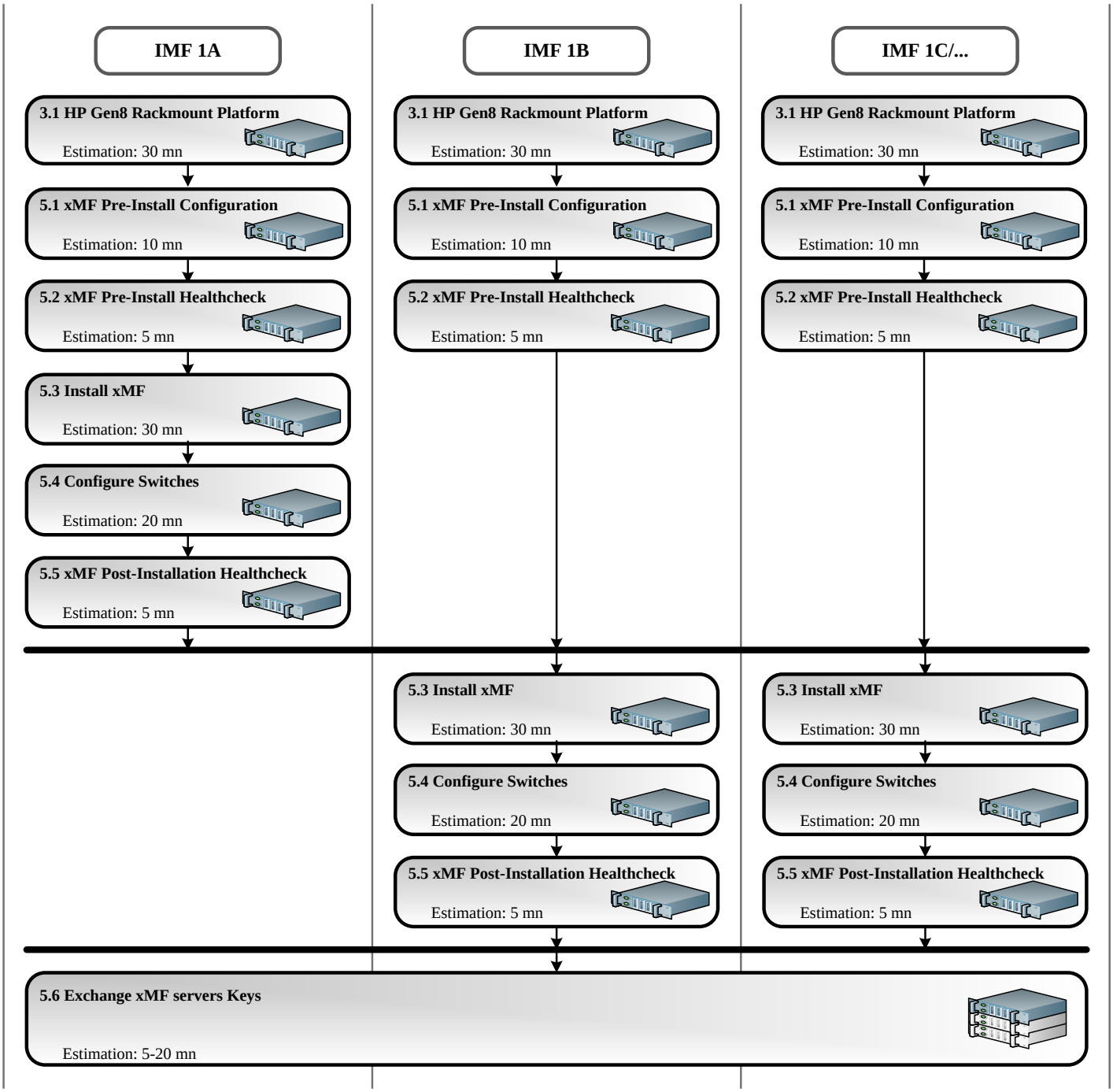
2.4 NSP DL360/BL460 Gen8 Fourbox

This flowchart depicts the sequence of procedures that must be executed to install the NSP Four-box Setup



2.5 IMF DL360 Gen8 SubSystem

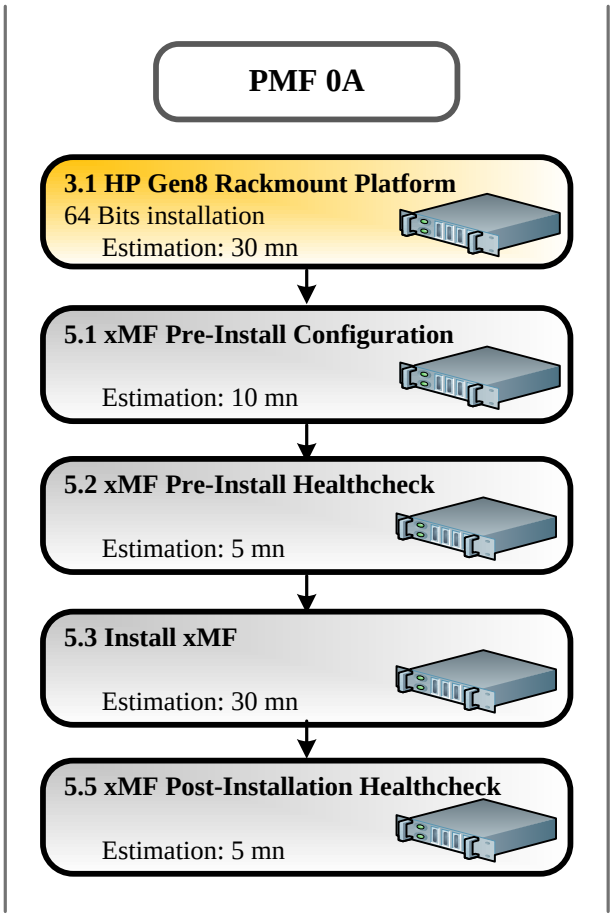
This flowchart depicts the sequence of procedures that must be executed to install the IMF DL360 Gen8 subsystem and associated servers.



2.6 PMF DL360 Gen8

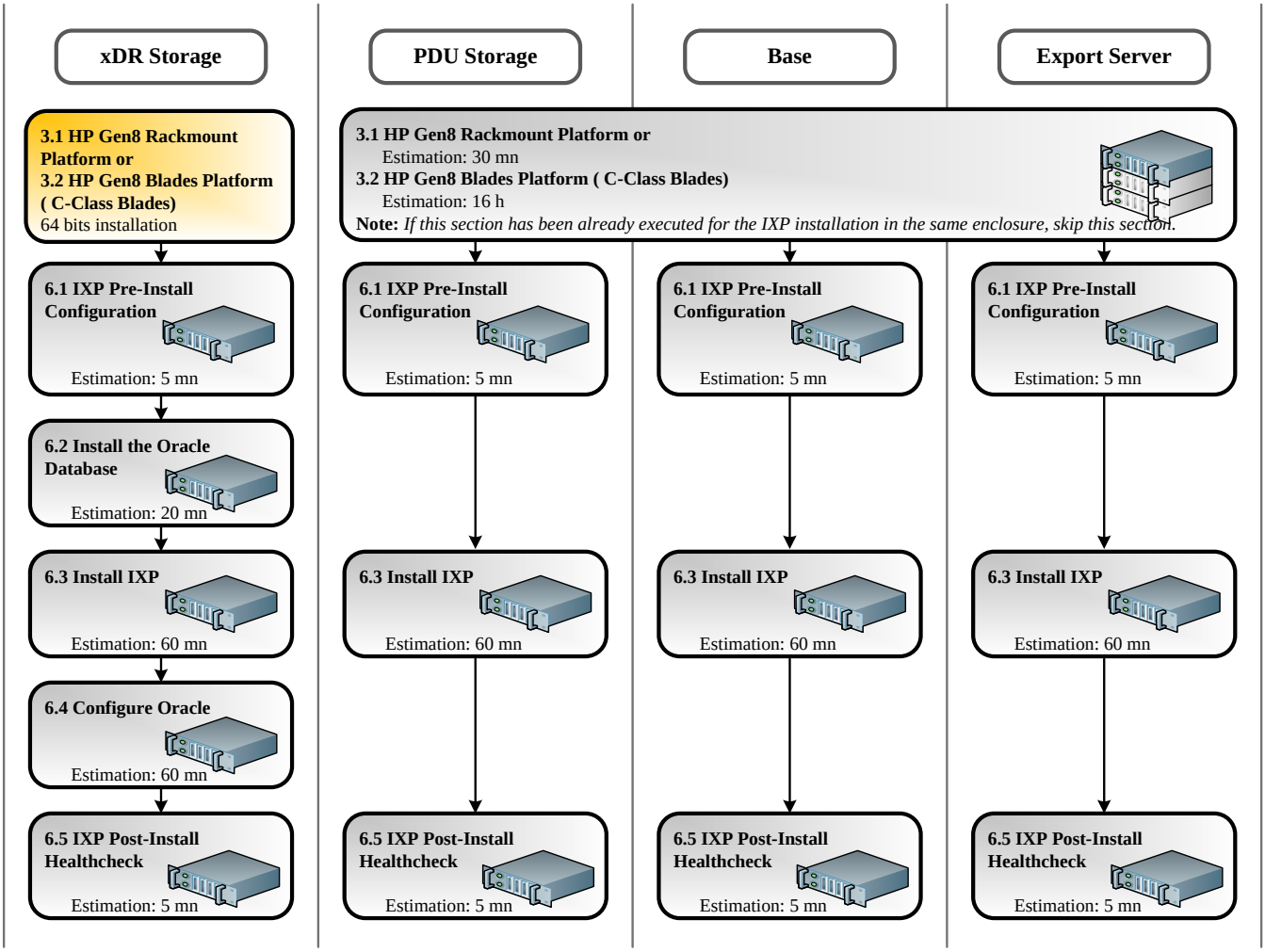
This flowchart depicts the sequence of procedures that must be executed to install the PMF DL360 Gen8 server.

Note: **Fresh install use 64 bits TPD**



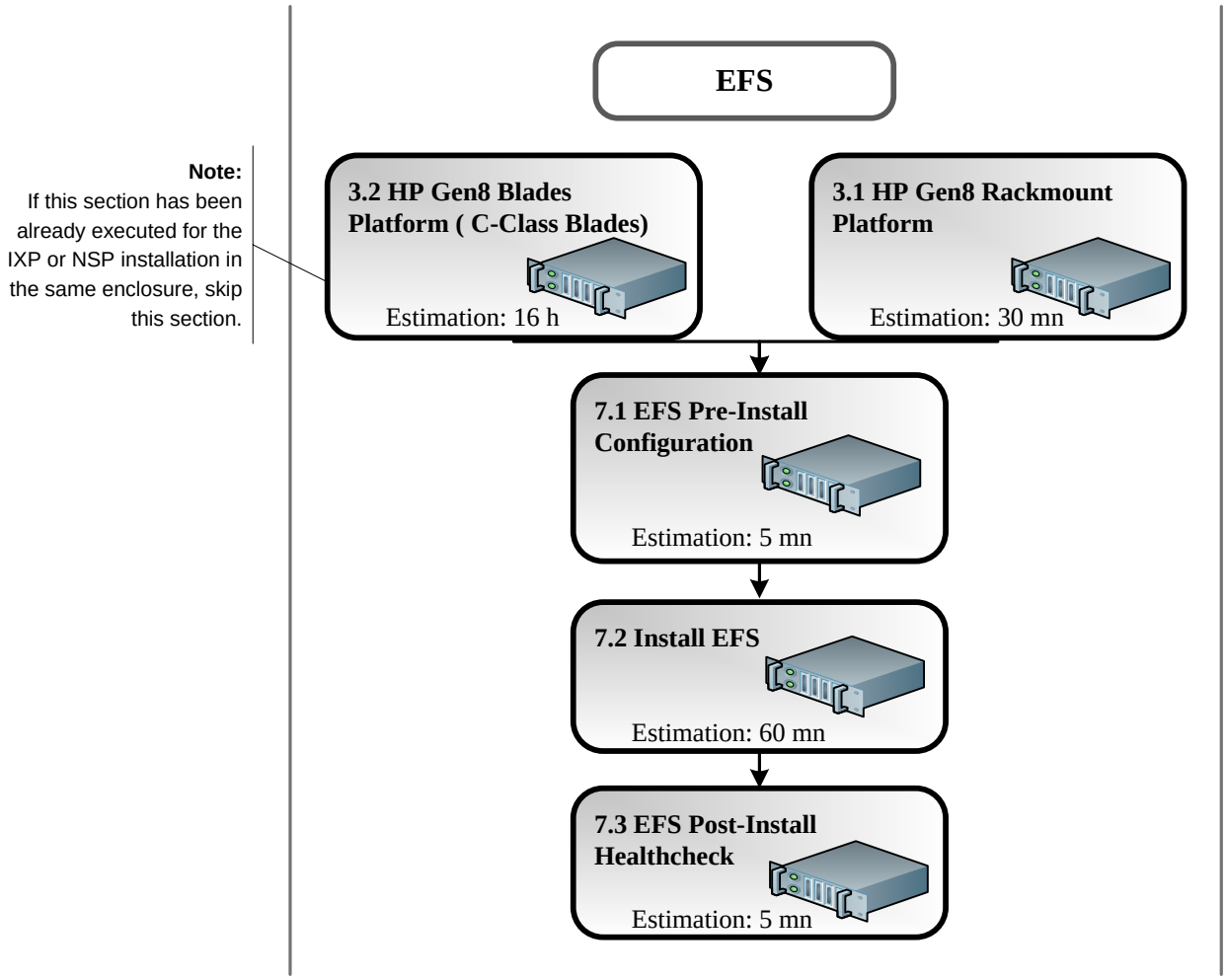
2.7 IXP/DWS/ES DL360/BL460 Gen8

This flowchart depicts the sequence of procedures that must be executed to install the IXP subsystem and associated server functions.
The IXP subsystem consists of the following types of servers:
• IXP xDR storage server
• IXP PDU storage server
• IXP Base server
• DWS server (Data Warehouse Server)
• RSP server
• Export Server (Low-Cost Export Server will be installed automatically instead if no external storage
will be detected.
Limitations: A single IXP subsystem can consist up to 4 xDR Storage servers and 4 PDU Storage servers at maximum. A total number of servers in a single IXP subsystem must not exceed 16 servers. Depending on the number of servers for a particular function, the required procedures depicted in the flowchart will need to be repeated.
Note: DWS and RSP must be installed as independent subsystems (use different bulkconfig from the IXP)
Note: use 64 bits TPD to install DWS and 32 bits for xDR/PDU/BM/ES



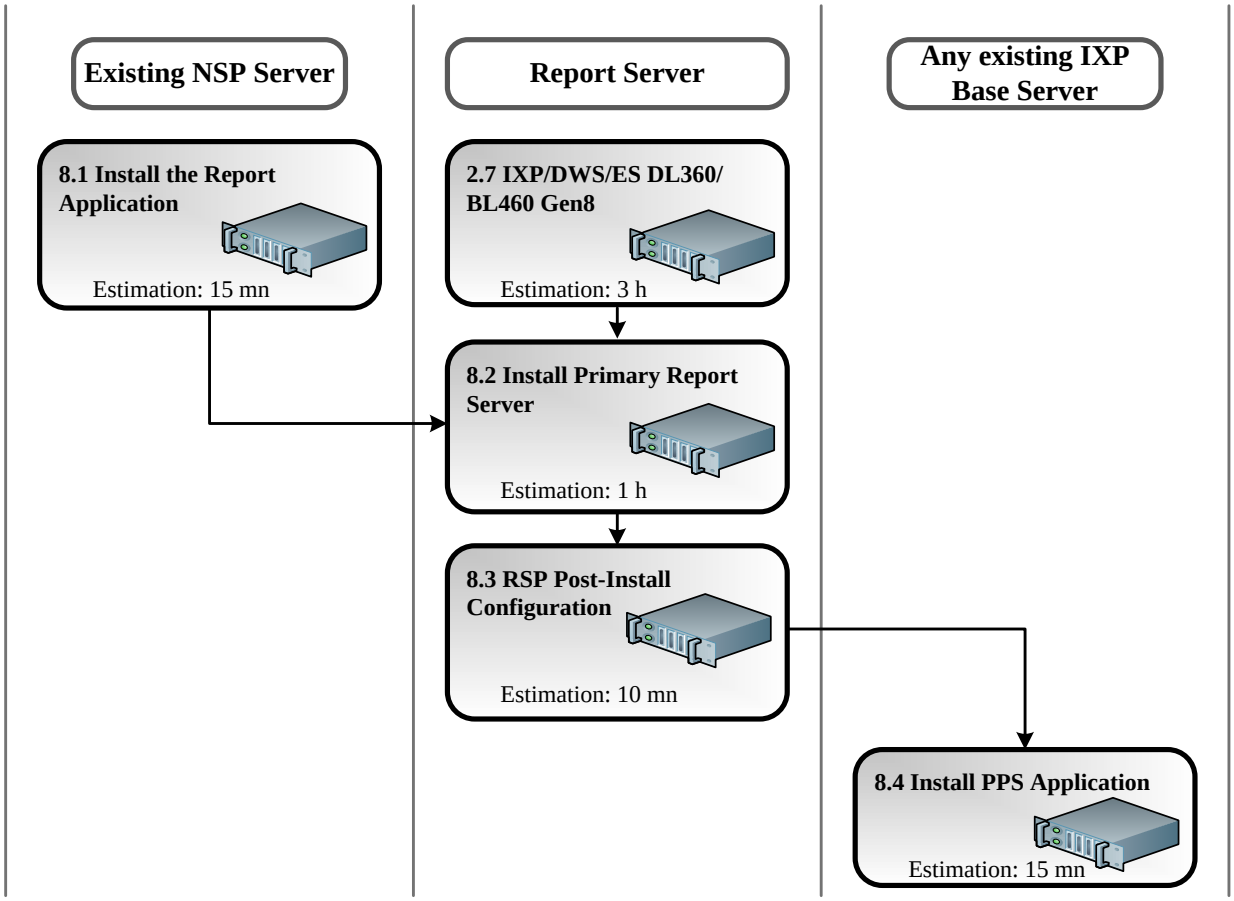
2.8 EFS DL360/BL460 Gen8

This flowchart depicts the sequence of procedures that must be executed to install the Standalone Export File Server (EFS) DL360/BL460 Gen8.



2.9 RSP DL360/BL460 Gen8

This flowchart depicts the sequence of procedures that must be executed to install the Report Server
Platform (RSP) - Coupled architecture.
During the installation of the RSP - Coupled subsystem, be aware of the following point regarding the associated servers:
• **Report Data Server** and **Primary Report Server** must be installed on the standalone IXP xDR server with the designation **1A**.



3. INSTALL THE OPERATING SYSTEM

This section provides instructions for installing the operating system on the HP Gen8 rackmount servers, as well as setting up the HP Gen8 Blades platform.

Topics:
- HP Gen8 Rackmount Platform
- HP Gen8 Blades Platform (C-Class Blades)

3.1 HP Gen8 Rackmount Platform

3.1.1 Check the server integration

This is required especially in case of software centric project were the hardware is purchased by the customer or a partner and is not going through the standard Tekelec manufacturing process.

The detailed server configuration are defined in the planning guide.

A special attention is required on the amount of memory on the RAID controllers:

- There must be 1024Mb on the P421 controller for NSP and IXP XDR and PDU. (all servers with external storage array) on Gen8
- There should not be any other cards plugged unexpected

The amount of RAM memeory in the server must be checked

There must be also attention to the number of Hard Disks and their characteristics:

- Capacity 300 or 600Gb
- Speed 10 or 15KRPM

component	description	HP P/N	Technical description	G01 NSP/ IXP BM	G02 IXP XDR/ PDU/ EFS/ RSP/ DWS	G03 PMF AC	G04 PMF DC	G05 IMF AC	G06 IMF DC
HP DL360p Gen8 BASE	Server	655651-B21	HP DL360p Gen8 4-LFF CTO Server	1	1	1	1	1	1
	32GB RAM	647899-B21	HP 8GB 1Rx4 PC3-12800R-11 Kit	4	4	4	4	4	4
	Dvd	652238-B21	HP 9.5mm SATA DVD ROM Jb Kit	1	1	1	1	1	1
	On board 4 ports Eth	684208-B21	HP Ethernet 1GbE 4P 331FLR FIO Adptr	1	1	1	1	1	1
	Intern Flash Cache	661069-B21	HP 512MB FWC for P series smart array	1	1	1	1	1	1
	IC (including ILO 4 adv.)	TC278AAE	HP Insight Control bundle ML/DL 1 year 24x7	1	1	1	1	1	1

CPU	8 cores 2,6GHz	654786-L21	HP DL360p Gen8 E5-2670 FIO Kit			1	1	1	1
		654786-B21	HP DL360p Gen8 E5-2670 Kit			1	1	1	1

	0,97 Specint								
	6 cores, 2,3GHz 0,68 Specint	654768-L21	HP DL360p Gen 8 E52630 FIO kit	1	1				
		654768-B21	HP DL360p Gen 8 E52630 kit	1	1				

Onboard Disks	600GB LFF	652620-B21	HP 600GB 6G SAS 15K 3.5in SC ENT HDD	2	2	2	2	2	2
	Disk LFF kit	663202-B21	HP 1U LFF BB Gen8 Rail Kit	1	1	1	1	1	1

Power Supply	AC	503296-B21	HP 460W CS Gold Ht Plg Pwr Supply Kit	2	2	2		2	
	DC*	636673-B21	HP 750W-48V DC Common Slot Power Supply				2		2

Add. Cards & options	4x 1G Ethernet card	593722-B21	HP NC365T 4-port Ethernet Server Adapter			2	2		
	Smart Array for ext HDD	631673-B21	Smart Array P421/1GB FBWC Controller		1				

component	description	HP P/N	Technical description	G07 PMF 10G AC	G08 PMF 10G DC
HP DL360p Gen8 BASE	Server	655651-B21	HP DL360p Gen8 4-LFF CTO Server	1	1
	32GB RAM	647899-B21	HP 8GB 1Rx4 PC3-12800R-11 Kit	4	4
	Dvd	652238-B21	HP 9.5mm SATA DVD ROM Jb Kit	1	1
	On board 4 ports Eth	684208-B21	HP Ethernet 1GbE 4P 331FLR FIO Adptr	1	1
	Intern Flash Cache	661069-B21	HP 512MB FWC for P series smart array	1	1
	IC (including ILO 4 adv.)	TC278AAE	HP Insight Control bundle ML/DL 1 year 24x7	1	1

CPU	8 cores 2,6GHz 0,97 Specint	654786-L21	HP DL360p Gen8 E5-2670 FIO Kit	1	1
		654786-B21	HP DL360p Gen8 E5-2670 Kit	1	1

Onboard Disks	600GB LFF	652620-B21	HP 600GB 6G SAS 15K 3.5in SC ENT HDD	2	2
	Disk LFF kit	663202-B21	HP 1U LFF BB Gen8 Rail Kit	1	1

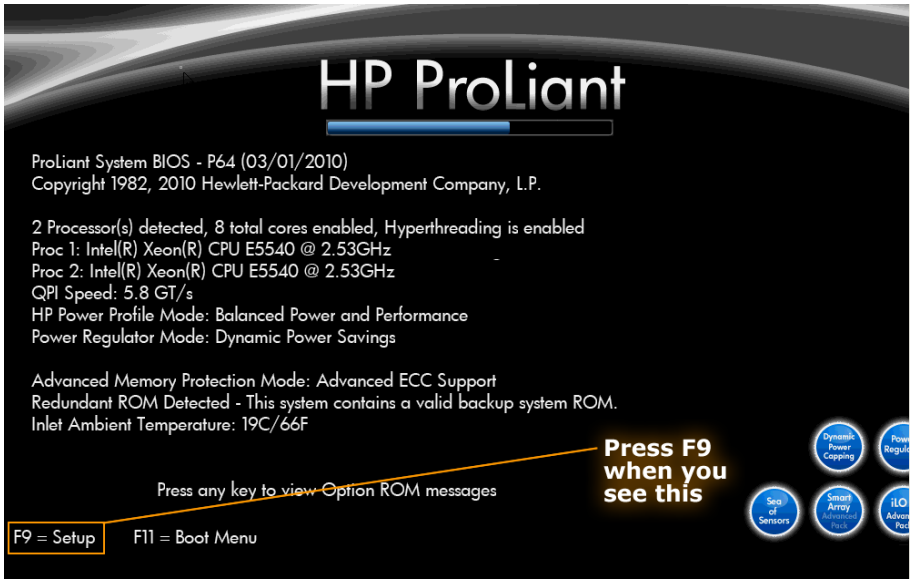
Power Supply	AC	503296-B21	HP 460W CS Gold Ht Plg Pwr Supply Kit	2	
	DC*	636673-B21	HP 750W-48V DC Common Slot Power Supply		2

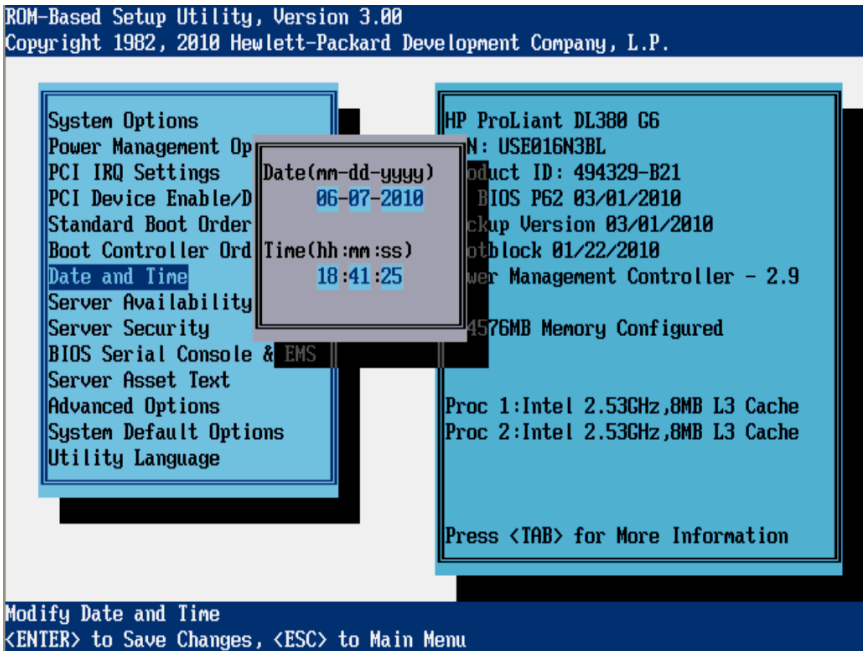
Add. Cards & options	2x 10G Ethernet card	E10G42 BTDA	Intel X520 SERVER ADAPTER- DA2 DUAL	2	2

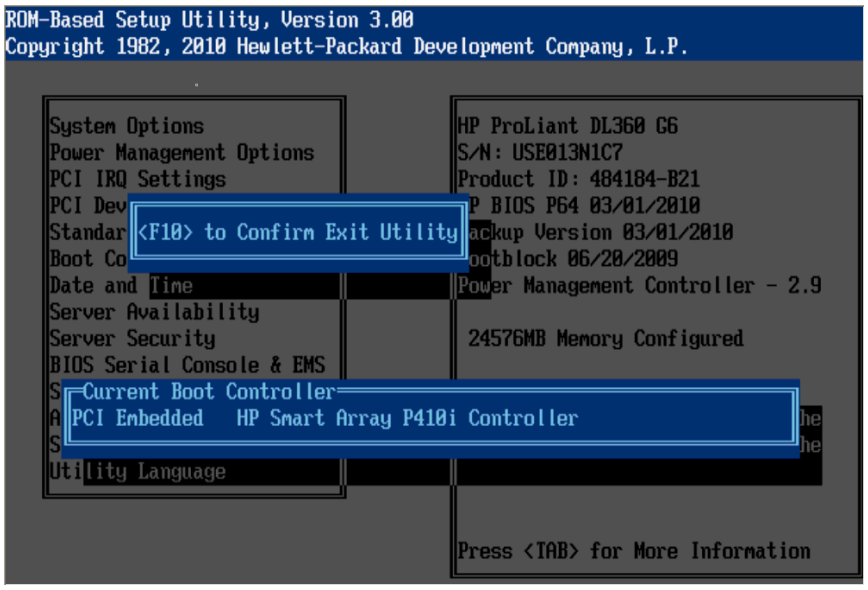
component	description	HP P/N	Technical description	NEBS PMF AC	NEBS IMF DC	NEBS PMF DC	NEBS IMF AC
HP DL360p Gen8 BASE	Server	654081-B21	HP DL360p Gen8 8-SFF CTO Server	1	1	1	1
	32GB RAM	647899-B21	HP 8GB 1Rx4 PC3-12800R-11 Kit	4	4	4	4
	Dvd	652241-B21	HP 9.5mm SATA DVD RW JackBlack Optical Drive	1	1	1	1
	On board 4 ports Eth	684208-B21	HP Ethernet 1GbE 4P 331FLR FIO Adptr	1	1	1	1
	Intern Flash Cache	661069-B21	HP 512MB FWC for P series smart array	1	1	1	1
	IC (including ILO 4 adv.)	TC278AAE	HP Insight Control bundle ML/DL 1 year 24x7	1	1	1	1
CPU	8 cores 2,6GHz 0,97 Specint	654786-L21	HP DL360p Gen8 E5-2670 FIO Kit	1	1	1	1
		654786-B21	HP DL360p Gen8 E5-2670 Kit	1	1	1	1
Onboard Disks	600GB SFF	652583-B21	HP 600GB 6G SAS 10K 2.5in SC ENT HDD	2	2	2	2
	Disk SFF kit	663201-B21	HP 1U SFF BB Gen8 Rail Kit	1	1	1	1
Power Supply	AC	656363-B21	HP 750W CS Plat PL Ht Plg Pwr Supply Kit	2		2	
	DC*	636673-B21	HP 750W-48V DC Common Slot Power Supply		2		2
Add. Cards & options	4x 1G Ethernet card	647594-B21	HP Ethernet 1Gb 4-port 331T	2		2	

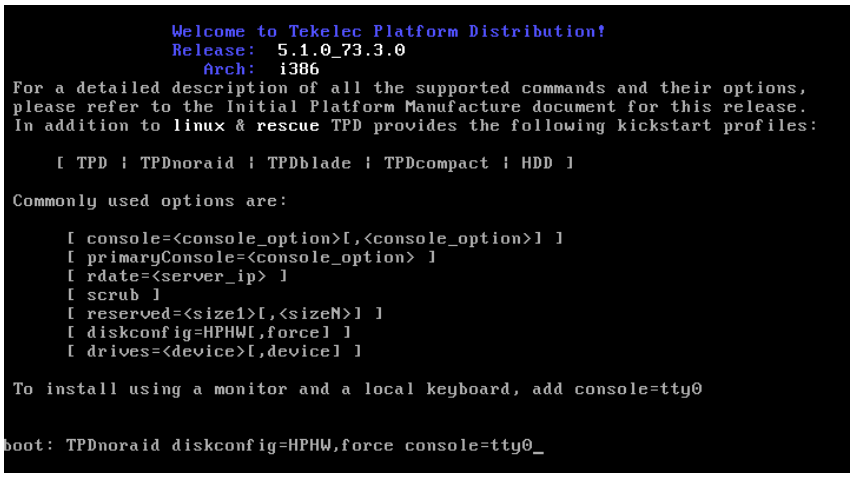
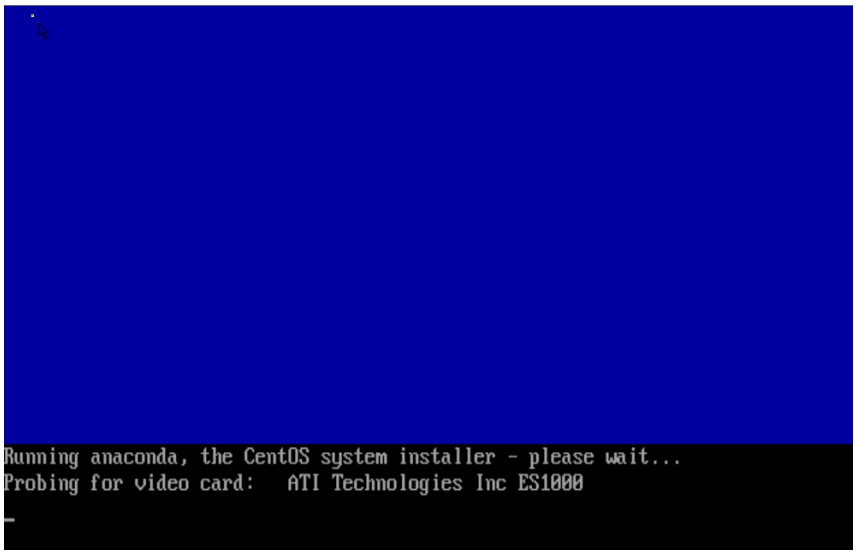
3.1.2 BIOS Settings and Server IPM

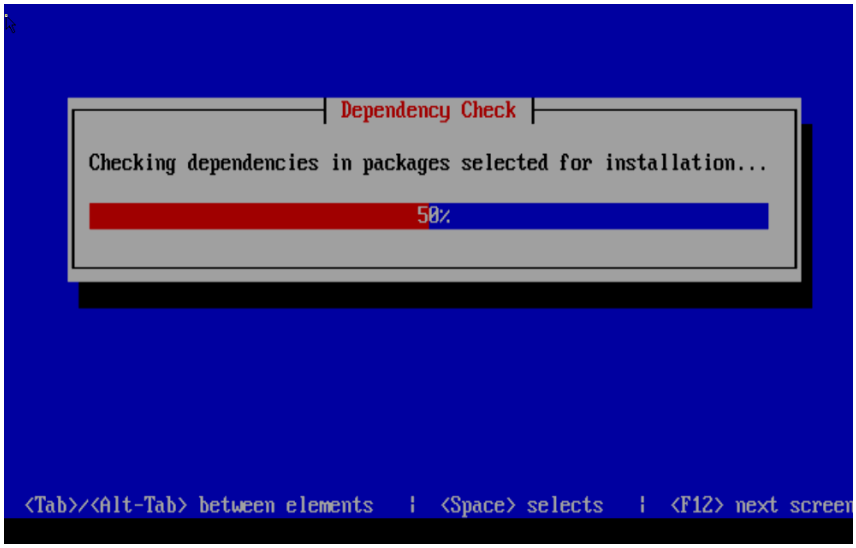
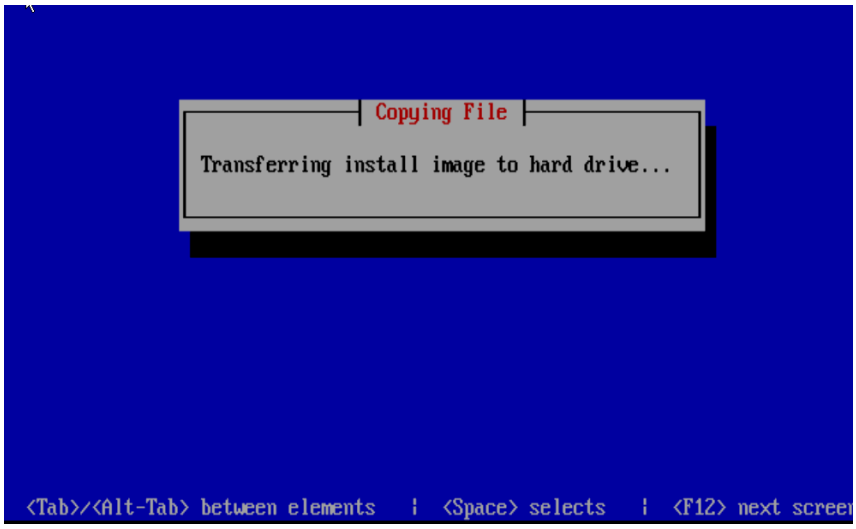
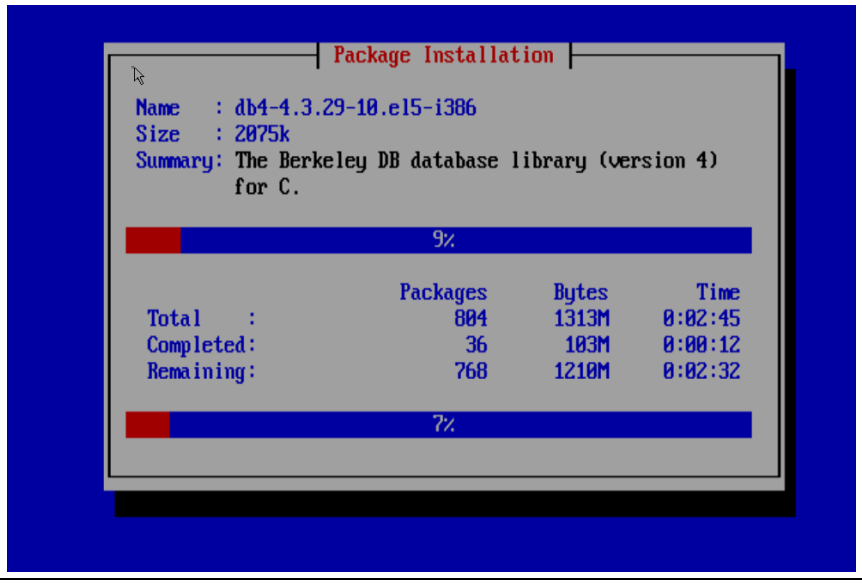
STEP #		
	In this procedure you will configure BIOS settings and IPM each HP Gen8 server equipped in the cabinet. Prerequisites: - System power-up is complete - TPD Initial Product Manufacture media **872-xxxx-xxx** - KVM connection to the server via KVM/RKM equipped or external **Use the 32 bits iso for all servers excepted to one which will be used as DWS and PMF in 64 bits.**	
1	Insert TPD Media into the server	Open the CD/DVD media drive in the server to be tested. Insert the appropriate (32-bit or 64-bit) TPD media into the optical drive. The KVM should be connected and the screen for the server to be tested ready.

2 ☐	Access the Server BIOS	Reboot the server. This can be achieved by pressing and holding the power button until the server turns off, then after approximately 5-10 seconds press the power button to enable power. As soon as you see **F9=Setup** in the lower left corner of the screen, press **[F9]** to access the BIOS setup screen. You may be required to press [F9] 2-3 times. The F9=Setup will change to F9 Pressed once it is accepted. See example below.  **Expected Result:** ROM-Based Setup Utility is accessed and the ROM-Based Setup Utility menu will be displayed.

3	Set Server CMOS Clock	Scroll to *Date and Time* and press **[ENTER]** Set the date and time and press **[ENTER]**. **Note**: Whatever the time zone the server is installed you must configure here the GMT time. Local time would be configured in the OS using the time zone configuration. In case this is not respected you will face some RCS error during the software installation.  **Expected Result:** Correct Time & Date is set.
4	Configure iLO serial port settings	The serial ports on HP Gen8 rack mount servers need to be configured so the serial port used by the BIOS and TPD are connected to the “VSP” on the iLO. This will allow the remote administration of the servers without the need for external terminal servers. If this configuration has not been completed correctly and the server rebooted, the syscheck “syscheck -v hardware serial” test will fail. Select System Options option and press [ENTER]. Select Serial Port Options option and press [ENTER]. Change Embedded Serial Port to COM2 and press [ENTER]. Change Virtual Serial Port to COM1 and press [ENTER]. Press <ESC> two times

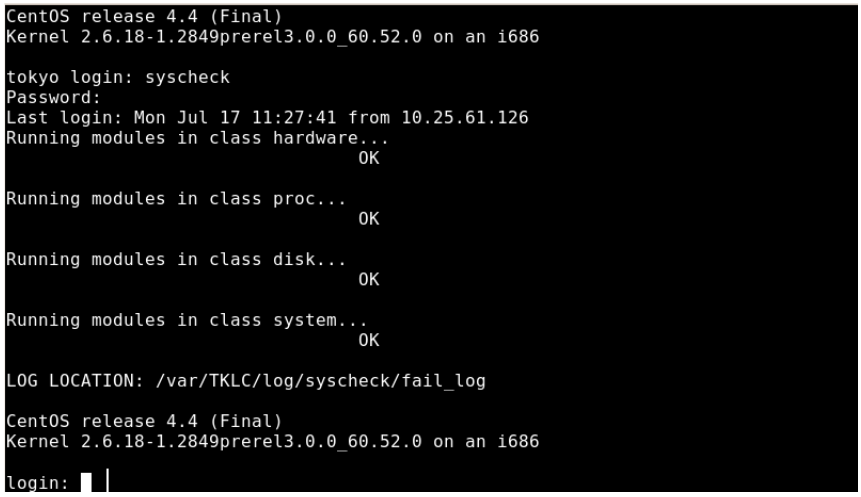
5	Disable Hyperthreading –PMF servers only	Hyperthreading is to be disabled only on PMF servers. Proceed to the next step if configuring the BIOS of an IMF server. Select System Options option and press [ENTER]. Select Processor Options option and press [ENTER]. Select Intel ® Hyperthreading Options and press [ENTER]. Select Disable and press [ENTER]. Press <ESC> three times
6	Save Configuration and Exit	Press [**F10]** to save the configuration and exit. The server will reboot  **Expected Result:** Settings are saved and server reboots.

7	Begin IPM Process	Once the Server reboots, it should boot from the IPM CD/DVD media which was inserted in the drive in Step 1 of this procedure. The following screen will appear:  IPM the server using the following command exactly as shown below (Note: no space between the HPHW and force: HPHW,force): **TPDnoraid diskconfig=HPHW,force console=tty0** **Expected Result:** The server is booted from the media. You will see a series of screens during the process. Samples are shown below. 

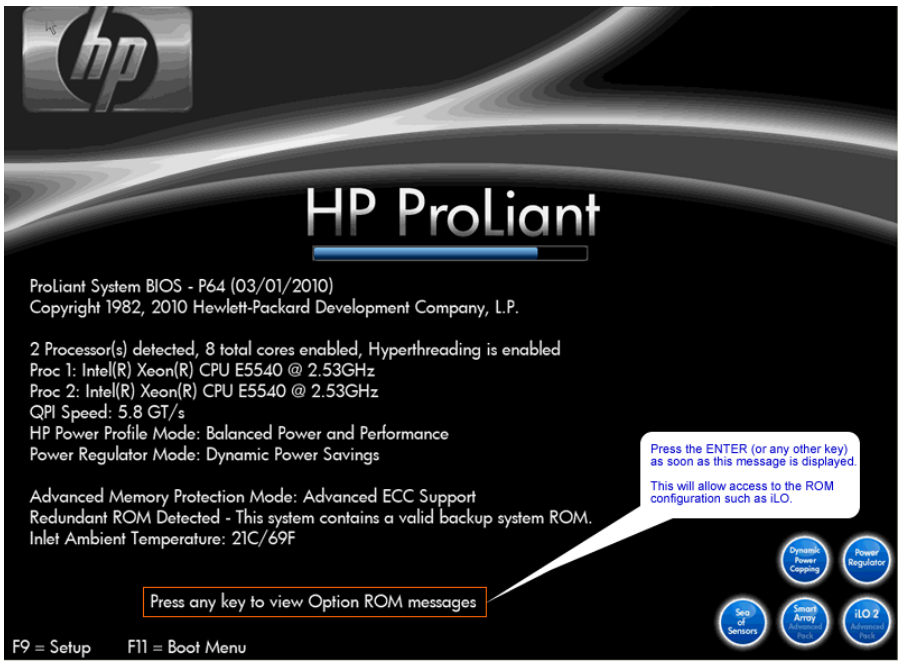
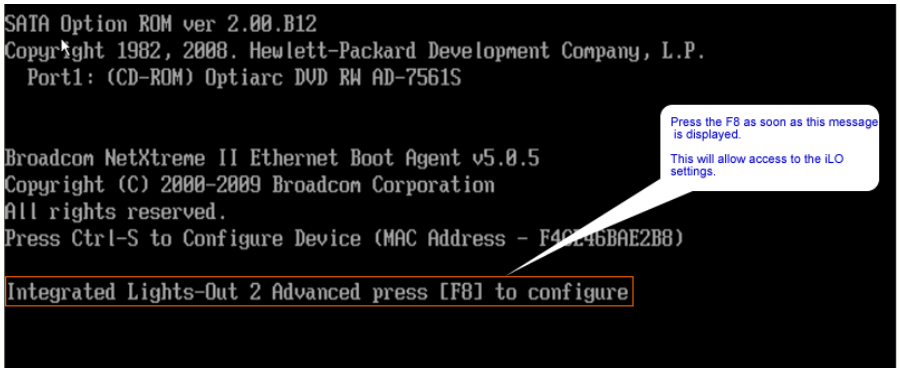
8		 Dependency Check Checking dependencies in packages selected for installation... 50% <Tab>/<Alt-Tab> between elements ¦ <Space> selects ¦ <F12> next screen  Copying File Transferring install image to hard drive... <Tab>/<Alt-Tab> between elements ¦ <Space> selects ¦ <F12> next screen  Package Installation Name : db4-4.3.29-10.el5-i386 Size : 2075k Summary: The Berkeley DB database library (version 4) for C. 9% Packages Bytes Time Total : 804 1313M 0:02:45 Completed: 36 103M 0:00:12 Remaining: 768 1210M 0:02:32 7%

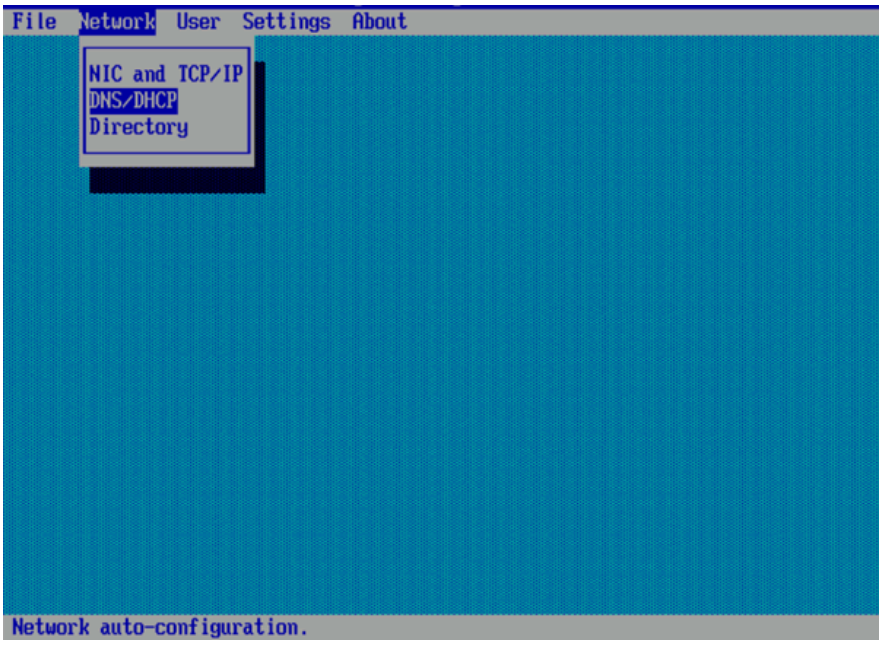
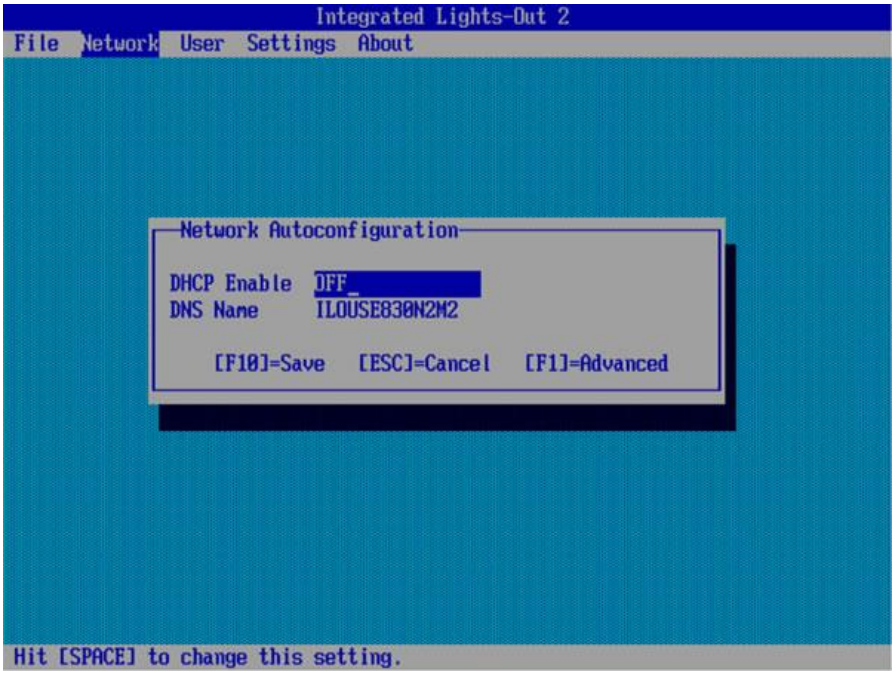
9	IPM Complete – remove media and reboot the server.	The IPM process takes approximately 15-20 minutes, you will see several messages and screens in the process. Once the IPM is complete, you will be prompted to reboot as shown below. Press **Enter** to reboot the server and then remove the CD/DVD media from the drive if it does not eject on it's own (so the server does not boot from the TPD disk again) 
10	Server Reboot	Once the server reboots, you should see a login prompt. **Note**: During the first system boot, swap files may be initialized and activated. Each swap file will take about 2 minutes. Login as **root** and refer to TR006061 for the default "TPD root" password **Expected Result:** Login prompt is displayed and you are logged in as root.

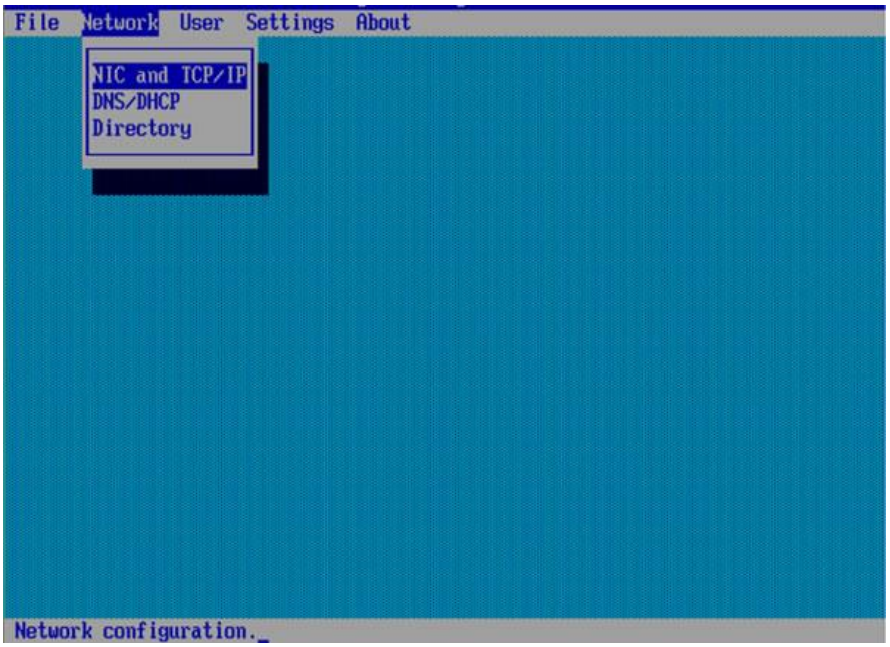
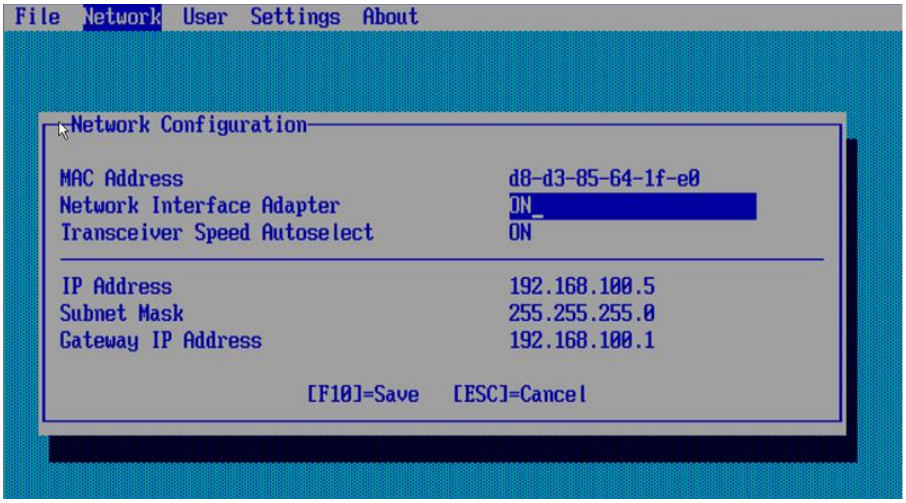
11	Resize /var/TKLC partition	`init 2`
		`umount /dev/mapper/vgroot-plat_var_tklc`
		`lvextend -L +4G /dev/mapper/vgroot-plat_var_tklc`
		`e2fsck -f /dev/mapper/vgroot-plat_var_tklc`
		`resize2fs -p /dev/mapper/vgroot-plat_var_tklc`
		`reboot`

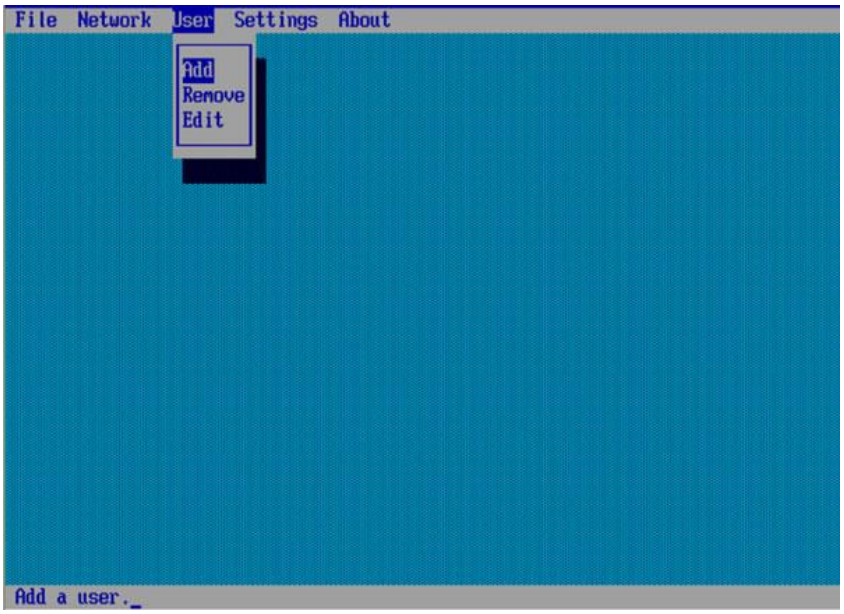
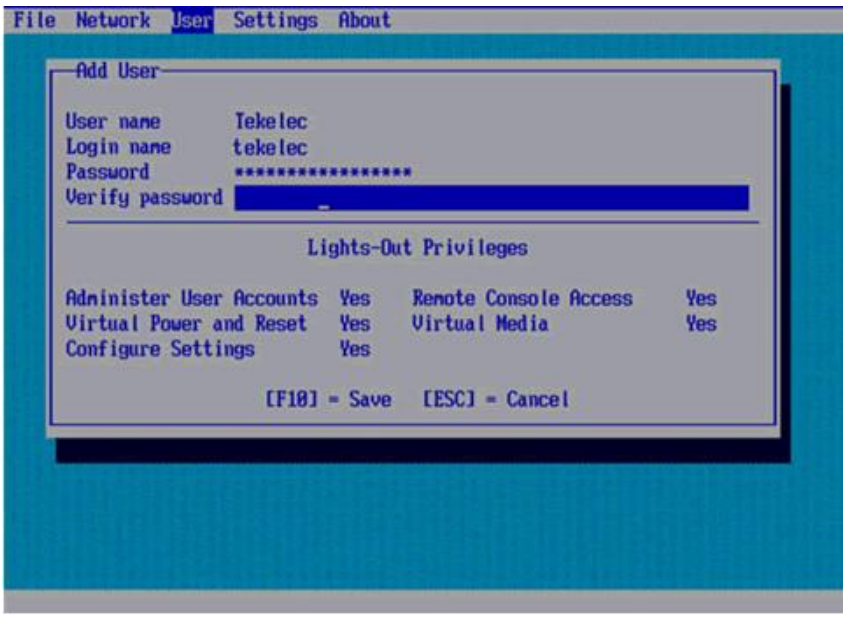
12	Perform syscheck test	Login as root and perform syscheck test on the server. Enter: **`syscheck`** at the prompt and press **[ENTER]**  Verify syscheck test passes. You may see a failure related to NTP. This is acceptable since we do not have an NTP server setup yet. **Expected Result:** The syscheck test passes.
13	Check alarms	Perform alarm check test on the server. At the prompt, enter (exactly as shown): **`alarmMgr -alarmStatus`** **Expected Result:** Nothing. No alarms should be displayed (with the exception of NTP related since we are not yet connected to an NTP server).
14	Repeat this process for all HP ProLiant servers equipped in the cabinet	**Repeat steps 1-13** for each HP ProLiant server equipped in the cabinet. **Expected Result:** Each server is loaded with TPD and syscheck passes with no alarms other than the exceptions noted.

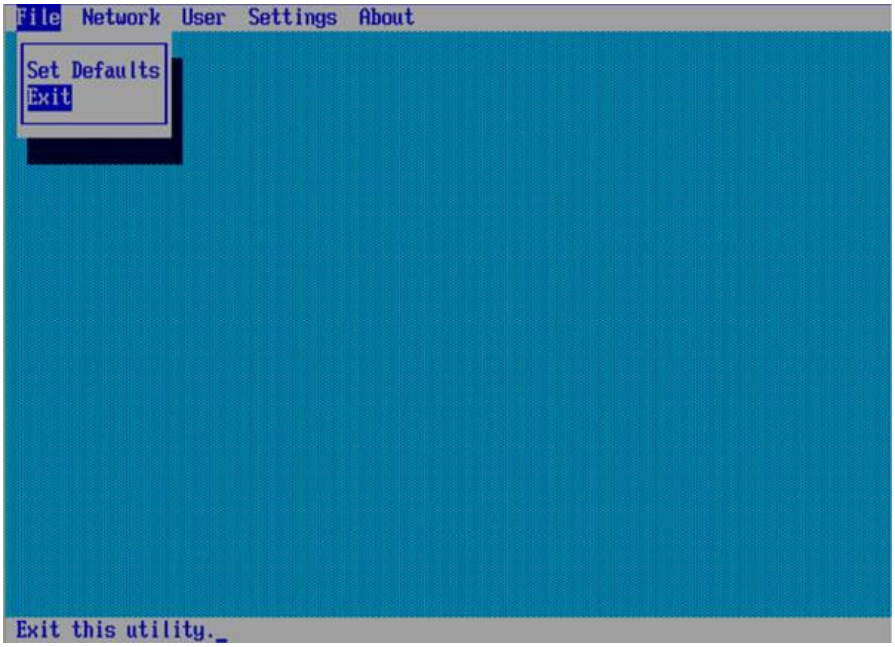
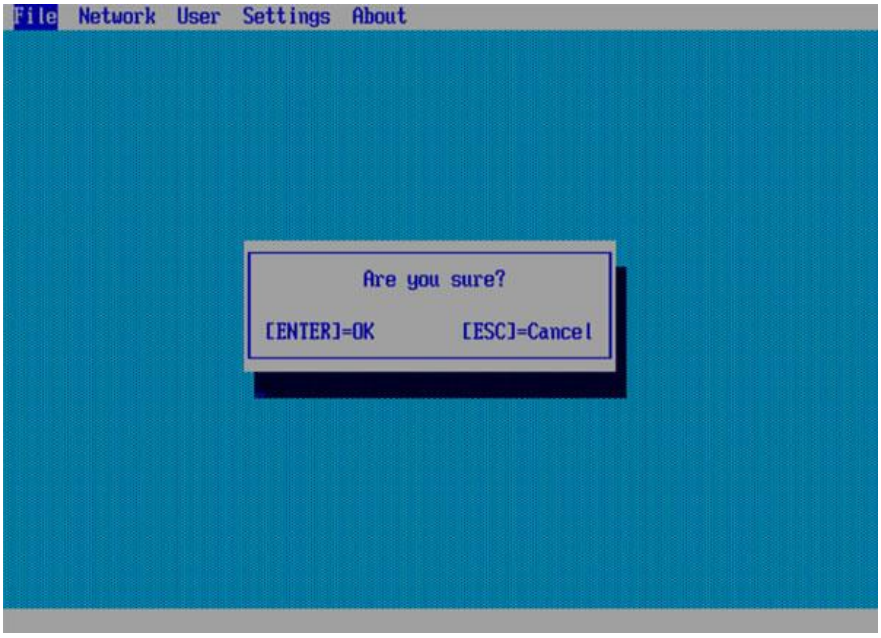
3.1.3 Integrated Lights Out Configuration

S T E P #		
	In this section you will configure the Integrated Lights Out (iLO). You will be configuring the IP address, Netmask, Gateway and adding the tekelec user and password. If the final customer network and IP address information is not available at the time of this configuration, a default IP address for each server based on U mounting location in the cabinet is provided in Appendix E should be used instead for testing purposes. **Prerequisites**: The HP ProLiant servers will need to be connected to a KVM for access.	
1	**Enter the Integrated Lights Out configuration menu**	Reboot the server: At the prompt, enter: **reboot** and press **[ENTER]** and the server will reboot. Press any key when you see the notice. To view Option ROM messages, then press F8 for the Integrated Lights Out 2 Advanced menu access.   **Expected result**: The iLO setup menu is accessed after pressing **[F8]** when the Integrated Lights Out prompt appears on the screen.

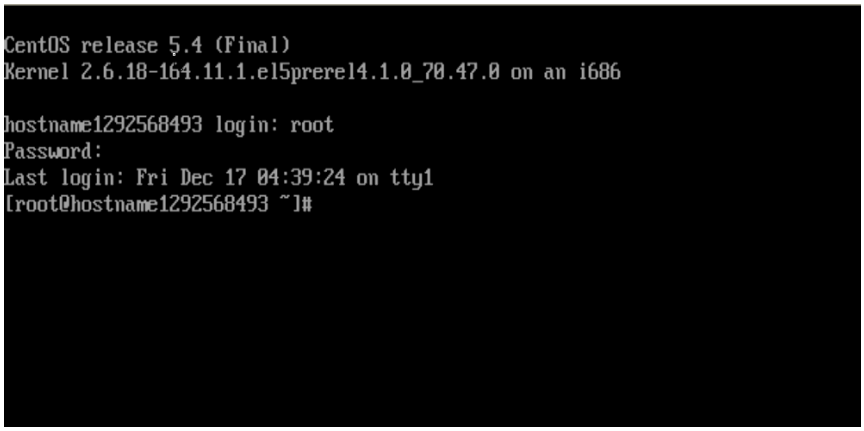
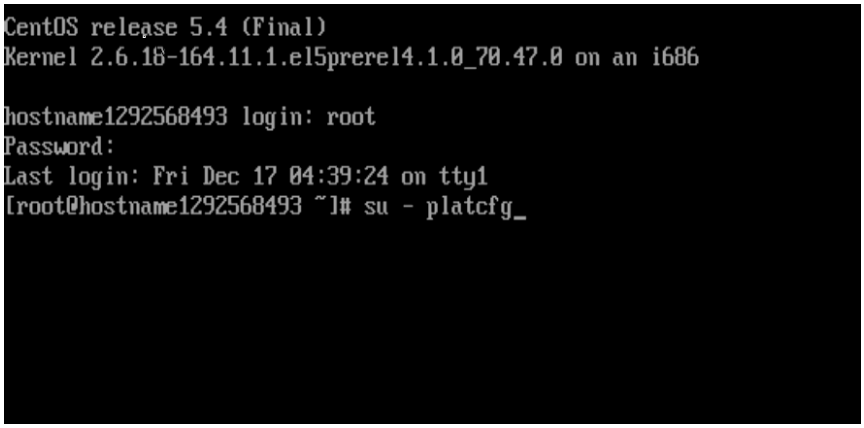
2	**Disable DHCP in the Network menu**	Use the arrow keys to navigate through the menu and select the '**Network'** menu and then go to '**DNS/DHCP**', then '**DHCP enable**' **– press** **Enter** 
3	**Disable DHCP in the Network menu**	 Use the space bar to **disable** DHCP. (the space bar toggles the DHCP option 'ON' and 'OFF') **Save the settings by pressing the [F10] key** **Expected result**: DHCP is disabled and settings are saved.

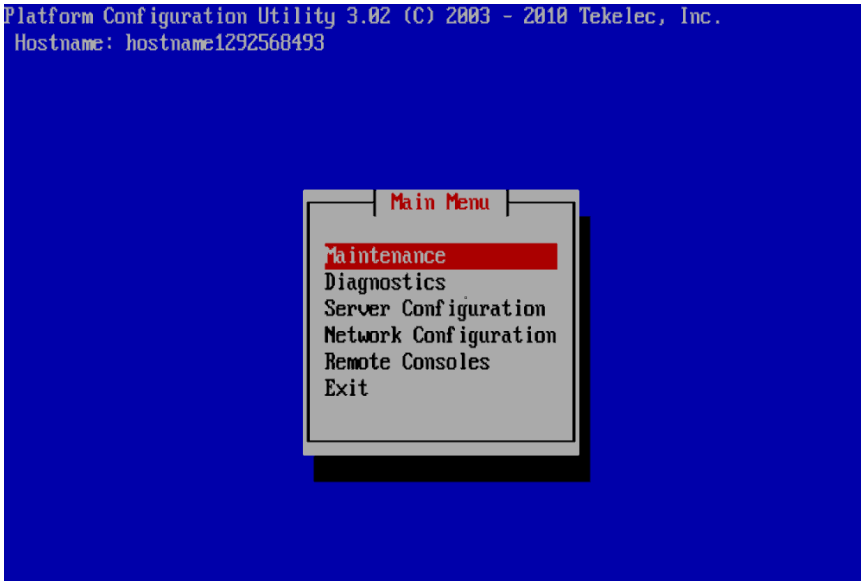
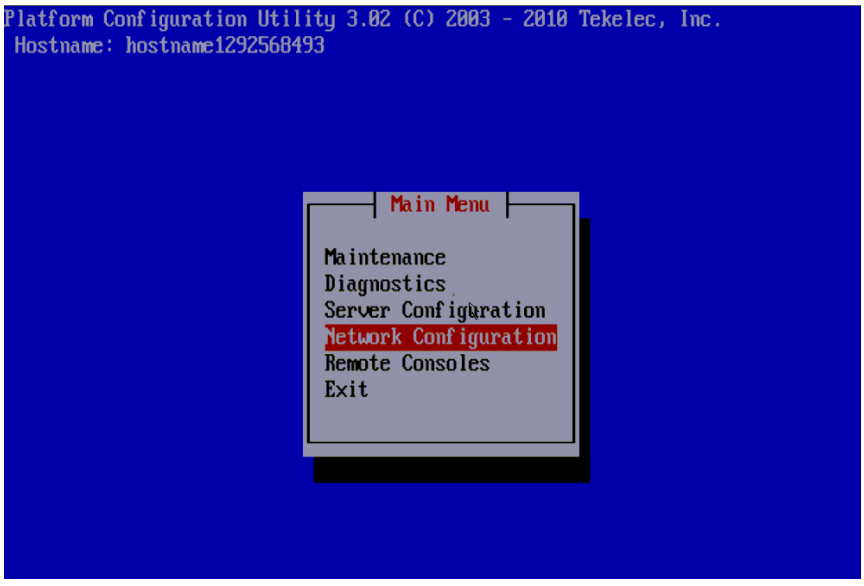
4	**Configure the IP Address, Subnet Mask and Default Gateway**	Use the arrow keys to navigate through the menu and select the '**Network'** menu and then go to '**NIC and TCP/IP'** 
5	**Configure the IP Address, Subnet Mask and Default Gateway**	Fill in the following IP Address information using the final customer IP address if available, otherwise use defaults for test: IP Address: **192.168.100.xxx** (where **xxx** = IP address for the server see Appendix E) Subnet Mask**:** **255.255.255.0** Default Gateway: **192.168.100.1**  (screenshot is for reference only and may not represent correct values) **Save the settings by pressing the [F10] key** **Expected result**: Network settings (IP address, default gateway and subnet mask) are configured and saved.

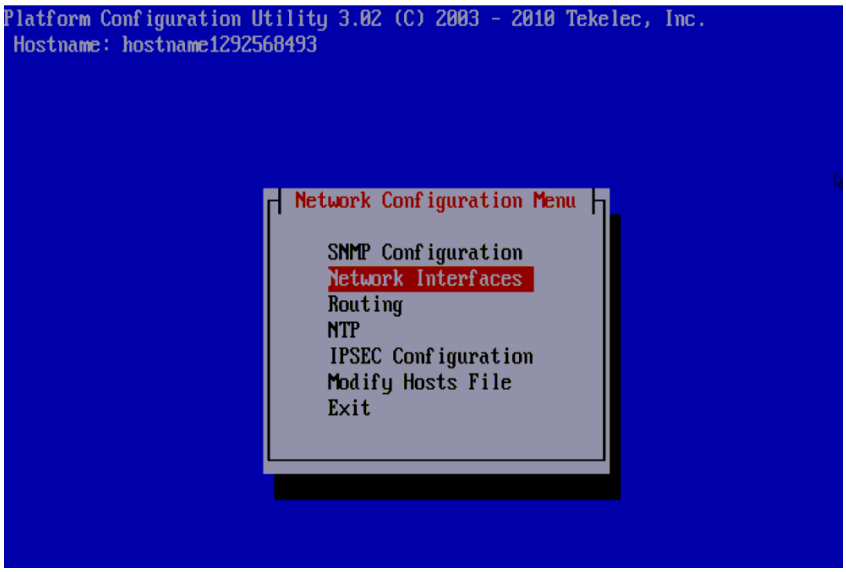
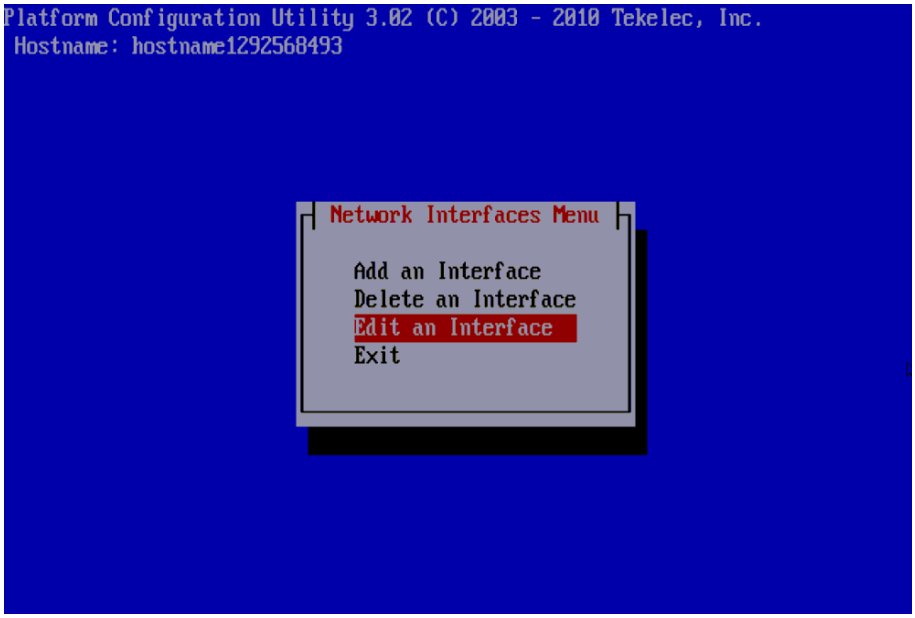
6	**Add the user and password in the user menu**	Use the arrow keys to navigate through the menu and select the '**User**' menu, then '**Add User**'. 
7	**Add the information in the user menu:**	Add the User name: **Tekelec**, Login name: **tekelec** and the default password for "iLO Tekelec" as defined in TR006061  Save the settings by pressing the [**F10**] key **Expected Result**: The **tekelec** user is added and is saved.

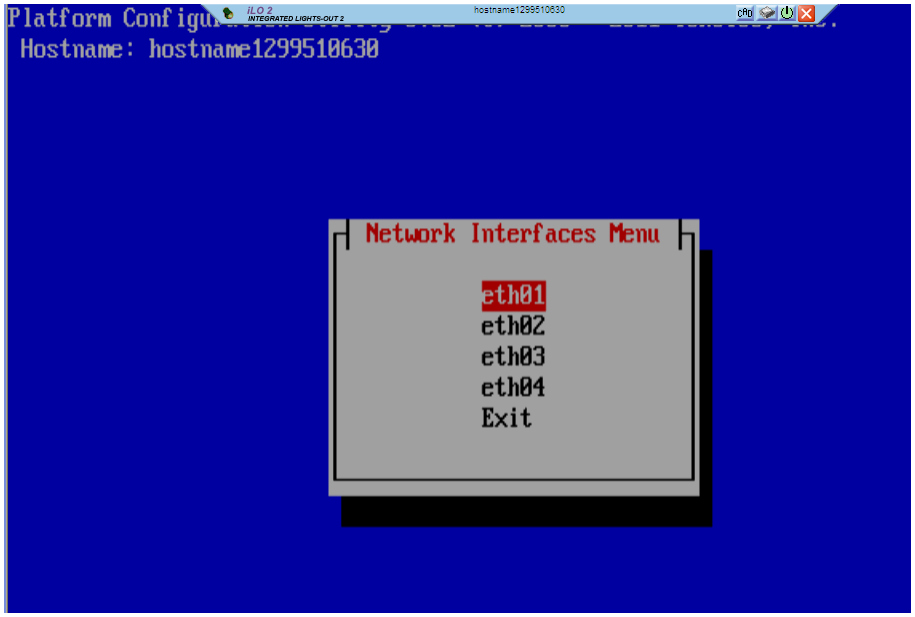
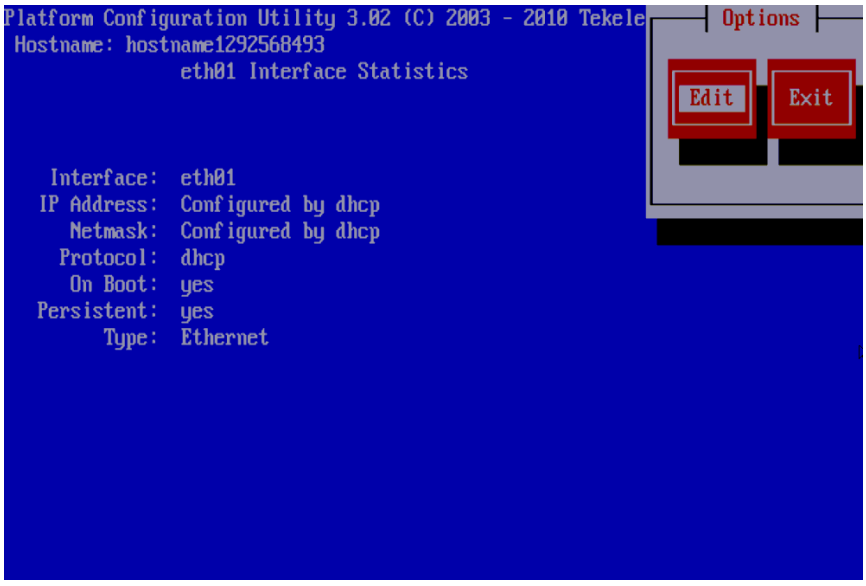
8	**Exit the iLO configuration menu and save changes.**	Use the arrow keys to navigate through the menu and select the '**File** menu, then '**Exit**'. 
9	**Press ENTER to confirm**	
10	**Repeat for each server equipped.**	**Repeat steps 1 through 9** for each HP DL360 ProLiant server equipped in the cabinet

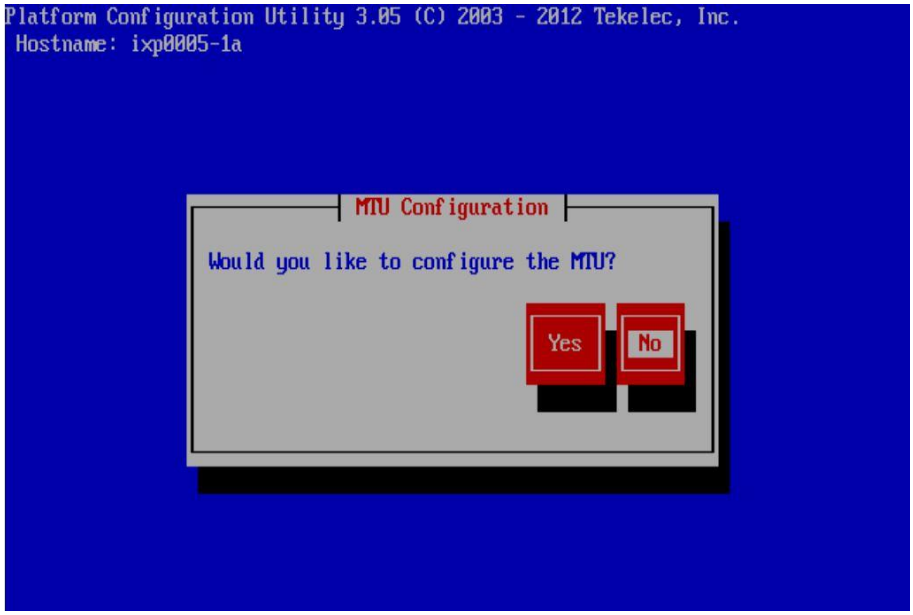
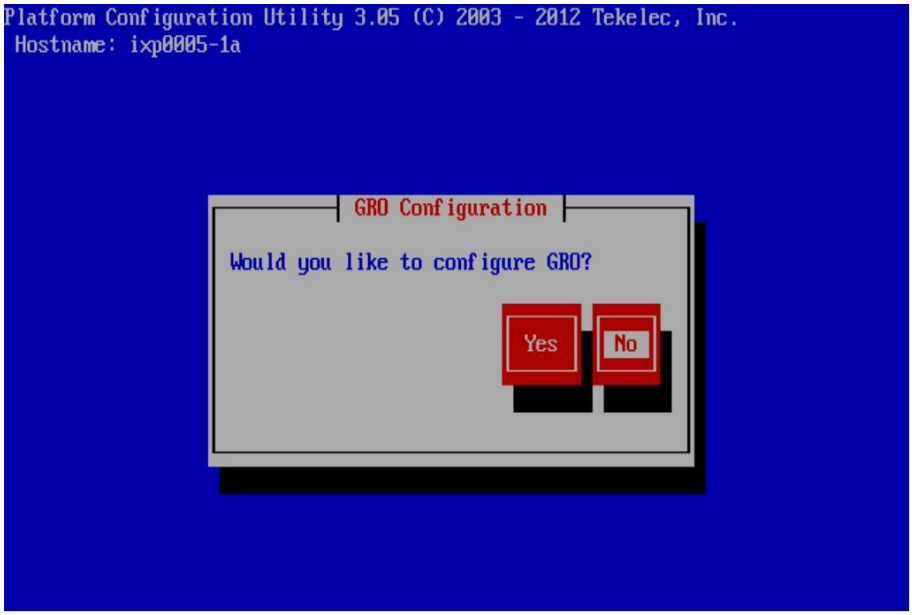
3.1.4 Configure Interfaces

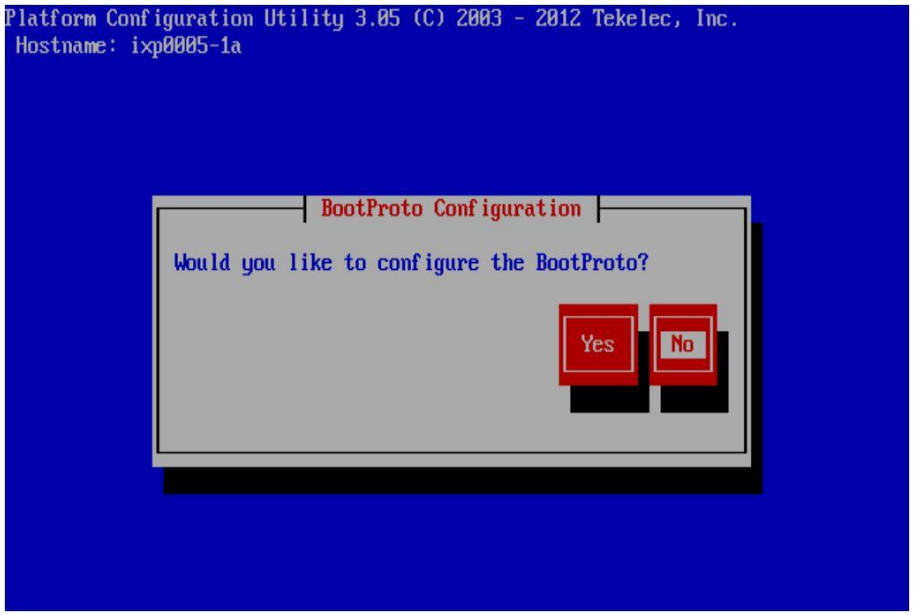
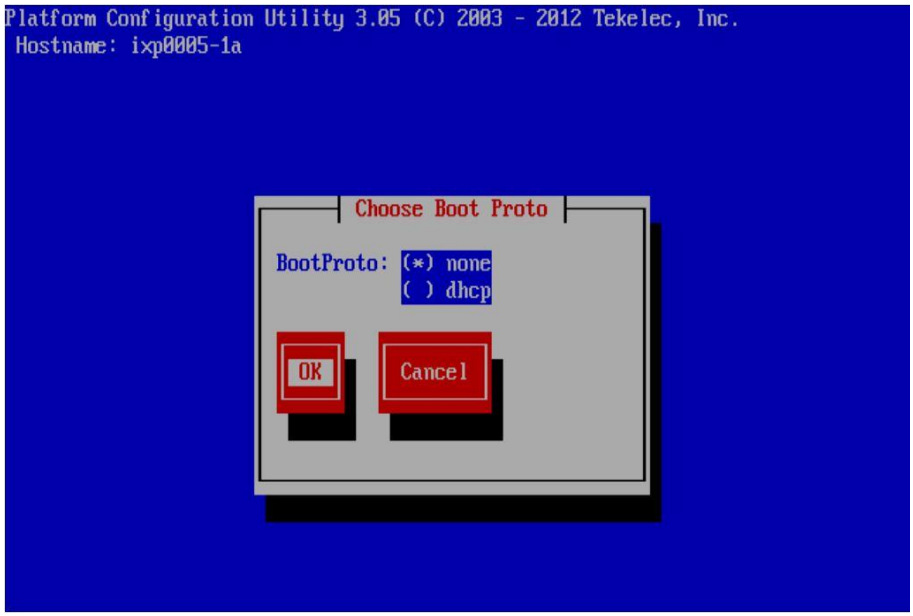
STEP #		
	In this section you will be configuring the Ethernet interfaces in preparation to test them. You will be configuring the IP address, Netmask, Gateway for the interfaces on each HP DL360 ProLiant server. If the final customer network and IP address information is not available at the time of this configuration, a default IP address for each server based on U mounting location in the cabinet is provided in Appendix E should be used instead for testing purposes. **Prerequisites**: - The servers are loaded with TPD - The HP DL360 ProLiant servers will need to be connected to a KVM for access. Notes: Within the Platform Configuration Utility, the arrow and Tab keys on your keyboard can be used to move the cursor to different fields.	
1	Login to the server	Once the server completes the reboot from the ILO configuration process in the previous section, you should see a login prompt. Login as User: **root** and refer to TR006061 for the default "TPD root" password  **Expected Result:** Login prompt is displayed and you are logged in as root.
2	Enter the Platform Configuration Utility	To enter the Platform Configuration Utility menu enter: **su - platcfg** 

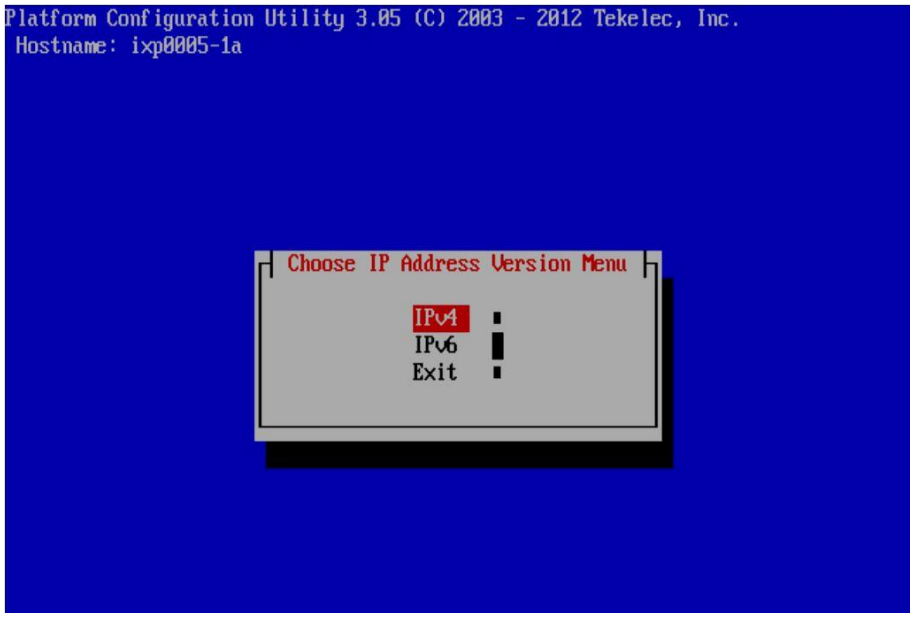
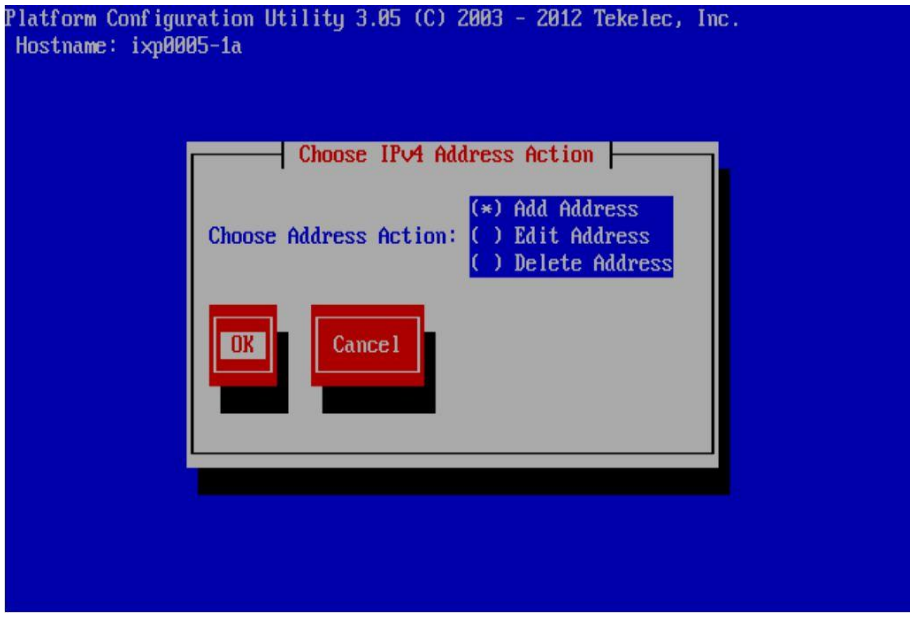
3	Enter the Platform Configuration Utility	 **Expected Result:** Main Menu of Platform Configuration Utility is displayed
4	Enter the Network Configuration menu of the Platform Configuration Utility	**Main Menu** of Platform Configuration Utility is displayed. Use the arrow keys on the keyboard to select **Network Configuration** and press [ENTER] to select it.  **Expected Result:** The Network Configuration menu is displayed

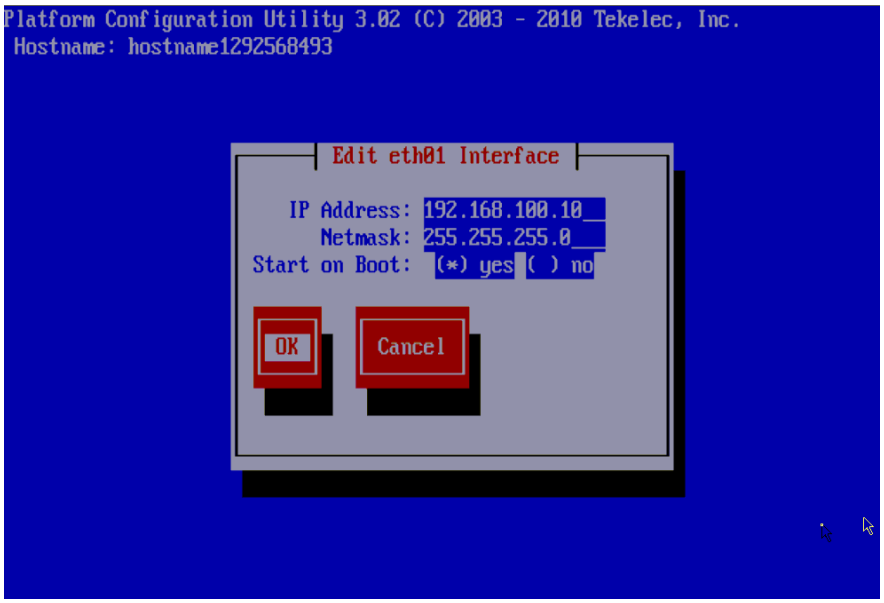
5	Enter the Network Interfaces menu	Use the arrow keys on the keyboard to select **Network Interfaces** and press **[ENTER]** to select it.  **Expected Result:** The Network Interfaces menu is displayed
6	Enter the Edit an Interface menu	Use the arrow keys on the keyboard to select **Edit an Interface** and press **[ENTER]** to select it.  **Expected Result:** The Network Interfaces menu is displayed with interface choices eth01 and eth02

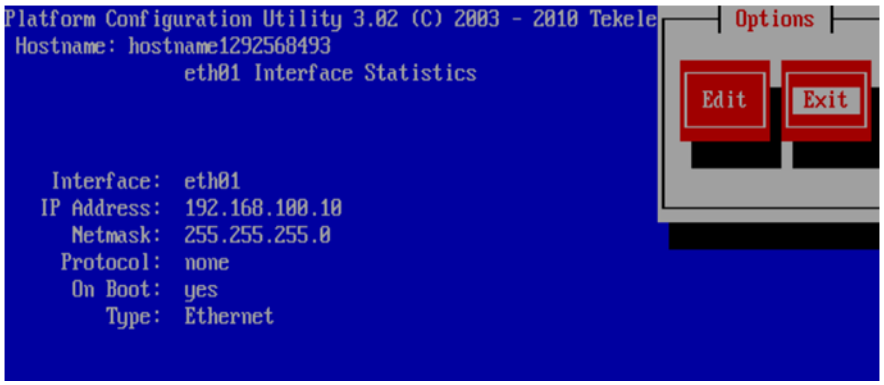
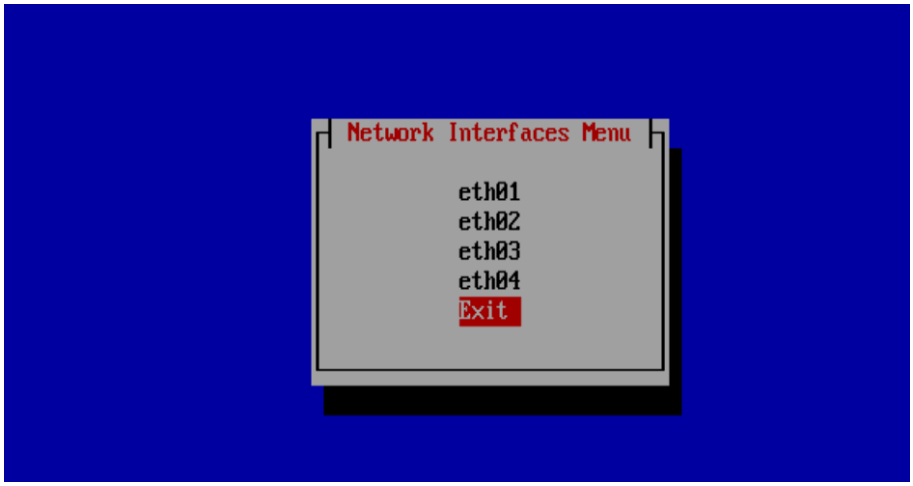
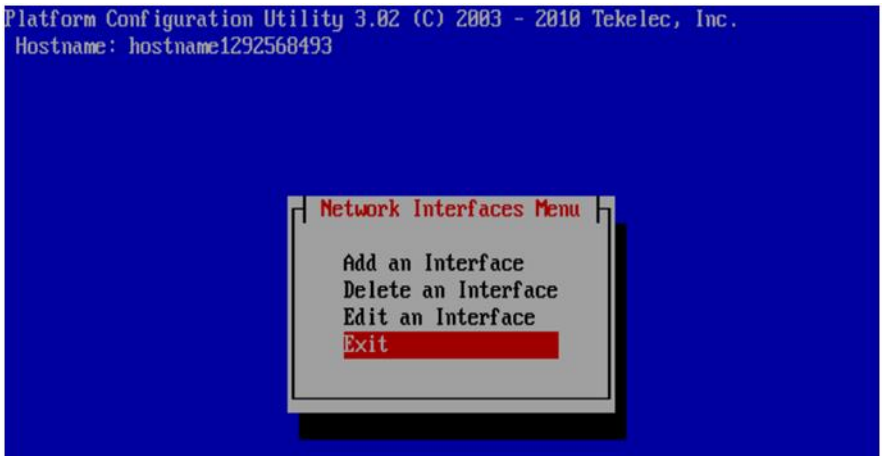
7	Edit the eth01 interface properties	Use the arrow keys on the keyboard to select **eth01** and press **[ENTER]** to select it.  **Expected Result:** The eth01 interface is selected and you are presented with **eth01 Interface Statistics**.  Press the **[ENTER]** key to Edit the properties of eth01. **Expected Result:** The eth01 interface is selected and you are presented with eth01 Interface Statistics. You have selected 'Edit' and are presented with properties to change.

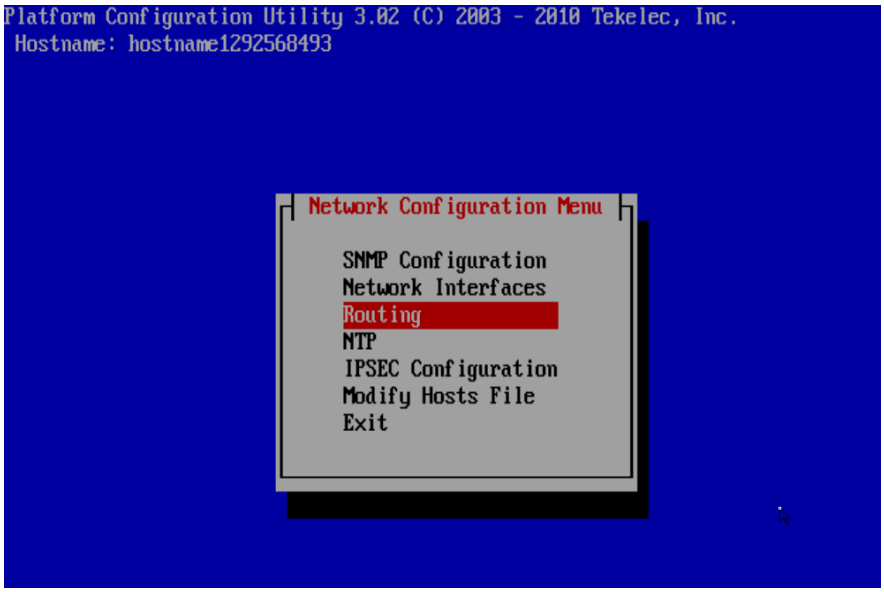
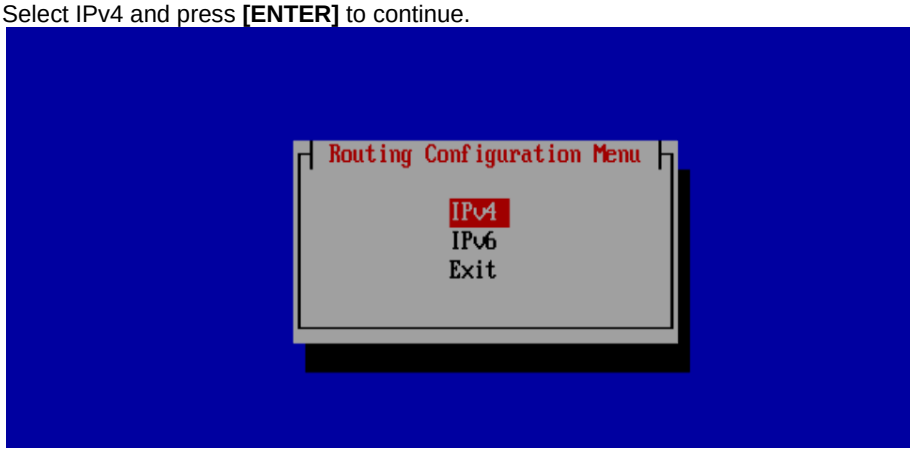
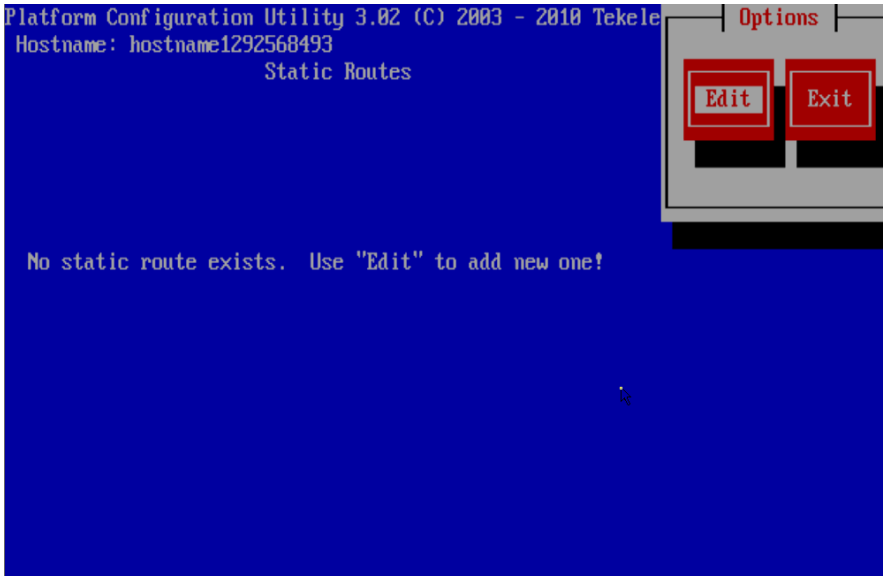
8	Configure MTU	Press **[TAB]** to move to No, then press the **[ENTER]** key to continue. 
9	Configure GRO	Press **[TAB]** to move to No, then press the **[ENTER]** key to continue. 

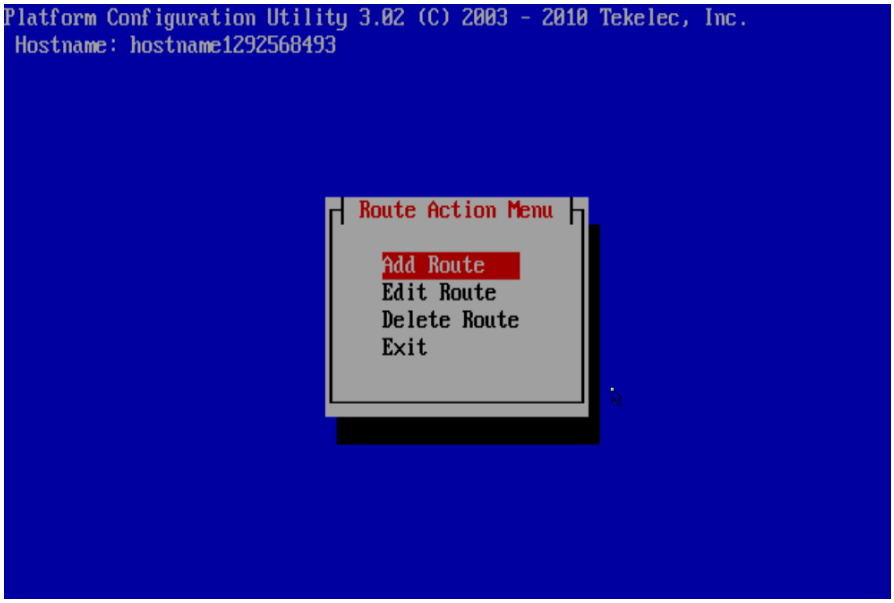
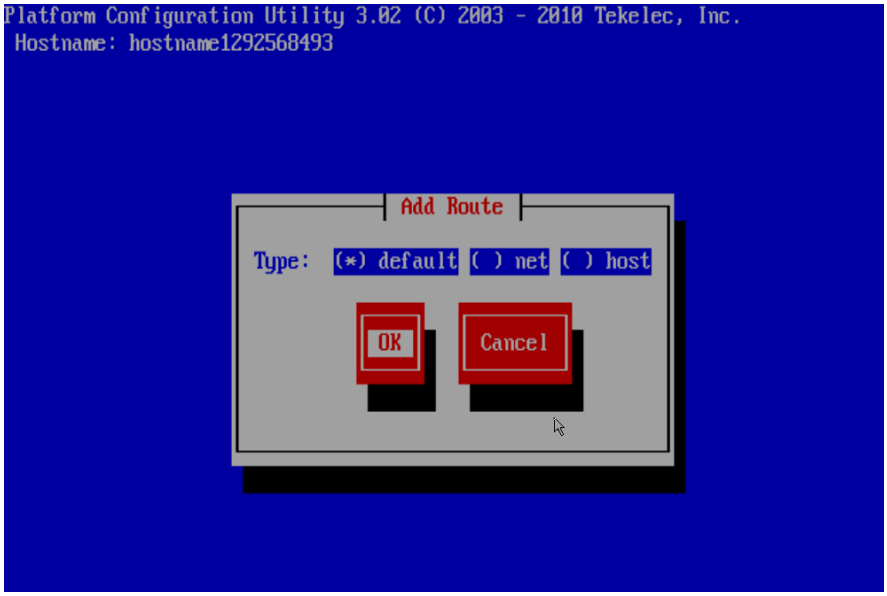
10	Configure Boot Protocol	Press **[TAB]** to move to **Yes**, then press the **[ENTER]** key to continue. 
11	Set boot protocol to none	Use the **[TAB]** key on the keyboard to select ( ) **none** and press the **[SPACEBAR]** key to select it. An asterisk will appear once selected. Press **[TAB]** to move to OK, then press the **[ENTER]** key to continue.  **Expected Result:** Boot protocol is set to none and you now see the menu which allows you to edit the IP address.

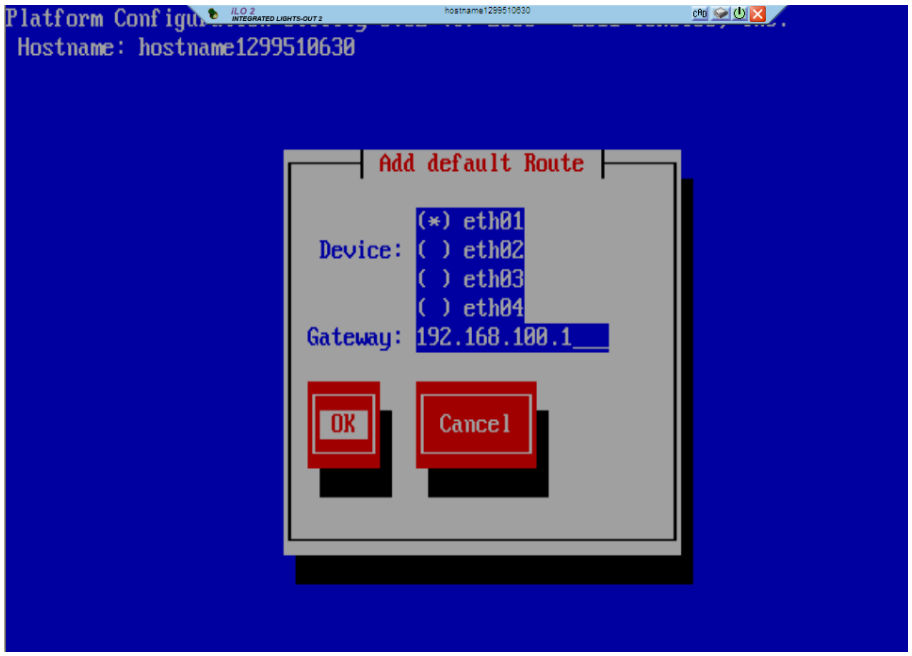
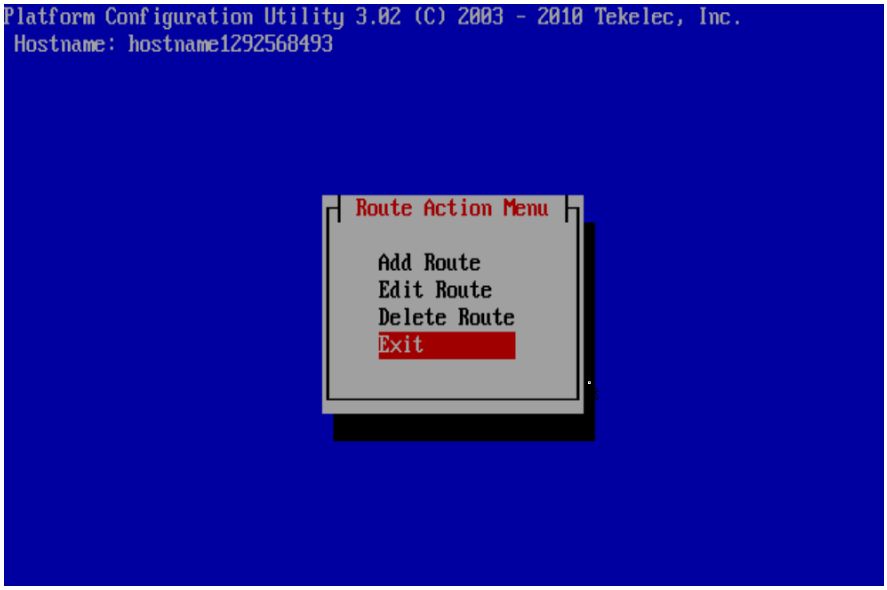
12	Select IPv4	press **[ENTER]** to continue. 
13	Select Add address	press **[ENTER]** to continue. 

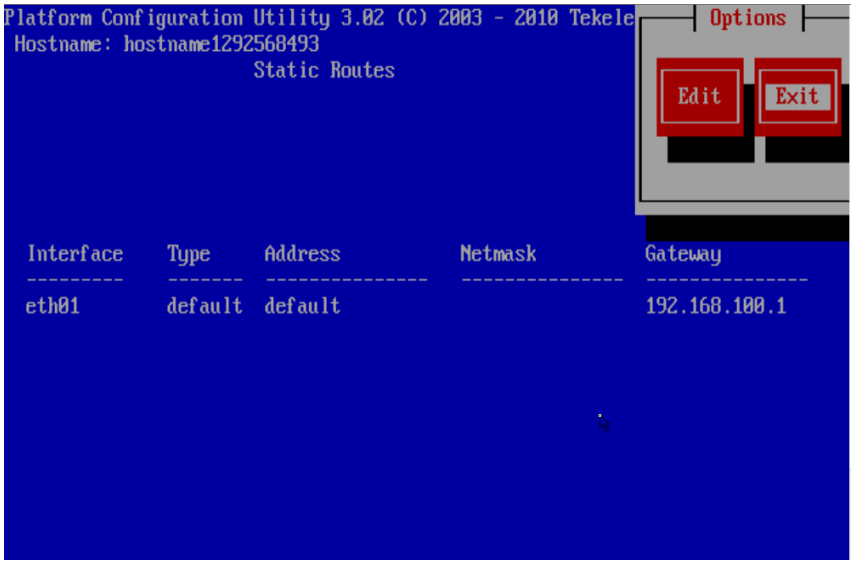
14	Set the IP address and Netmask identified in Appendix E for the eth01 interface	Use the [TAB] and arrow keys on the keyboard to add IP address. Enter the IP address of the server then press **[TAB]** to select NETMASK. Press **[TAB]** to select **( ) yes** and press **[SPACEBAR]** to select then **[TAB]** and press **[ENTER]** to continue. 
15		You will see the following screen:  **Expected Result:** IP address and Netmask is set to the correct IP address for the server. Wait for it to complete.

16	Verify the settings and exit	Once the screen comes back, **verify the IP address and Netmask**. Use the **[TAB]** key on the keyboard to select Exit and press **[ENTER]** to continue.  Use the **[TAB]** key on the keyboard to select Exit and press **[ENTER]** to continue  Use the **[TAB]** key on the keyboard to select Exit and press **[ENTER]** to continue  **Expected Result:** IP address and Netmask is set to the correct IP address for the server and you exit the Network Interfaces menu.

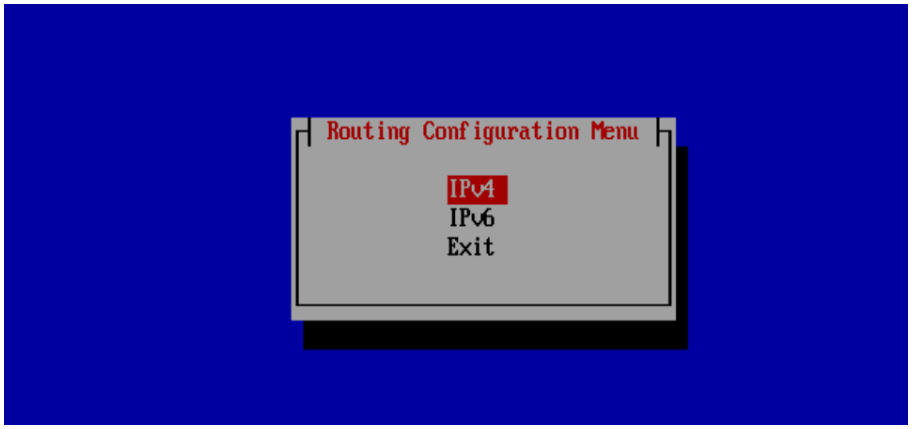
17	Set the Gateway address for the eth01 interface	Use the arrow keys on the keyboard to select Routing and press **[ENTER]** to continue.  Select IPv4 and press **[ENTER]** to continue.  Select Edit and press **[ENTER]** to add the default gateway.  **Expected Result:** Routing menu is opened and Edit is selected

18	Set the IP address and Netmask for the eth01 interface	Select Add Route using the arrow keys.  Use the **[TAB]** and **[SPACEBAR]** keys on the keyboard to select ( ) **default**, then **[TAB]** to **OK** and press **[ENTER]** to continue.  **Expected Result:** Default is selected and you are taken to the next menu which allows you to add the IP address of the default route.

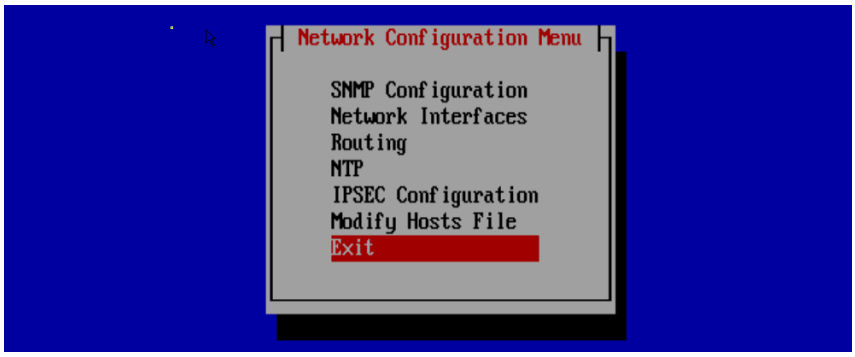
19	Set the default Route Gateway IP address for the eth01 interface	Use the **[TAB]** and **[SPACEBAR]** keys on the keyboard to select **( ) eth01** and then **[TAB]** twice and enter the correct customer's gateway IP address if available. If not available and you are using default test IP addresses instead, enter **192.168.100.1**. Press **[TAB]** to select **OK** then press **[ENTER]** to continue.  Use the arrow keys on the keyboard to select **Exit** then press **[ENTER]** to exit.  **Expected Result:** The correct Gateway IP address is entered. The Route Action menu is exited.
20	Verify the default Route for eth01 and exit the menu	Verify the **eth01** interface is listed and Type and Address are set to default. Gateway should match the IP address you entered in the previous step. Use the **[TAB]** key on the keyboard to select **Exit** and press **[ENTER]** to continue.



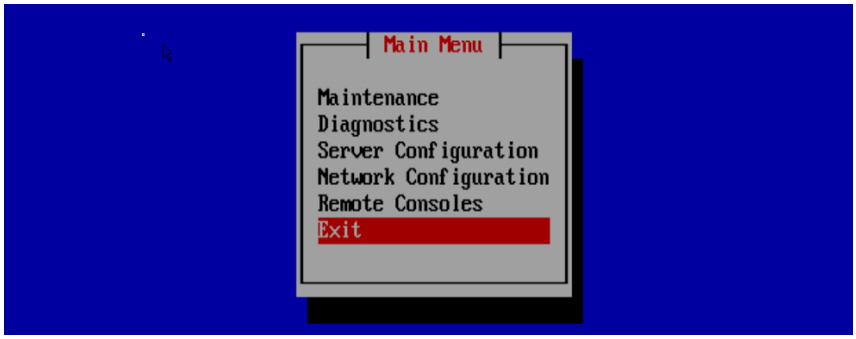
Select **Exit** and press **[ENTER]** to leave the **Routing Configuration** menu



Select **Exit** and press **[ENTER]** to leave the **Network Configuration** menu



Select **Exit** once again to leave the **Platform Configuration Utility**

		 **Expected Result:** The default route (Gateway) IP address is verified and the menu is exited.
21	Configure remaining servers in frame	Repeat Steps 1 through 20 for each equipped HP DL360 server.

3.2 HP Gen8 Blades Platform (C-Class Blades)

This section contains the procedures needed to set up the HP Gen8 C-class blade platform, and are presented in the sequential order in which they need to be executed.

This is required especially in case of software centric project were the hardware is purchased by the customer or a partner and is not going through the standard Tekelec manufacturing process.

The detailed server configuration are defined in the planning guide.

A special attention is required on the amount of memory on the SAN controllers:

The amount of RAM memeory in the server must be checked

There must be also attention to the number of Hard Disks and their characteristics:

- Capacity 300 or 600Gb
- Speed 10 or 15KRPM

component	description	HP P/N	Technical description	NSP/ IXP BM	IXP XDR/ PDU/ EFS/ RSP/ DWS
HP BL460c blade	server	641016-B21	HP BL460c Gen8 10Gb FLB CTO Blade	1	1
	32GB RAM	647899-B21	8GB 1Rx4 PC3-12800R-11 Kit	4	4
	10Gb Ethernet internal ctl	684211-B21	HP Flex-10 10Gb 2-port 530FLB FIO Adapter	1	1
	including ILO 4 std edition	included	HP iLO standard edition	1	1
CPU	6 cores 2,3 GHz	662068-L21	HP BL460c Gen8 E5-2630 FIO Kit	1	1
		662068-B21	HP BL460c Gen8 E5-2630 Kit	1	1
Disks	On board 600GB HDD	652583-B21	HP 600GB 6G SAS 10K 2.5in SC ENT HDD	2	2
SAN adptr	Fiber channel card for SAN	651281-B21	HP Fibre Channel 8Gb QMH2572 Adptr		1

1. Deploying Virtualized PM&C Overview

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.1

2. Installing TVOE on the Management Server

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.2

3. Upgrade the DL360 firmware

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.7.2

4. TVOE Network Configuration

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.3. Go through the steps 1 and 2

```
[root@hostname1368545964 ~]# netAdm query --device=bond0
```

```
      Protocol:  none
       On Boot:  yes
    IP Address:
       Netmask:
   Bonded Mode:  active-backup
     Enslaving:  eth01 eth02
        Bridge:  Member of bridge control
[root@hostname1368545964 ~]#
```

Step 3

```
[root@hostname1368545964 ~]# netAdm query --type=Bridge --name=control
 Bridge Name: control
     On Boot: yes
    Protocol: dhcp
 Persistent: yes
 Promiscuous: no
      Hwaddr: 00:24:81:ff:01:c6
         MTU:
       Delay: 4
 Bridge Interface: bond0
```

Step 4

```
[root@hostname1368545964 ~]# netAdm query --device=bond0.2
ERROR: Config file not found: /etc/sysconfig/network-scripts/ifcfg-bond0.2
ERROR: Config file not found: /etc/sysconfig/network-scripts/ifcfg-bond0.2
[root@hostname1368545964 ~]# netAdm add --device=bond0.2 --onboot=yes
Interface bond0.2 added
```

Skip step 5 and go direct to step 6

```
[root@hostname1368545964 ~]# netAdm query --type=Bridge --name=management
ERROR: Config file /etc/sysconfig/network-scripts/ifcfg-management does not
exist!
ERROR: Could not parse /etc/sysconfig/network-scripts/ifcfg-management!
ERROR: Failed to get bridge management
[root@hostname1368545964 ~]# netAdm add --type=Bridge --name=management --
addres
s=10.31.5.163 --netmask=255.255.255.192 --onboot=yes --bridgeInterfaces=bond0.2
Setting up the bridge and unsetting network info
Interface bond0.2 was updated.
```

Add also the backend bridge using the following commands

```
[root@hostname1368545964 ~]# netAdm query --device=bond0.3
ERROR: Config file not found: /etc/sysconfig/network-scripts/ifcfg-bond0.3
ERROR: Config file not found: /etc/sysconfig/network-scripts/ifcfg-bond0.3
[root@hostname1368545964 ~]# netAdm add --device=bond0.3 --onboot=yes
Interface bond0.3 added
 [root@hostname1368545964 ~]# netAdm query --type=Bridge --name=backend
ERROR: Config file /etc/sysconfig/network-scripts/ifcfg-backend does not exist!
ERROR: Could not parse /etc/sysconfig/network-scripts/ifcfg-backend!
ERROR: Failed to get bridge backend
[root@hostname1368545964 ~]# netAdm add --type=Bridge --name=backend --
onboot=yes --bridgeInterfaces=bond0.3
Setting up the bridge and unsetting network info
Interface bond0.3 was updated.
```

Skip step 7 and go direct to step 8

```
[root@hostname1368545964 ~]# syscheckAdm net ipbond --set --var=DEVICES --
val=bond0
[root@hostname1368545964 ~]# syscheckAdm net ipbond --enable
```

```
[root@hostname1368545964 ~]# syscheck -v net ipbond
Running modules in class net...
      ipbond: Bonded interface bond0 is OK
                                 OK

LOG LOCATION: /var/TKLC/log/syscheck/fail_log
```

Step 9

```
[root@hostname1368545964 ~]# netAdm query --route=default --device=management
No routes for management and table main found
[root@hostname1368545964 ~]# netAdm add --route=default --device=management --
gateway=10.31.5.129
Route to management added
```

Skip step 10 and go direct to step 11, 12, 13, 14

```
[root@hostname1368545964 ~]# service ntpd stop
Shutting down ntpd: [  OK  ]
[root@hostname1368545964 ~]# ntpdate ntpserver1
15 May 10:27:32 ntpdate[2335]: step time server 10.31.5.1 offset 40.088554 sec
[root@hostname1368545964 ~]# service ntpd start
Starting ntpd: [  OK  ]
[root@hostname1368545964 ~]# init 6
```

Skip step 15 and 16 and go direct to 17 and then 18.

```
[root@pmac ~]# alarmMgr -alarmStatus
```

5. Deploy PM&C Guest

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.4. While step 4, as root on the TVOE.

```
./pmac-deploy --guest=pmac --hostname=pmac --controlBridge=control --
controlIP=169.254.100.4 --controlNM=255.255.255.0 --managementBridge=management
--managementIP=10.31.5.132 --managementNM=255.255.255.192 --routeGW=10.31.5.129
--ntpserver=10.31.5.163 --bridge=backend --nic=backend --imageSizeGB=57
```

6. Setup PM&C

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.5
Once the installation is completed modify the root password on the guest, to the default “TPD root” password defined in TR006061.
In the PM&C GUI modify the password validity to 0 in order to not change it after 90 days.

7. Configure Cisco 4948/4948E/4948E-F aggregation switches (PM&C installed)

Refer to 909-2241-01 PIC 9.0 Customer integration guide section 14.3.2.

8. Configure Initial OA IP

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.6.1

9. Configure PM&C application

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.6
While the step 2 add a Role to use the PMAC.REMOTE.BACKUP Feature with the backend role.

Feature	Description	Role	Enabled
DEVICE.NETWORK.NETBOOT	Network device PXE initialization	management	☑
DEVICE.NTP	PM&C as a time server	management	☑
SERVER.IPM	Server Initial Product Manufacturing	control	☑
PMAC.MANAGED	Remote management of PM&C server	management	☐
PMAC.REMOTE.BACKUP	backend	backend	☑
PMAC.NETBACKUP	NetBackup client	management	☐

IN the step 3 while the Network creation make sure to add the Backend

Network IP	Network Mask
169.254.100.0	255.255.255.0
10.31.5.128	255.255.255.192
10.31.5.192	255.255.255.224

Add Delete

Then for the Network roles add also the backend

Network IP	Network Mask	Role
169.254.100.0	255.255.255.0	control
10.31.5.128	255.255.255.192	management
10.31.5.192	255.255.255.224	backend

Add Delete

Then for the Network interfaces add also the backend

Device	IP Address	Description
management	10.31.5.132	Management of system devices
control	169.254.100.4	Control network for managed servers
backend	10.31.5.196	PM&C backend

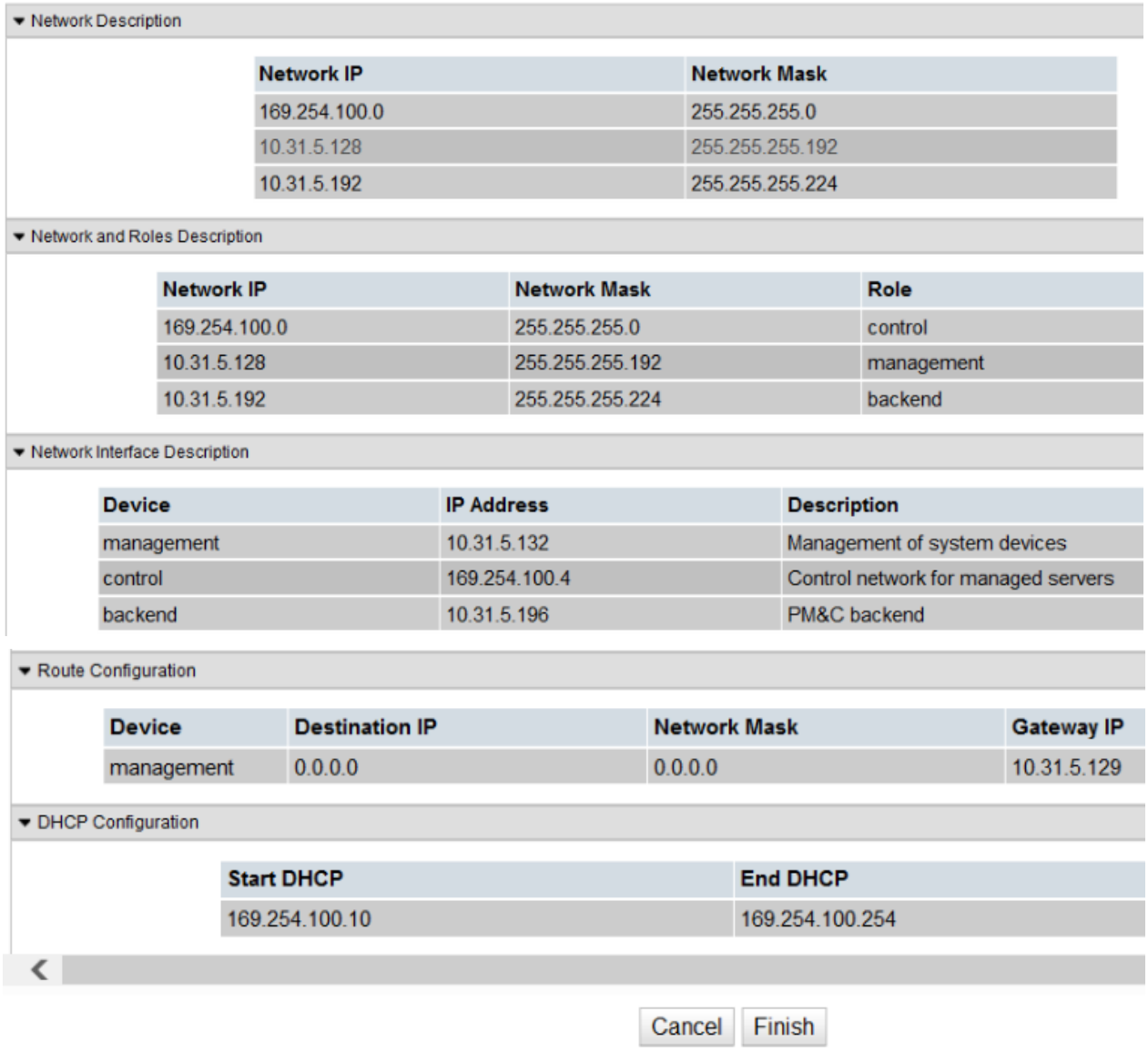
Add Delete

Add the default gateway route

Device	Destination IP	Network Mask	Gateway IP
management	0.0.0.0	0.0.0.0	10.31.5.129

Add Delete

Take care to use the subnet 169.254.100.0 for the vlan 0 and to define the customer IP range for vlan 2 and 3
DHCP should start at the IP Start = 169.254.100.10



Network Description

Network IP	Network Mask
169.254.100.0	255.255.255.0
10.31.5.128	255.255.255.192
10.31.5.192	255.255.255.224

Network and Roles Description

Network IP	Network Mask	Role
169.254.100.0	255.255.255.0	control
10.31.5.128	255.255.255.192	management
10.31.5.192	255.255.255.224	backend

Network Interface Description

Device	IP Address	Description
management	10.31.5.132	Management of system devices
control	169.254.100.4	Control network for managed servers
backend	10.31.5.196	PM&C backend

Route Configuration

Device	Destination IP	Network Mask	Gateway IP
management	0.0.0.0	0.0.0.0	10.31.5.129

DHCP Configuration

Start DHCP	End DHCP
169.254.100.10	169.254.100.254

Cancel Finish

In the PM&C GUI modify the password validity to 0 in order to not change it after 90 days in case you did not did it on step 3.

10. Configure initial OA settings via configuration wizard

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.6.2
In step 7 type manually the password in case you get an error with the dragon copy/paste feature.
In step 8 refer to the Technical Reference listed in the Hardware requirements section of this document in order to have information on the enclosure layout.
Take care with the auto fill option as it will fill in also the IPs for bays 1A-16A and 1B-16B you should not use.
Note also that the “shared device settings” is in fact “EBIPA settings” and to find the “interconnect settings” you must scroll down under the “device list”

In step 11 the “Enable IP mode” is in fact the checkbox “Enable Dynamic DNS” which must not be checked.
In step 12 Set SNMP Alert Destination to IP of the IXP primary server and set Community string to TEKELEC.

11. Configure initial OA settings via configuration wizard

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.6.3

12. Adding ISO Images to the PM&C Image Repository

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.9
Add the following DVD/CD/ISOs to the PM&C ISO images repository when performing this procedure:

- Miscellaneous Firmware (2 ISOs)
- IXP
- xDR Builders
- xMF
- NSP
- TPD for blades
- WebLogic
- Oracle

Take to the limited partition size on the PM&C, you might not be able to load all iso at once.

13. Upgrade 3020 Switch IOS Firmware

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.2.9
The password to access the managememnt console is the Cisco enable one.
Remove the tar file from step 1 may now be deleted from your computer.

14. Upgrade or Downgrade OA Firmware

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.6.4

15. Add the cabinet and enclosure to the PM&C system inventory

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.7

16. Configure the blade server iLO password for Administrator account

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.5.3
Take care to the copy and paste from the document.
For the password use the default value defined in TR006061 for “iLO Administrator”.

17. Configure Cisco 3020 switch

Refer to 909-2241-01 PIC 9.0 Customer integration guide section 14.3.4.

18. Upgrade the Brocade switch firmware

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.3.2
The reboot messages are not displayed at the end of the upgrade but you will be disconnected from the console.
When you login to control the upgrade you should see everything went fine.
The escape sequence in step 6 is ctrl+shift and minus (-).
Take care to copy and paste from the the pdf doc it might introduce wrong characters.

19. Upgrade the blade server firmware

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.5.1
Step 1 must be executed as root and not pmacadmin
It is really recommended to have a console open and make sure the firmware upgrade really take place and not only have a server reboot without nothing happening.

In case of problem to mount the iso or if you are not on site and can't plug a USB flash on the iLO, it is possible to proceed this way like on RM servers by connecting each iLO and then use the Virtual Media to mount the iso.
Take care in case of remote upgrade this will require a reliable and fast IP connection.

20. Confirm/Upgrade the blade server BIOS settings

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.5.2

21. IPM Servers Using PM&C Application

Use the appropriate (32-bit or 64-bit) TPD media depending on the blade usage.
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.10
Once the OS is install type the following commands in order to resize /var/TKLC partition

```
init 2
umount /dev/mapper/vgroot-plat_var_tklc
lvextend -L +4G /dev/mapper/vgroot-plat_var_tklc
e2fsck -f /dev/mapper/vgroot-plat_var_tklc
resize2fs -p /dev/mapper/vgroot-plat_var_tklc
reboot
```

22. Configure Syscheck Default Route Ping Test

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.5.5

23. Set the IP on the fibre channel disk controllers

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.4.1
You might add a minicom from the PM&C to the controller.

24. Configuring Fibre Channel Disk Controllers

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.4.2
In the step 11 the trap must be sent to NSP WL1 server.

25. Configuring Advanced Settings on P2000 Fibre Channel Disk Controllers

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.4.4.
In case of MSA2012fc follow section 3.4.3

26. Upgrade the firmware on the MSA P2000 disk controllers

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.4.6.
In case of MSA2012fc follow section 3.4.5

27. Configure SAN Storage Using PM&C Application

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.9.1

PR 223374: In order to avoid authentication issues on the SAN controller you need to configure the SAN controller manage user to the value defined as "SAN controller default" in password dragon instead of "SAN controller manage"
Warning: This step is mandatory; if SAN volumes already existed (because the servers have been used for another purpose or simply because the servers are being reinstalled), they have to be removed before going on with the creation of the new SAN volumes. To remove existing SAN volumes, follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.9.2.
Warning: To avoid performance issues on C-class blade setup fulfill the following rules. A single storage group exists of a single P2000 and up to 3 D2700 JBODs. Do not allow more than 1 IXP xDR Storage server per fibre channel controller and 2 IXP xDR Storage servers per storage group. When there are 2 IXP xDR Storage servers configured on a single storage group then both needs to be on a different sides of the controller. The first must be configured on A and the

second one on B. You will face a performance issues when 2 IXP xDR Storage servers will be connected to the same side of the controller, either A or B.

Example: You need to deploy 3 xDR Storage servers and 1PDU Storage server in a single IXP subsystem. The configuration would need to be 2 P2000s and 2D2700 JBODs accross 2 storage groups. Each storage group consisting of 1 P2000 and 1 D2700 JBOD.

Storage Group 1

- 1. slot: P2000 with xDR Storage Server
- 2. slot: D2700 with xDR Storage Server (now rule for 2 xDR Storage servers per storage group exceeded)
- 3. slot: empty (extension could only add D2700 with PDU or ES since xDRs are exceeded)
- 4. slot: empty (extension could only add D2700 with PDU or ES since xDRs are

exceeded) Storage Group 2

- 1. slot: P2000 with xDR Storage Server
- 2. slot: D2700 with PDU Storage Server
- 3. slot: empty (extension could add D2700 with xDR for a maximum of 2 per storage group, PDU or ES)
- 4. slot: empty (extension could add D2700 with xDR for a maximum of 2 per storage group, PDU or ES)

IXP Storage Pool Sizing

Each IXP Subsystem with Storage Pooling can have up to 4 xDRs and 4 PDU Servers. So for calculating the number of subsystems that need to be installed, divide the number of xDR Servers by 4 and round off to the next whole number in case it is not a multiple of 4. Distribute the servers into the number of subsystem as mentioned in the example below.

Example: If the customer has a total 13 xDRs, 10 PDUs and 25 Base Servers.

1. Start by dividing xDRs servers by 4. -> 13/4 = 4 (rounding off to the next whole number). So the number of subsystems to be configured =4.
2. Create a table with 4 columns (No. of columns = No. of Subsystems).
3. Start adding xDR servers to each subsystem from left to right until all xDR servers are allocated.
4. Start adding PDU servers to each subsystem from left to right (starting from the first column) until all PDU servers are allocated.
5. Similarly add the base servers to each subsystem starting from left to right.
6. The final distribution of the servers in the subsystems would be like the one mentioned in the table below.

Then the IXP Subsystems will look like as follows:

- **Subsystem 1:** 4x xDR Server, 3x PDU server and 7x Base server
- **Subsystem 2:** 3x xDR Server, 3x PDU server and 6x Base server
- **Subsystem 3:** 3x xDR Server, 2x PDU server and 6x Base server
- **Subssytem 4:** 3x xDR Server, 2x PDU server and 6x Base server

Note: This is an example of average configuration. Customers with high incoming traffic and low xDR traffic will need more Base servers and less xDR servers.

Before you perform the required procedure, perform the following:

1. Check if the IXP and NSP ISO files are

   mounted. As `root` on the PM&C server, run:

```
# exportfs
```

2. Download the SAN configuration templates:

   - NSP templates are accessible under `/usr/TKLC/smac/html/TPD/NSP_xxx/pmac/san_config/*` directory. NSP templates:
     - `template_msa2012_nsp.xml` for MSA2012fc
     - `template_p2000_nsp.xml` for P2000
   - IXP templates are accessible under `/usr/TKLC/smac/html/TPD/IXP_xxx/pmac/san_config/*` directory. IXP templates:
     - `7.1-template_d2700_600GB_ixp_es.xml` for ES/EFS on d2700 with 600GB drives
     - `7.1-template_d2700_600GB_ixp_pdu.xml` for PDU Storage Server on d2700 with 600GB drives
     - `7.1-template_d2700_600GB_ixp_xdr.xml` for xDR Storage Server on d2700 with 600GB drives
     - `7.1-template_d2700_ixp_es.xml` for ES/EFS on d2700
     - `7.1-template_d2700_ixp_pdu.xml` for PDU Storage Server on d2700
     - `7.1-template_d2700_ixp_xdr.xml` for xDR Storage Server on d2700
     - `7.1-template_msa2012_ixp_es.xml` for ES/EFS on MSA2012fc
     - `7.1-template_msa2012_ixp_pdu.xml` for PDU Storage Server on MSA2012fc
     - `7.1-template_msa2012_ixp_xdr.xml` for xDR Storage Server on MSA2012fc
     - `7.1-template_p2000_600GB_ixp_es.xml` for ES/EFS on P2000 with 600GB drives
     - `7.1-template_p2000_600GB_ixp_pdu.xml` for PDU Storage Server on P2000 with 600GB drives
     - `7.1-template_p2000_600GB_ixp_xdr.xml` for xDR Storage Server on P2000 with 600GB drives
     - `7.1-template_p2000_ixp_es.xml` for ES/EFS on P2000 with 300GB drives
     - `7.1-template_p2000_ixp_pdu.xml` for PDU Storage Server on P2000 with 300GB drives
     - `7.1-template_p2000_ixp_xdr.xml` for xDR Storage Server on P2000 with 300GB Drives

Note: the templates are the same for PIC 7.1 and 9.x

3. Get the bond0 IP addresses of the blade servers. (These IPs are needed to update the SAN configuration files that were downloaded.)

   To locate the bond0 IPs, access the PM&C application interface and log in as `pmacadmin`. Then select **Main Menu ⦿ Software ⦿ Software Inventory ⦿ OS Only**. A table with a list of all the servers with OS installed appears. The **IP Address** column contains the bond0 IP address.

4. Update the SAN config files to accommodate the customer's specific network settings. Follow the information inside the template files on how to update them.

   If there is a failed SAN procedure, contact the Tekelec Customer Care Center.

   When preparing the xDR or PDU storage pool for IXP subsystem, the template for each server of the pool needs to be updated separately. Prepare as many files as you plan to configure for xDR/PDU/EFS storage servers.

5. Copy all of the templates into the `/usr/TKLC/smac/etc/storage` directory.

When you define the LUN for the disk start with the value 01 and do not use the value 00
Use the command multipath –ll to check the LUN used on the blade servers

Note: If you are adding SAN to an extanding SAN on an existing system take care to modify the existing zones on the Brocades switch before in order to allow the communication with the new port used. Refer the point 10 in the next section.

28. Configure the Brocade switches

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.3.1

29. Configure Brocade Switch SNMP Trap Target

Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.3.4
In the step 4 use the IXP 1a IP address as <trap_recipient_ip>

3.2.1 HP Blades Platform Referenced Procedures Storage

This section is a storage for the procedures that are referenced in the Set up the HP Blades Platform procedure. Do not execute these procedures until you're asked to execute.

1. Using WinSCP
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, Appendix A

2. P2000 MSA USB Driver Installation
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, Appendix B

3. Determining Which Onboard Administrator is Active
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, Appendix C

4. Store OA Configuration on Management Server
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.6.5

5. Replacing Onboard Administrator in a system with redundant OA
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.6.8

6. Adding a redundant Onboard Administrator to enclosure
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.6.7
This should be obsolete and is here just as reminder in case it was not done before.

7. Remove SAN Volume from Blade Server without Preserving Existing TPD Installation
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.9.2

8. Edit an Enclosure in the PM&C system inventory
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.8.8

9. Configuring Advanced Settings on MSA2012fc Fibre Channel Disk Controllers
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.4.3

10. Configure zones in Brocade switches
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.3.3
Make sure you configure all the ports in a zone and only ports not the devices.
In the step 2 the administrative user is in fact called admin.
In the step 4 the Zone can be called NSP, IXP1, IXP2 or Other for example.

11. Upgrade Firmware on MSA 2012Fc Disk Controllers
Follow 909-2209-001 Platform 6.x HP Configuration Procedure Reference, section 3.4.5

4. NSP APPLICATION INSTALLATION PROCEDURES

Warning: This step is applicable to onebox and four box configurations.

This section provides the procedures for installing the Network Software Platform (NSP) application.

Topics:

4.1 NSP Pre-Install Configuration (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.
Box: Onebox or ALL four boxes

This procedure describes how to configure the NSP servers, which is required prior to installing the NSP application.
This procedure consists of several actions that are needed to configure the NSP servers:

• Create the NSP bulkconfig file.
Note: When creating a bulkconfig file on a server in the NSP Four-box, if such a file has already been created on a different server, then reuse that bulkconfig file. The content of the bulkconfig file is the same for all of the servers in the NSP Four-box.
• Configure the NSP server hostname.
Note: This configuration is required to get the hardware alarms forwarded by the system as SNMP traps into NSP ProAlarm.
• Configure SNMP.
• Add cdrom entry to /etc/fstab.
Note: The purpose of adding this entry is to simplify mount commands that will be used throughout the NSP installation process.

Before you perform this procedure, make sure you have read and are familiar with the *NSP Bulkconfig File Description*
This procedure must be performed on each NSP server (single server for a One-box; all four servers for a Four-box).
1. Log in as **root** on the server that you want to install the application. As root user run:

```
# syscheck
```

Review the `fail_log` file (`/var/TKLC/log/syscheck/fail_log`) for any errors .
Example ouput for a healthy system:

```
Running modules in class disk...
OK
Running modules in class proc...
OK
Running modules in class system...
OK
Running modules in class hardware...
OK
LOG LOCATION: /var/TKLC/log/syscheck/fail_log
```

Note: Errors of NTP in syscheck can be ignored at this time, as NTP server is not configured

2. Create the bulkconfig file

a) As a `root` user.
b) Create the `/root/bulkconfig` file as described in the Appendix A.1 *NSP Bulkconfig File Description*

3. Configure the server hostname

a) Enter the **platcfg** menu.
As `root`, run:

```
# su - platcfg
```

b) Select **Server Configuration ➢ Hostname** .
c) Click **Edit**.
d) Type the NSP server hostname and click **OK**.
e) Return to the main **platcfg** menu.

4. Configure SNMP

a) From the main **platcfg** menu, select **Network Configuration➢SNMP Configuration➢NMS Configuration** and select **Edit > Add A New NMS Server**.
b) Type the IP address as **127.0.0.1** and **TEKELEC** as the community string and port number is optional user can leave this field and then click **OK** and then **EXIT**
c) Click **YES** to restart alarm server and then press any Key to continue.
d) Exit the **platcfg** menu.

5. Add the cdrom entry to `/etc/fstab`

a) Create the **cdrom** folder.
As `root`, run:

```
# cd /media
# mkdir cdrom
```

b) Take the backup of `/etc/fstab` file.
As `root`, run:

```
# cp -f /etc/fstab /etc/backup_fstab
`
```

where backup_fstab will contain the contents of file /etc/fstab

c) Edit the `/etc/fstab` file.
As `root`, run:

```
# rcstool co /etc/fstab
# echo "/dev/cdrom /media/cdrom auto pamconsole,exec,noauto,managed 0 0" >>
/etc/fstab
```

d) Compare the contents of `/etc/fstab` and `/etc/backup_fstab`.
As `root`, run:

```
# diff /etc/fstab /etc/backup_fstab
```

The output must contain the following line:

```
/dev/cdrom /media/cdrom auto pamconsole,exec,noauto,managed 0 0
```

e) Check in the `/etc/fstab` file.
As `root`, run:

```
# rcstool ci /etc/fstab
```

f) Verify the entry in `/etc/fstab`.
As `root`, run:

```
# cat /etc/fstab
```

4.2 Install WebLogic (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.
Box: Onebox or Primary and Secondary WebLogic boxes

This procedure describes how to install the WebLogic software for the NSP (single server for a One-box; on the designated **Primary and Secondary** WebLogic servers for a Four-box).
Before you perform this procedure:

• Make sure that you have the WebLogic DVD/CD or ISO file available.
• Verify the /root/bulkconfig file needed for this installation has been created on the server according to specific application directions as a result of pre-install configuration step.

Note: Run this procedure via iLO.

1. Log in and either insert the DVD/CD or distribute the ISO file
a) Log in as root on the server that you want to install WebLogic.
b) Distribute the media:
• On the rackmount server insert the WebLogic DVD/CD or mount the WebLogic ISO file via iLO (see Appendix B.1 *How to mount the ISO file via iLO)*.
• On the c-class blade server download the ISO from the PM&C ISO repository. ISOs are available on the PM&C server under the /var/TKLC/smac/image directory. Store the ISO file to /var/TKLC/upgrade directory. If the ISO is not present in PM&C ISO repository add the ISO file using the procedure in Appendix B.3 *Adding ISO Images to the PM&C Image Repository*

2. Validate the installation media
a) Enter the **platcfg** menu. As `root`, run:
```
# su - platcfg
```
b) Select **Maintenance ➢ Upgrade ➢ Validate Media.**
c) Select the desired upgrade media and press Enter.
The validation process must complete without errors. You should receive the following message:
CDROM is Valid
If any errors are reported during this validation process, then DO NOT USE this media to install the application.
d) Exit the **platcfg** menu.

3. Mount the media
As root, run the appropriate command to mount the media:
• For a DVD/CD (rackmount server), run:
```
# mount /media/cdrom
```
• For an ISO mounted via iLO (rackmount server), run:
```
# getCDROMmedia
```
to check which CDROM device has been added to the /dev/ directory. Example output:
```
[root@ixp1977-1a ~]# getCDROMmedia
HP Virtual DVD-ROM:scd0
```
This example output denotes virtual CD-ROM device /dev/scd0. Then mount this device to `/media/cdrom/` directory.
```
# mount -o loop virtual_cdrom_device /media/cdrom
```
where virtual_cdrom_device is the path to virtual CD-ROM device received in a previous step.
• For an ISO file copied in /var/TKLC/upgrade run:
```
# mount -o loop iso_path /mnt/upgrade
```
where iso_path is the absolute path of the ISO image, which includes the name of the image (for example, /var/TKLC/upgrade/iso_file_name.iso).

4. Install WebLogic

a) As root, run the appropriate command depending on the mount point used:

• For a DVD/CD or virtual CDROM, run:

```
# /media/cdrom/install_weblogic.sh
```

• For an ISO file, run:

```
# /mnt/upgrade/install_weblogic.sh
```

b) Wait until the installation process is complete.

5. Unmount the media

a) As `root`, run the appropriate command depending on the mount point used:

• For a DVD/CD, run:

```
# umount /media/cdrom
```

• For an ISO file, run:

```
# umount /mnt/upgrade
```

b) If the ISO file was copied to the server, then remove this file to save disk space.

As root, run:

```
# rm -f /var/TKLC/upgrade/iso_file
```

where *iso_file* is the name of the ISO image.

6. Analyze the installation log

a) Verify that WebLogic installed successfully.

In the WebLogic Software Installation log (/var/TKLC/log/upgrade/weblogic.log), the Weblogic product is installed successfully message appears at the end of the file.

If this message does not appear in the log file, contact the Tekelec Customer Care Center.

b) Verify the size of the WebLogic product.

As `root`, run:

```
# du -sh /opt/nsp/bea
```

The result should be approximately 916M

c) Verify the contents of the WebLogic installation.

As `root`, run:

```
# ll /opt/nsp/bea
```

Example of the output:

```
#
total 164
-rwxr-xr-x 1 tekelec tekelec 12 Mar 3 11:19 beahomelist
-rwxr-xr-x 1 tekelec tekelec 12 Mar 3 11:19 domain-registry.xml
drwxr-xr-x 8 tekelec tekelec 4096 Mar 3 11:17 jdk160_18
drwxr-xr-x 7 tekelec tekelec 4096 Mar 3 11:17 jrockit_160_17_R28.0.0-679
drwxr-xr-x 2 tekelec tekelec 12288 Mar 3 11:19 logs
drwxr-xr-x 9 tekelec tekelec 49152 Mar 3 11:19 modules
-rwxr-xr-x 1 tekelec tekelec 624 Mar 3 11:19 ocm.rsp
-rwxr-xr-x 1 tekelec tekelec 59430 Mar 3 11:19 registry.dat
-rwxr-xr-x 1 tekelec tekelec 2074 Mar 3 11:19 registry.xml
drwxr-xr-x 8 tekelec tekelec 4096 Mar 3 11:19 utils
drwxr-xr-x 9 tekelec tekelec 4096 Mar 3 11:16 wlserver_10.3
```

4.3 Install Oracle Database (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.
Box: Onebox or Oracle box

This procedure describes how to install the Oracle database on a server with the operating system installed (TPD).
Before you perform this procedure:
• Make sure that you have the Oracle DVD/CD or ISO file available.
• Verify the /root/bulkconfig file needed for this installation has been created on the server accordingly to specific application directions as a result of pre-install configuration step.
• In case of c-class blades SAN Configuration must be done properly before starting Oracle Installation
.
Note: Run this procedure via iLO.

1. Log in and either insert the DVD/CD or distribute the ISO file
a) Log in as root on the server where you want to install the Oracle database.
b) Distribute the media:
• On the rackmout server insert the Oracle DVD/CD or mount the Oracle ISO file via iLO (see Appendix B.1 *How to mount the ISO file via iLO*).
• On the c-class blade server download the ISO from the PM&C ISO repository. ISOs are available on the PM&C server under the /var/TKLC/smac/image directory. Store the ISO file to /var/TKLC/upgrade directory. If the ISO is not present in PM&C ISO repository add the ISO file using the procedure in Appendix B.3 *Adding ISO Images to the PM&C Image Repository*

2. Validate the installation media

a) Enter the **platcfg** menu. As `root`, run:
```
# su - platcfg
```
b) Select **Maintenance ➤ Upgrade ➤ Validate Media.**
c) Select the desired upgrade media and press Enter.
The validation process must complete without errors. You should receive the following message: CDROM is Valid
If any errors are reported during this validation process, then DO NOT USE this media to install the application.
d) Exit the **platcfg** menu

3. Mount the media
As root, run the appropriate command to mount your media:
• For a DVD/CD (rackmount server), run:
```
# mount /dev/cdrom /media
```
• For an ISO mounted via iLO (rackmout server), run:
```
# getCDROMmedia
```
to check which CDROM device has been added to the /dev/ directory. Example output:
```
[root@ixp1977-1a ~]# getCDROMmedia
HP Virtual DVD-ROM:scd0
```
This example output denotes virtual CD-ROM device /dev/scd0. Then mount this device to /media directory.
```
# mount -o loop virtual_cdrom_device /media
```
where virtual_cdrom_device is the path to virtual CD-ROM device received in a previous step.
• For an ISO file copied in /var/TKLC/upgrade run:
```
# mount -o loop /var/TKLC/upgrade/iso_file /media
```

where iso_file is the ISO filename.

4. Install Oracle

As `root`, run:

```
# /media/install_oracle.sh
```

5. Remove the ISO file.

a) umount the iso file

```
# umount /media
```

b) If the ISO file was copied to the server, then remove this file to save disk space.

As `root`, run:

```
# rm -f /var/TKLC/upgrade/iso_file
```

where iso_file is the ISO filename.

6. Analyze the installation log

Review the installation log (/var/TKLC/log/upgrade/oracle.log) for any errors. Oracle must be installed successfully.

If there are any errors, contact the Tekelec PIC Design Support Team

4.4 Install NSP (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.
Box: Onebox or Apache, Oracle, Secondary and Primary WebLogic boxes
Warrning: On a four boxes setup, the following order must be followed:

1. Apache
2. Oracle
3. Secondary
4. Primary

This procedure describes how to install the NSP software on each server with the operating system installed (TPD).
Before you perform this procedure:
• Make sure that you have the NSP DVD/CD or ISO file available.
• Verify the /root/bulkconfig file needed for this installation has been created on the server accordingly to specific application directions as a result of pre-install configuration step.
Note: Run this procedure via iLO.

1. Log in and either insert the DVD/CD or distribute the ISO file
a) Log in as root on the server that you are want to install the NSP application.
b) Distribute the media:
• On the rackmount server:
* insert the NSP DVD/CD
* or mount the NSP ISO file via iLO (see Appendix B.1 *How to mount the ISO file via iLO*)
* or copy the iso file in /var/TKLC/upgrade using winSCP
• On the c-class blade server download the ISO from the PM&C ISO repository. ISOs are available on the PM&C server under the /var/TKLC/smac/image directory. Store the ISO file to /var/TKLC/upgrade directory. If the ISO is not present in PM&C ISO repository add the ISO file using the procedure in Appendix B.3 *Adding ISO Images to the PM&C Image Repository*

2. Validate the installation media
a) Enter the **platcfg** menu. As `root`, run:
```
# su - platcfg
```
b) Select **Maintenance ➤ Upgrade ➤ Validate Media**.
c) Select the desired upgrade media and press **Enter.**
The validation process must complete without errors. You should receive the following message:
CDROM is Valid
If any errors are reported during this validation process, then **DO NOT USE** this media to install the application.
d) Exit the **platcfg** menu.

3. Install NSP
a) Enter the **platcfg** menu. As root, run:
```
# su - platcfg
```
b) Select **Maintenance ➤ Upgrade ➤ Initiate Upgrade.**
c) Select the upgrade media and press Enter.
The installation process launches. Wait until the installation process is complete.
d) If the ISO file was copied to the server, then remove this file to save disk space.
As `root`, run:
```
# rm -f /var/TKLC/upgrade/iso_file
```
where iso_file is the absolute path of the ISO image, which includes the name of the image.

4. Analyze the installation and upgrade logs

After the installation the server will restarts automatically. Log back in and review the NSP installation log *(/var/log/nsp/install/nsp_install.log*) and TPD upgrade log *(/var/TKLC/log/upgrade/upgrade.log*) for errors.
If NSP did not install successfully, contact the Tekelec Customer Care Center.

4.5 NSP Post Installation Configuration (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.

After NSP has been installed, there are configuration procedures for NSP:
• Install and configure Node A
• Additional required configuration procedures that must be performed
• Various optional configuration procedures that can be performed as needed
For an estimated time for these configuration procedures, refer to the NSP flowcharts in *Installation Overview*.

4.5.1 Configure NodeA and Restart NTP (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.
Box: Onebox or Primary WebLogic boxes

This procedure describes how to install Node A after NSP has been installed. Node A RPMs from xMF
are necessary for various NSP application functions (for example, ProDiag and Diagnostic Utility).
Before you perform this procedure:
• The NSP One-box or Primary server must be installed.
• Make sure the xMF DVD/CD or ISO file is available on the same TPD platform as the NSP. To verify, run the **getPlatRev** command.

1. Install Node A

a) Insert the xMF DVD/CD or copy the xMF ISO file to the NSP server (in a One-box) or the Primary server (in a Four-box).
b) Log in as root on the NSP server (One-Box) or Primary (Four-Box) and run:

```
# /opt/nsp/scripts/procs/install_nodeA.sh
```

When prompted for the ISO file, provide the complete ISO path. For example:

```
/var/TKLC/upgrade/iso_name.iso
```

where iso_name.iso is the name of the xMF ISO file. For the NSP you must use the 32bits iso even if the system use PMF in 64 bits.
A confirmation prompt appears.
c) Enter **Yes** to confirm.
Note: You do not need to reboot the server.

2. Restart the NTP

Note: In a NSP Four-box, this command must be run on all four servers.
Log in as root on the NSP server and run:

```
# service ntpd restart
```

3. Analyze the installation log and run healtheck script

a) Check the Node A installation log (/var/TKLC/log/upgrade/nodeA_install.log). If there are any errors in the log, contact Tekelec Customer Care Center.
b) Run healthcheck script to verify the Node A state. Log in as cfguser on NSP server (in a One-box setup) or the Primary server (in a Four-box setup) and run:

```
S analyze_server.sh -p
```

Analyze the output of the script for errors. Issues reported by this script must be resolved before any further usage of this server.
Example output for a healthy system:

```
NSP0801-PW:/export/home/cfguser analyze_server.sh -p
07:41:14: STARTING HEALTHCHECK PROCEDURE - SYSCHECK=0
07:41:14: date: 05-16-11, hostname: NSP0801-PW
```

```
07:41:14: TPD VERSION: 4.2.3-70.86.0
07:41:14: XMF VERSION: [ 70.1.0-30.1.0 ]
07:41:14: ------------------------------------------------
07:41:14: Checking disk free space
07:41:14: No disk space issues found
07:41:14: Checking syscheck - this can take a while
07:41:19: No errors in syscheck modules
07:41:19: Checking statefiles
07:41:19: Statefiles do not exist
07:41:19: Checking runlevel
07:41:19: Runlevel is OK (N 4)
07:41:19: Checking upgrade log
07:41:20: Install logs are free of errors
07:41:20: Analyzing IDB state
07:41:20: IDB in START state
07:41:20: Checking IDB database
07:41:20: iaudit has not found any errors
07:41:20: Analyzing processes
07:41:20: Processes analysis done
07:41:20: All tests passed. Good job!
07:41:20: ENDING HEALTHCHECK PROCEDURE WITH CODE 0
```

Example output for a system with errors:

```
08:18:31: >>> Error: Syscheck analyzes contains alarms
One or more module in class "hardware" FAILED
08:18:32: >>> Suggestion: Check /var/TKLC/log/syscheck/fail_log at 1297084711
for more information
...
909-2122-001 Revision 1, April 22, 2011 133
xMF Application Installation Procedures08:18:35: >>> Error: 1 test(s) failed!
08:18:35: ENDING HEALTHCHECK PROCEDURE WITH CODE 2
```

4.5.2 Install/Upgrade picHealthReport (Comprehensive Healthcheck)

A PIC comprehensive health check script is provided that collects and reports on a comprehensive set of system components across all the PIC servers. The script collects hardware and software inventory, performance of key components, and health of key aspects of the system. Other previously implemented health checks for individual system components may still exist and be relevant. Review each instance of those health checks individually for the need to be executed in light of this new comprehensive picHealthReport script.

The script is packaged in an RPM package which allows for easy installation and management of package components. Upon installation of the package on the NSP Oracle server (NSP server for a 1-box implementation) the server will be updated with the script and other supporting files. The RPM package contains the following components:

- **picHealthReport** the script which is the main component for collection and reporting
- **custinfo** script which prompts one time for user input of customer name and system serial number for inclusion in all report files
- **picHealthReport_cron** crontab entry for automatic daily execution of script with storage of timestamped output file

Note: Perform the following procedure steps to install the `picHealthReport` rpm package on the NSP Oracle server and provide Customer Name and serial number information.

Note: Once installed, daily timestamped picHealthReport output files will be generated automatically via crontab in `/var/log/nsp/picHealthReport` directory.

1. **Download the latest healthcheck script on the following link**
   http://cqweb/wiki/index.php/Healthcheck_script

2. **Install the picHealthReport rpm.**

   a) Open a terminal window and log in as `root` to NSP One-box server or NSP Oracle server (NSP Four-box).

   b) As root c**opy the rpm file in /var/TKLC/upgrade**

   c) Install the `picHealthReport*.rpm`. As `root` run:

```
# rpm -qa | grep picHealthReport
picHealthReport-Old
# rpm -e picHealthReport
# rpm -i /var/TKLC/upgrade/picHealthReport-New
```

   Where picHealthReport-Old is the full name of the current healthcheck script version and picHealthReport-New is the full name of the new healthcheck script version to install.

   d) Add execution rights on the cron file. As root run:

```
# chmod a+x /opt/nsp/picHealthReport_cron
```

3. **Manual run of picHealthReport script (Optional)**

   Note: Once installed, one daily picHealthReport output file will be generated automatically in directory `/var/log/nsp/picHealthReport`. If immediate execution of `picHealthReport` is desired (to verify picHealthReport functionality), you may manually execute the `picHealthReport` script to produce an output file stored at a predetermined path and filename by entering the following procedure:

   a) As `tekelec` run:

```
$ picHealthReport_cron
```

   Output will be produced to the terminal window, and an output file is generated and saved in /var/log/nsp/picHealthReport directory and the filename will have the current date and timestamp and the customer name. Additionally, if any errors occur in execution of the script an ERROR file will be produced in the same directory with the appropriate timestamp in the filename. For any other custom executions of `picHealthReport` as user `tekelec` run `picHealthReport --help` for a list of options.

   b) Log out from the server.

```
$ logout
# logout
```

4.5.3 Configure Purchased Tokens (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.
Box: must be done from a workstation browser

This procedure describes how to configure purchased tokens after NSP is installed.
During initial install, the default value for the number of tokens is 0, which means that no one will be able to login.
1. Open a web browser and log in as TklcSrv on the NSP application interface.
Note: On the first Login TklcSrv user is prompted to change his password.
The window will appear.
Fill in the Old Password (default password), New Password and Confirm Password fields. Click OK.
2. Select the **Security** application.
3. Select **Action ➢ Manage Tokens.**
The **Tokens** window appears.
4. Type the appropriate value (a value greater than zero, e.g., 10) in the Purchased token field and click **Apply**.
The number of purchased token is the number LICENSE_SIMULTANEOUS USERS ON NSP INCLUDING XDR BROWSER_IAS (part number 950-0010-01).

This must the sum of all values in all the Sales Orders (SO) related to a system including all extensions.
In case of doubt consult the project manger to know the real value sold.

4.6 NSP Post Install Health Check (onebox and four box)

Warning: This step is applicable to onebox and four box configurations.
Box: Onebox or Primary WebLogic box

This procedure describes how to run various healthchecks and tests on the NSP server after the NSP
application has been installed.
1. Open a terminal window and log in as root on the NSP One-box or the Primary server (Four-box).
2. As root, run:

```
# /opt/nsp/scripts/procs/post_upgrade_sanity_check.sh
```

Note: If the NOT OK message appears anywhere in the output, contact the Tekelec Customer Care Center.
3. Review the NSP installation logs (/var/log/nsp/install/nsp_install.log).
Verify the following:
• Port 80 connectivity is OK
• Oracle server health is OK
• WebLogic health for ports 5556, 7001, 8001 is OK
• Oracle em console connectivity is OK
• The disk partition includes the following lines, depending on whether rackmount or blades setup:
• If rackmount, the output contains the following lines:

```
/dev/cciss/c1d1p1 275G 4.2G 271G 2% /usr/TKLC/oracle/ctrl1
/dev/cciss/c1d0p1 825G 34G 792G 5% /usr/TKLC/oracle/oradata
/dev/cciss/c1d2p1 275G 16G 260G 6% /usr/TKLC/oracle/backup
```

Note: The lines must begin with the `/dev/cciss/c1d*p1` designations; the remaining portion of the lines may differ.
• If blades, output contains following lines:

```
/dev/mapper/nsp_redo_vol 69G 4.2G 65G 7% /usr/TKLC/oracle/ctrl1
/dev/mapper/nsp_data_vol 413G 8.3G 405G 2% /usr/TKLC/oracle/oradata
/dev/mapper/nsp_backup_vol 138G 30G 108G 22% /usr/TKLC/oracle/backup
```

5. XMF APPLICATION INSTALLATION PROCEDURES

This section provides the procedures for installing the xMF application.

5.1 xMF Pre-Install Configuration

This section provides procedures to configure the xMF servers that must be performed before installing the xMF application.

Make sure the PMF are installed with TPD in 64 bits while IMF is still using 32 bits TPD

5.1.1 Verify Pre-Installation Requirements

This procedure verifies that all pre-installation requirements have been met.

1. **Verify that all required media and access capabilities are available**
   The following items are required prior to installing the xMF application:

   - Make sure that you have the appropriate xMF DVD/CD or ISO file.
   - Capability to log in to a server, such as a PC with a null modem cable to connect to the serial port

2. **Remote control**
   Connect to the server.

   - For T1100, use the OOBM to remote consol.
   - For T1200, use the RMM to remote control.
   - For HP, use iLO to remote control.

5.1.2 Configure xMF

This procedure describes how to configure the xMF servers prior to installing the xMF application.

Note: This procedure must be executed on all of the IMF and PMF servers.

1. **Log in and change the current hostname to the hostname provided by the customer**

Note: The hostname must be changed from the default localhost.localdomain to desired hostname.

a) Log in as root on the xMF server.
b) Enter the platcfg menu. As root, run:
   # su - platcfg
c) Select Server Configuration ➤ Hostname.
d) Click Edit.
e) Change the hostname and select Exit.
   For example, malibu-1a.

Note: In the field, there may be additional text that is hidden to the left of the visible text. It is recommended that you clear the field before typing the new hostname.

2. **Change the current designation and function**
Note: The designation and function are case sensitive and must be capitalized; otherwise, the

software functionality will not work properly and will result in the need to reinstall the application.

a) Select Server Configuration -> Designation/Function.
b) Select Edit.
c) Change the designation and function.
- For a PMF/IMF subsystem:
  In the Designation field, enter the designation in the following format: 1A for the first server, 1B for the second, and so on. In the Function field, enter PMF or IMF.
- For a standalone PMF:
  In the Designation field, enter the 0A for the server. In the Function field, enter PMF.

d) Select Exit.

5.2 xMF Pre-Install Healthcheck

This procedure describes how to run the syscheck and analyze the output to determine the state of the xMF server before installing the xMF application.

1. Log in as root on the xMF server that you want to install the xMF application.

2. Run:
```
# syscheck
```

3. Review the fail_log file (/var/TKLC/log/syscheck/fail_log) for any errors.

```
Example ouput for a healthy system:
Running modules in class disk... OK
Running modules in class proc... OK
Running modules in class system... OK
Running modules in class hardware... OK

LOG LOCATION: /var/TKLC/log/syscheck/fail_log
```

5.3 Install xMF

This procedure describes how to install the xMF application on a server that has the operating system installed.

Before you perform this procedure, make sure that you have the appropriate xMF DVD/CD or ISO file available.

1. **Log in and insert the DVD/CD or copy the ISO file to the server**
   a) Open a terminal window and log in as root on the server that you want to install the xMF application.
   b) Insert the xMF DVD/CD or mount the ISO file to the server.
2. **Validate the installation media**
   a) Enter the platcfg menu. As root, run:
   ```
   # su - platcfg
   ```
   b) Select Maintenance ➤ Upgrade ➤ Validate Media.
   c) Select the desired upgrade media and press Enter.
   The validation process must complete without errors. You should receive the following message:

CDROM is Valid
If any errors are reported during this validation process, then DO NOT USE this media to install the application.
d) Exit the platcfg menu.

3**. Install the application**

a) Enter the platcfg menu. As root, run:

```
# su - platcfg
```

b) Select Maintenance ➤ Upgrade ➤ Initiate Upgrade.
c) Select the desired upgrade media and press Enter.

Informational messages appear on the terminal screen as the upgrade proceeds. When the installation is complete, the server reboots and displays the login prompt.
You can check the TPD upgrade log file (/var/TKLC/log/upgrade/upgrade.log) for any error; but the status of the server will be checked when you run the healthcheck script after you configure the switches.

5.4 Configure Switches

This procedure describes how to configure the IMF Cisco switches.

Configure the switches from the applicable server as follows:
Note: Not all the switches listed may be applicable for your particular configuration.

- Yellow-sw1-1 from IMF-1A server
- Blue-sw1-1 from IMF-1B server
- Yellow-sw2-1 from IMF-1C server
- Blue-sw2-1 from IMF-1D server
- Yellow-sw3-1 from IMF-1E server
- Blue-sw3-2 from IMF-1F server

In case there are more switches required than IMF servers, the console port of the additional switch will have to be moved on one of the servers or configured using a laptop.
For an estimated time for this procedure, refer to the IMF flowcharts in Installation Overview.

5.4.1 For PIC 9.0.1 and lower

1. **Run the xmfconfig script to configure the switch**

Note: As the script runs, various prompts may appear on the screen. Do not respond to these prompts; the script handles these prompts. Do not enter any value until the main xMF Configuration
Utility appears.

a) Log in as root on the server.
b) Run the configuration script.

```
# /usr/TKLC/plat/bin/xmfconfig
```

The xMF Configuration Utility appears.

```
|- xMF Configuration Utility Initial
| Configure Switches -> Select 1
| [E]xit
Selection ->
```

c) Select 1 and press Enter.
This process takes approximately 20 minutes.

Example output of a successful configuration:
```
Switch yellow-1a successfully configured.
```

Example ouput of a failed configuration:
```
Error : switchconfig failed to configure properly
Error : Please check /var/TKLC/log/xMF/switchconfig.blue-sw1-1.log.082307
```

d) Press **E** and **Enter** to exit the script.

2. **Verify that the xmfconfig script executed properly**
a) Verify the configuration logs. As root, run:
```
# less /var/TKLC/log/xMF/switchconfig.yellow-sw1-1.log.date_created
```
where date_created is the date of creation.

For example:
```
# less /var/TKLC/log/xMF/switchconfig.yellow-sw1-1.082307
```

5.4.2 For PIC 9.0.2 and higher

Refer to 909-2241-01 PIC 9.0 Customer integration guide section 14.4.4.

5.5 xMF Post-Install Healthcheck

This procedure describes how to run the healthcheck script on xMF servers after the xMF application has been installed.
The script gathers the healthcheck information from the server on which the script was run. The output consists of a list of checks and results.

1. Log in as cfguser on the server that you want to check.
2. Run the automatic healthcheck script.
```
$ analyze_server.sh -p
```
3. Analyze the output of the script for errors. Issues reported by this script must be resolved before any further usage of this server.

Example output for a healthy system:
```
08:33:00: STARTING HEALTHCHECK PROCEDURE - SYSCHECK=0
08:33:00: date: 02-07-11, hostname: PMF0701-0A
08:33:00: TPD VERSION: 4.2.2-70.79.0
08:33:00: XMF VERSION: [ 70.5.0-17.1.0 ]
08:33:00: ------------------------------------------------
08:33:00: Checking disk free space
08:33:00: No disk space issues found
08:33:00: Checking syscheck - this can take a while
08:33:03: No errors in syscheck modules

08:33:03: Checking statefiles
08:33:03: Statefiles do not exist
08:33:03: Checking runlevel
```

```
08:33:03: Runlevel is OK (N 4)
08:33:03: Checking upgrade log
08:33:03: Install logs are free of errors
08:33:03: Analyzing IDB state
08:33:03: IDB in START state
08:33:03: Checking IDB database
08:33:04: iaudit has not found any errors
08:33:04: Analyzing processes
08:33:04: Processes analysis done
08:33:04: All tests passed. Good job!
08:33:04: ENDING HEALTHCHECK PROCEDURE WITH CODE 0
```

Example output for a system with errors:

```
08:18:31: >>> Error: Syscheck analyzes contains alarms
One or more module in class "hardware" FAILED
08:18:32: >>> Suggestion: Check /var/TKLC/log/syscheck/fail_log at 1297084711
for more information
...
08:18:35: >>> Error: 1 test(s) failed!
08:18:35: ENDING HEALTHCHECK PROCEDURE WITH CODE 2
```

5.6 Exchange xMF Servers Keys

This procedure describes how to exchange the keys between xMF servers that allow automatic scripts to log in between servers without providing a password.

This procedure is performed after all of the xMF servers in the subsystem are installed.

Note: This step is run on all servers in the subsystem and on standalone server.

1. **Run the exchange script**

   a) Log in as cfguser on the XMF-1A server.

   b) Run the exchange_keys.sh script; use the yellow network interfaces of all the servers in the frame as parameters. As cfguser, run:

   ```
   $ exchange_keys.sh yellow-1a yellow-1b ...
   ```

   At the start, the script prompts you for the cfguser password one time.

   Note: If asked for the RSA key during the execution, press Enter to confirm the question (Yes is the default value).

   This script first exchanges the keys and then verifies whether the exchange was successful. The period of time that the verification process takes varies depending on the system size; for larger subsystems, the time will be longer.

2. **Verify that the keys were successfully exchanged**

   a) Analyze the output of the script to determine whether the keys are successfully exchanged.

   Example output of a successful exchange for a frame with three IMF servers:

```
=== OK ===
ssh keys were successfully exchanged between interfaces:
yellow-1a yellow-1b yellow-1c
```

Example output of a failed exchange (key exchange is not completed for all of the given interfaces)for a frame with three IMF servers:

```
=== FAILED ===
there were found some connections which still requires password:
yellow-1c --> yellow-1a
yellow-1c --> yellow-1b
```

6. IXP APPLICATION INSTALLATION PROCEDURES

This section provides the procedures for installing the Integrated xDR Platform (IXP) application.

6.1 IXP Pre-Install Configuration

This procedure describes how to configure IXP prior to installing the IXP application.

Before you perform this procedure, make sure you have read and are familiar with the IXP Bulkconfig File Description.

Note: Manufacturing must contact Project Manager or Proffesional engineer to make sure to use the appropriate hostnames especially in case of extansion projects. Those hostnames can't be changed witout a complete reinstallation.

Note: When creating a bulkconfig file on a server in the IXP subsystem, if such a file has already been created on a different server, then reuse that bulkconfig file. The content of the bulkconfig file is the same for all servers (except for the optional EFS) in the IXP subsystem.

Note: For the Data Warehouse Server (DWS), you must create a new bulkconfig file, with one single host entry with the IXP-XDR function. Do not copy and reuse the bulkconfig file that was created for the servers of an IXP subsystem.

1**. Verify each server healthcheck.**

a) Run syscheck. Log in as root on the server that you want to install the application. As root run:

```
# syscheck
```

Review the /var/TKLC/log/syscheck/fail_log file for any errors. Example output of healthy server:

```
Running modules in class disk...
OK
Running modules in class proc...
OK
Running modules in class system...
OK
Running modules in class hardware...
OK
LOG LOCATION: /var/TKLC/log/syscheck/fail_log
```

Resolve each error before you continue with the procedure.

Note: Errors of NTP in syscheck can be ignored at this time, as NTP server is not configured

b) If the server has an external disk storage attached verify the disks state.

Check to which slot an external storage is connected. As root run:

```
# hpacucli ctrl all show
```

Example output:

```
[root@ixp0301-1a ~]# hpacucli ctrl all show
Smart Array 6400 in Slot 2 (sn: P5782AT9SX5017)
Smart Array P400i in Slot 0 (Embedded) (sn: PH95MP6416 )
```

Now show a detailed report for each disk. As root run:

```
# hpacucli ctrl slot=slot_number pd all show
```

where slot_number is the number of the slot received in previous step. All disks must be in OK state. Example output:

```
[root@ixp0301-1a ~]# hpacucli ctrl slot=2 pd all show
Smart Array 6400 in Slot 2
array A
physicaldrive 1:0 (port 1:id 0 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:1 (port 1:id 1 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:2 (port 1:id 2 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:3 (port 1:id 3 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:4 (port 1:id 4 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:5 (port 1:id 5 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:8 (port 1:id 8 , Parallel SCSI, 300 GB, OK)
array B
physicaldrive 2:0 (port 2:id 0 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:1 (port 2:id 1 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:2 (port 2:id 2 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:3 (port 2:id 3 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:4 (port 2:id 4 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:5 (port 2:id 5 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:8 (port 2:id 8 , Parallel SCSI, 300 GB, OK)
```

c) If the server has a SAN disk storage verify the vdisks are attached to the server. Check to which vdisk are connected. As root run:

```
# multipath -ll
```

Example output:

```
0_oracle_data (3600c0ff000d825e6c7508d4f01000000) dm-8 HP,MSA2012fc
[size=1.4T][features=1 queue_if_no_path][hwhandler=0][rw]
\_ round-robin 0 [prio=2][active]
 \_ 0:0:0:1 sda       8:0   [active][ready]
 \_ 1:0:0:1 sdc       8:32  [active][ready]
0_oracle_index (3600c0ff000d82539cc6a8d4f01000000) dm-9 HP,MSA2012fc
[size=1.4T][features=1 queue_if_no_path][hwhandler=0][rw]
\_ round-robin 0 [prio=2][active]
 \_ 0:0:1:2 sdb       8:16  [active][ready]
 \_ 1:0:1:2 sdd       8:48  [active][ready]
```

Make sure the LUN number are the one expected per the engineering. The LUN is the number highlited in yellow in the example

2. Create the bulkconfig file

a) As a root user.

b) Create the /root/bulkconfig file as explained in Appendix A.2 IXP Bulkconfig File Description.

3. **Configure the server hostname**

a) Enter the **platcfg menu**.
As root, run:

```
# su - platcfg
```

b) Select **Server Configuration -> Hostname** .
c) Click **Edit**.
d) Enter the server hostname in the standard format: ixpNNNN-MA .
where:

- N is numeric 0-9
- M is numeric 1-9
- A is alphabetical a-z

Note: Each subsystem must have the same NNNN designation, while the individual server is identified by the MA designation (for example, 1a).

e) **Exit** the platcfg menu.

4. Configure the RMS mediation switch

Refer to 909-2241-01 PIC 9.0 Customer integration guide section 14.2.2.

6.2 Install Oracle Database

This procedure describes how to install the Oracle database on a server with the operating system installed (TPD).

Make sure the you installed the TPD OS in 64 bits

Before you perform this procedure:
• Make sure that you have the Oracle DVD/CD or ISO file available. If Oracle is being installed on IXP with external storage having 12 Drives use Oracle 10G ISO, use Oracle 11G ISO only in case of 24-25 drives
• Verify the /root/bulkconfig file needed for this installation has been created on the server according to specific application directions as a result of pre-install configuration step.
• In case of c-class blades SAN Configuration must be done properly before starting Oracle Installation
• This procedure must be run via iLO.

1. Log in and either insert the DVD/CD or distribute the ISO file

a) Log in as root on the server where you want to install the Oracle database.
b) Distribute the media:

- On the rackmout server insert the Oracle DVD/CD or mount the Oracle ISO file via iLO (see How to mount the ISO file via iLO).
- On the c-class blade server download the ISO from the PM&C ISO repository. ISOs are available on the PM&C server under the /var/TKLC/smac/image directory. Store the ISO file to /var/TKLC/upgrade directory. If the ISO is not present in PM&C ISO repository add the ISO file using the procedure Adding ISO Images to the PM&C Image Repository

2. Validate the installation media

a) Enter the platcfg menu. As root, run:

```
# su – platcfg
```

b) Select **Maintenance -> Upgrade -> Validate Media.**
c) Select the desired upgrade media and press Enter.
The validation process must complete without errors. You should receive the following message:
CDROM is Valid

If any errors are reported during this validation process, then **DO NOT USE** this media to install the application.

d) Exit the platcfg menu.

3. Mount the media

As root, run the appropriate command to mount your media:
• For a DVD/CD (rackmount server), run:

```
# mount /dev/cdrom /media
```

• For an ISO mounted via iLO (rackmout server), run:

```
# getCDROMmedia
```

to check which CDROM device has been added to the /dev/ directory. Example output:

```
[root@ixp1977-1a ~]# getCDROMmedia
HP Virtual DVD-ROM:scd0
```

This example output denotes virtual CD-ROM device /dev/scd0. Then mount this device to /media directory.

```
# mount -o loop virtual_cdrom_device /media
```

where virtual_cdrom_device is the path to virtual CD-ROM device received in a previous step.

• For an ISO file copied in /var/TKLC/upgrade run:

```
# mount -o loop /var/TKLC/upgrade/iso_file /media
```

where iso_file is the ISO filename.

4. Install Oracle

As root, run:

```
# /media/install_oracle.sh
```

Note: When installing Oracle 10g with the above script, user will not be prompted for any further input and the server will not reboot automatically after Oracle installation is complete.

Note: When installing Oracle 11g you will be prompted by the following:

```
You are about to install Oracle 11G and ASM. Are you sure you want to continue
(yes/no)
```

Type yes to confirm. Press <enter> to continue.
When the installation process is complete the server will automatically reboot.

5. Remove the ISO file.

a) After reboot open a terminal window and log back in as root.
b) If the ISO file was copied to the server, then remove this file to save disk space.
As root, run:

 # umount /media/
 # rm -f /var/TKLC/upgrade/iso_file

where iso_file is the ISO filename.

6. Analyze the installation log

Review the installation log (/var/TKLC/log/upgrade/oracle.log) for any errors. Oracle must be installed successfully.
If there are any errors, contact the Tekelec PIC Design Support Team

Note: The script /opt/oracle/product/10.2.0/db_1/root.sh is already executed by the installation.

6.3 Install IXP

This procedure describes how to install the IXP application on the TPD platform.

Before you perform this procedure, make sure that you have the appropriate IXP DVD/CD or ISO file available.

Verify the /root/bulkconfig file needed for this installation has been created on the server according to specific application directions as a result of pre-install configuration step.

Note: Run this procedure via iLO.

1. Log in and insert the IXP DVD/CD or distribute the ISO file

a) Open a terminal window and log in as root on the server you that you want to install the IXP application.
b) Distribute the media:
• On the rackmount server insert the IXP DVD/CD or mount the IXP ISO file via iLO (see How to mount the ISO file via iLO).
• On the c-class blade server download the ISO from the PM&C ISO repository. ISOs are available on the PM&C server under the /var/TKLC/smac/image directory. Store the ISO file to /var/TKLC/upgrade directory.

2. Validate the installation media

a) Enter the **platcfg menu**.
As root, run:
 # su - platcfg

b) Select **Maintenance -> Upgrade -> Validate Media.**

c) Select the desired upgrade media and press Enter.
The validation process must complete without errors. You should receive the following message:
CDROM is Valid

If any errors are reported during this validation process, then **DO NOT USE** this media to install the application.

3. Install the application

a) From platcfg menu select **Maintenance -> Upgrade -> Initiate Upgrade**.
When the installation process is complete, the server restarts automatically.

b) If the ISO file was copied to the server, then remove this file to save disk space.
As root, run:
 # rm -f /var/TKLC/upgrade/iso_file
where iso_file is the absolute path of the ISO image, which includes the name of the image.

Information note: At this step, for BL460 Gen8 servers, the default gateway is not set, thus, remote access is only possible though the iLO (the gateway will be set during Customer integration).

4. **Analyze the installation log**

Review the installation log (/var/TKLC/log/upgrade/upgrade.log) for any errors.
If there are any errors, contact the Tekelec PIC Design Support Team

6.4 Configure Oracle

For an estimated time for this procedure, refer to the IXP flowcharts in Installation Overview.

6.4.1 Post-install Oracle Configuration

This procedure describes how to run the automatic Oracle post-install script. This procedure allocates necessary data and index files and runs various Oracle post-install settings and tunings.

This procedure is applicable to xDR storage servers only and can take a very long time (up to 5 hours with 25 disk of 600Gb)

Note: Run this procedure via iLO.

1. Log in on the xDR Storage Server.
2. As root, run:

```
# cd_oracle_utils
# ./oracle-postinstall.pl --auto | tee -a /var/TKLC/log/ixp/postinstall-oracle.log
```

3. When the script finishes, check the log file /var/TKLC/log/ixp/postinstall-oracle.log for any errors.

If there are any errors, contact the Tekelec PIC Design Support Team
Example output:

```
--CUT--
inf | --- Calculated new sizing in space usage:
inf | part | existing | requested | target
inf | Temp size | 12884901888 | 17179869184 | as requested
inf | DATA_CDR size |137438953472 |1272487125741 | 1271310319616
inf | DATA_IND size | 34359738368 |1040365377590 | 1030792151040
inf |oraindex DATA_CDR size | 0 | 289237746768 | 274877906944
inf | --- Calculated new sizing in number of files:
inf | part | exists |requested| create | cdr:ind %
inf | Temp files | 6 | 8 | 2 | na
inf | DATA_CDR data | 8 | 74 | 66 | 48.879
inf | DATA_IND data | 2 | 60 | 58 | 39.632
inf |oraindex DATA_CDR data | 0 | 16 | 16 | 10.569
war | Will create 2 temp files.
war | Will create 66 DATA_CDR data files.
war | Will create 58 DATA_IND data files.
war | Will create 16 DATA_CDR data files at oraindex.
inf | File: 0/142 at 1GB avg 0.00s, ETA 0.00s
inf | File: 1/142 at 1GB avg 0.00s, ETA 0.00s
inf | File: 2/142 at 1GB avg 0.00s, ETA 0.00s
inf | File: 3/142 at 1GB avg 3.69s, ETA 8201.00s
inf | File: 4/142 at 1GB avg 3.69s, ETA 8145.94s
inf | File: 5/142 at 1GB avg 3.70s, ETA 8111.01s
```

```
inf | File: 6/142 at 1GB avg 3.70s, ETA 8057.48s
inf | File: 7/142 at 1GB avg 3.71s, ETA 8014.10s
inf | File: 8/142 at 1GB avg 3.72s, ETA 7969.14s
--CUT--
```

6.5 IXP Post-Install Healthcheck

This procedure describes how to run the server health check after the application has been installed on the server.

1. Log in on the server that you want to analyze.
2. As cfguser, run:

$ analyze_server.sh –p

The script gathers the health check information from the server. A list of checks and associated results is generated. There might be steps that contain a suggested solution. Analyze the output of the script for any errors. Issues reported by this script must be resolved before any further use of this server.

The following examples show the structure of the output, with various checks, values, suggestions, and errors.

Example of overall output:

```
[cfguser@ixp8888-1a ~]$ analyze_server.sh
12:40:30: STARTING HEALTHCHECK PROCEDURE - SYSCHECK=0
12:40:30: date: 08-22-11, hostname: ixp8888-1a
12:40:30: TPD VERSION: 4.2.4-70.90.0
12:40:30: IXP VERSION: [ 9.0.0-64.2.0 ]
12:40:30: XDR BUILDERS VERSION: [ 9.0.0-37.1.0 ]
12:40:30: ------------------------------------------------
12:40:31: Analyzing server record in /etc/hosts
12:40:31: Server ixp8888-1a properly reflected in /etc/hosts file
12:40:31: Analyzing IDB state
12:40:31: IDB in START state
12:40:31: Analyzing shared memory settings
12:40:31: Shared memory set properly
.....
12:43:02: All tests passed!
12:43:02: ENDING HEALTHCHECK PROCEDURE WITH CODE 2
```

Example of a successful test:

```
12:40:31: Analyzing server record in /etc/hosts
12:40:31: Server ixp8888-1a properly reflected in /etc/hosts file
```

Example of a failed test:

```
12:21:48: Analyzing IDB state
12:21:48: >>> Error: IDB is not in started state (current state X)
12:21:48: >>> Suggestion: Verify system stability and use 'prod.start' to start
the product
```

After attempting the suggested resolution, if the test fails again, then contact Tekelec Customer Care Center.

7. EXPORT FILE SERVER APPLICATION INSTALLATION PROCEDURES

This section provides the procedures for installing the Export File Server (EFS) application.

7.1 EFS Pre-Install Configuration

This procedure describes how to configure Export Filer Server (EFS) prior to installing the EFS application.

Before you perform this procedure, make sure you have read and are familiar with the EFS Bulkconfig File Description in Appendix A.3.

Note: For the EFS server, you must create a new and unique bulkconfig file. Do not copy and reuse the bulkconfig file that was created for the servers in the IXP subsystem.

1. Verify the server healthcheck.

a) Run syscheck. Log in as root on the server that you want to install the application. As root run:

```
# syscheck
```

Review the /var/TKLC/log/syscheck/fail_log file for any errors. Example output of healthy server:

```
Running modules in class disk...
OK
Running modules in class proc...
OK
Running modules in class system...
OK
Running modules in class hardware...
OK
LOG LOCATION: /var/TKLC/log/syscheck/fail_log
```

Resolve each error before you continue with the procedure.

Note: Errors of NTP in syscheck can be ignored at this time, as NTP server is not configured

b) If the server has an external disk storage attached verify the disks state.
Check to which slot an external storage is connected. As root run:

```
# hpacucli ctrl all show
```

Example output:

```
[root@ixp0301-1a ~]# hpacucli ctrl all show
Smart Array 6400 in Slot 2 (sn: P5782AT9SX5017)
Smart Array P400i in Slot 0 (Embedded) (sn: PH95MP6416 )
```

Now show a detailed report for each disk. As root run:

```
# hpacucli ctrl slot=slot_number pd all show
```

where slot_number is the number of the slot received in previous step. All disks must be in OK state. Example output:

```
[root@ixp0301-1a ~]# hpacucli ctrl slot=2 pd all show
Smart Array 6400 in Slot 2
array A
physicaldrive 1:0 (port 1:id 0 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:1 (port 1:id 1 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:2 (port 1:id 2 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:3 (port 1:id 3 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:4 (port 1:id 4 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:5 (port 1:id 5 , Parallel SCSI, 300 GB, OK)
physicaldrive 1:8 (port 1:id 8 , Parallel SCSI, 300 GB, OK)
array B
physicaldrive 2:0 (port 2:id 0 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:1 (port 2:id 1 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:2 (port 2:id 2 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:3 (port 2:id 3 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:4 (port 2:id 4 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:5 (port 2:id 5 , Parallel SCSI, 300 GB, OK)
physicaldrive 2:8 (port 2:id 8 , Parallel SCSI, 300 GB, OK)
```

2. Create the bulkconfig file

a) As a root user.
b) Create the /root/bulkconfig file.

3. Configure the server hostname

a) Enter the platcfg menu.
As root, run:

```
# su - platcfg
```

b) Select Server Configuration **-> Hostname**
c) Click **Edit.**
d) Enter the server hostname in the standard format: ixpNNNN-MA .
where:

- N is numeric 0-9
- M is numeric 1-9
- A is alphabetical a-z

Note: Each subsystem must have the same NNNN designation, while the individual server is identified by the MA designation (for example, 1a).

e) Exit the **platcfg menu.**

7.2 Install EFS

This procedure describes how to install the EFS application on the TPD platform.

EFS installation runs from the same CD/ISO as an IXP application. Use IXP CD/ISO for EFS installation.

1. Log in and insert the DVD/CD or distribute the ISO file

a) Open a terminal window and log in as root on the server you that you want to install the EFS
application.

b) Distribute the media:

- On the rackmount server insert the EFS DVD/CD or mount the EFS ISO file via iLO (see How to mount the ISO file via iLO).
- On the c-class blade server download the ISO from the PM&C ISO repository. ISOs are available on the PM&C server under the /var/TKLC/smac/image directory. Store the ISO file to /var/TKLC/upgrade directory.

2. Validate the installation media

a) Enter the platcfg menu. As root, run:

```
# su - platcfg
```

b) Select **Maintenance -> Upgrade -> Validate Media**.
c) Select the desired upgrade media and press **Enter.**
The validation process must complete without errors. You should receive the following message:
CDROM is Valid
If any errors are reported during this validation process, then **DO NOT USE** this media to install the application.
d) Exit the **platcfg menu.**

3. Install the application

a) Enter the platcfg menu.
As root, run:

```
# su - platfg
```

b) Select **Maintenance -> Upgrade -> Initiate Upgrade.**
When the installation process is complete, the server restarts automatically.

c) If the ISO file was copied to the server, then remove this file to save disk space.
As root, run:

```
# rm -f /var/TKLC/upgrade/iso_file
```

where iso_file is the absolute path of the ISO image, which includes the name of the image.

Information note: At this step, for BL460 Gen8 servers, the default gateway is not set, thus, remote access is only possible though the iLO (the gateway will be set during Customer integration).

4. Analyze the installation log

Review the installation log (/var/TKLC/log/upgrade/upgrade.log) for any errors.

If there are any errors, contact the Tekelec PIC Design Support Team

7.3 EFS Post-Install Healthcheck

This procedure describes how to run the server healthcheck after the application has been installed on the server.

1. Log in on the server that you want to analyze.

2. As cfguser, run:

$ analyze_server.sh –p

The script gathers the healthcheck information from the server. A list of checks and associated results is generated. There might be steps that contain a suggested solution. Analyze the output of the script for any errors. Issues reported by this script must be resolved before any further use of this server.

The following examples show the structure of the output, with various checks, values, suggestions, and errors.

Example of overall output:

```
[cfguser@ixp8888-1a ~]$ analyze_server.sh
12:40:30: STARTING HEALTHCHECK PROCEDURE - SYSCHECK=0
12:40:30: date: 08-22-11, hostname: ixp8888-1a
12:40:30: TPD VERSION: 4.2.4-70.90.0
12:40:30: IXP VERSION: [ 9.0.0-64.2.0 ]
12:40:30: XDR BUILDERS VERSION: [ 9.0.0-37.1.0 ]
12:40:30: ------------------------------------------------
12:40:31: Analyzing server record in /etc/hosts
12:40:31: Server ixp8888-1a properly reflected in /etc/hosts file
12:40:31: Analyzing IDB state
12:40:31: IDB in START state
12:40:31: Analyzing shared memory settings
12:40:31: Shared memory set properly
.....
12:43:02: All tests passed!
12:43:02: ENDING HEALTHCHECK PROCEDURE WITH CODE 2
```

Example of a successful test:

```
12:40:31: Analyzing server record in /etc/hosts
12:40:31: Server ixp8888-1a properly reflected in /etc/hosts file
```

Example of a failed test:

```
12:21:48: Analyzing IDB state
12:21:48: >>> Error: IDB is not in started state (current state X)
12:21:48: >>> Suggestion: Verify system stability and use 'prod.start' to start
```

the product

After attempting the suggested resolution, if the test fails again, then contact Tekelec Customer Care Center.

8. REPORT SERVER PLATFORM INSTALLATION PROCEDURES

A Report Server Platform is installed on an existing PIC platform and consists of the following components:

• **ReportInfoView** and **Report Admin** applications installed on NSP.
• **Report Server (RS)** installed on IXP Base server.
• **Report Data Server (RDS)** installed on the IXP xDR storage server. RDS stores report KPI data of particular Report Package into IXP xDR Storage database. RDS might also contain the CMS database (an internal database maintained by Business Objects and needed by RS to run reports), which would be called **RDS-CMS**.
• **Post Process Service (PPS)** installed on the IXP Base server that is integrated with the IXP Sub-system. PPS generates ISUP KPIs that are stored on RDS. It is used only by the TDM Voice Analytics
• **Report Packages V2.0** and above Report Packages are installed on the RDS server.

Note: Report Package installation is not covered in this document.

RS and RDS must be installed as a standalone IXP servers (not integrated with IXP subsystem) with a designation of **1A**.

The are several architecture variations:
• **Report Server Decoupled:** RS and RDS are separate servers.
• **Report Server Coupled**: RS and RDS are installed on a single IXP xDR storage server.
• **Report Server Clustering**: Multiple RSs.

Supported only on the Decoupled architecture.Each RS is installed as an standalone IXP Base server with the designation of **1A**. One RS is designated as the Primary Report Server and other(s) as the Cluster Report Server. The RDS server is installed separately from the Report. Server Cluster on standalone IXP xDR storage server with 1A designation.

This section provides the procedures on how to install the Report Server Platform—when Report Server is part of the system order. When Report Server is ordered separately from a new system order, this procedure will be performed in the field as part of Customer Integration

8.1 Install the Report Applications on NSP

This procedure describes how to install the ReportInfoView and ReportAdmin applications on the NSP.

Note: Make sure the WebLogic server administrator's password is exactly the default value defined in TR006061 for “Weblogic console”. Verify this by the following:

1. Open a web browser and go to the http://nsp_ip_address/console.

where nsp_ip_address is the IP address of NSP One-Box or NSP Primary WebLogic server (Four-Box).
2. Log in as weblogic user and enter password defined in TR006061 for “Weblogic console”.
3. If you are able to log in then this check is successfull.

4. If you were not able to log in change the password. Open a terminal window and log in to NSP One-Box or NSP Primary WebLogic server (Four-Box) as root. Enter the platcfg menu. As root run:

```
# su - platcfg
```

Navigate to **NSP Configuration -> NSP Password Configuration -> Weblogic Password Configuration** and change the password to the default value defined in TR006061 for “Weblogic console”.

5. Open a terminal window and log in as root on the NSP server (One-box) or the Primary server (Four-box).

6. Enter the platcfg menu. As root, run:

```
# su - platcfg
```

7. Select **NSP Configuration -> Configure optional applications**.

A window appears with a list of optional applications and their current status (Installed if the application is installed or No if the application is not installed).

8. If **ReportInfoView** and **ReportAdmin** applications are not installed, select **Edit.**
A window appears with a list of all the optional applications that are currently not installed with their value set to **No.**

9. Change the option to **Yes** for the **ReportInfoView** and **ReportAdmin** applications and click OK. The selected applications are installed. The install logs are available at /var/log/nsp/install/nsp_install.log.

10. Exit the **platcfg menu**.

8.2 Install Primary Report Server

There are two major components when installing the RSP application:
• **SAP BOE Software**: the SAP BusinessObjects Enterprise third-party software.
• **Report Server Platform Database Schema**: a schema created in the IXP database to store all of the
KPIs.

Note: Before executing this procedure make sure the NSP is completely installed and is in operational
state.

Note: Make sure the WebLogic server administrator's password is exactly the default value defined in TR006061 for “Weblogic console”. Verify this by the following:

1. Open a web browser and go to the http://nsp_ip_address/console.
where nsp_ip_address is the IP address of NSP One-Box or NSP Primary WebLogic server (Four-Box).

2. Log in as weblogic user and enter the value defined in TR006061 for “Weblogic console” password.
3. If you are able to log in then this check is successfull.
4. If you were not able to log in change the password. Open a terminal window and log in to NSP One-Box or NSP Primary WebLogic server (Four-Box) as root. Enter the platcfg menu. As root run:

```
# su - platcfg
```

Navigate to **NSP Configuration -> NSP Password Configuration -> Weblogic Password Configuration** and change the password to the default value defined in TR006061 for “Weblogic console”.

Now you can execute the following procedure.

8.2.1 Install Report Server Software

This procedure describes how to install the Report Server software on an IXP server.
Before you perform this procedure:
• The server must have an IXP application installed. This server must be a single-server IXP subsystemwith a designation of 1A. Depending on the architecture, the IXP application type is either an xDR storage server or a Base server.
• Make sure that you have the appropriate Report Server DVD/CD or ISO file available.

1. Log in and insert the DVD/CD or mount the ISO file
   a) Log in as root on the IXP server where you want to install Report Server software.
   b) Insert the Report Server DVD/CD or distribute the Report Server ISO file to /var/TKLC/upgrade directory.
2. Mount the media
   As root, run the appropriate command to mount your media:
   • For a DVD/CD, enter:

```
# mkdir /media/cdrom
# mount –t auto /dev/cdrom /media/cdrom
```

   • For an ISO file, enter:

```
# mount –o loop
/var/TKLC/upgrade/REPORT_SERVER_part_number_release_number.iso
/media
```

   where:
   • part_number is the part number (for example, 872-2121-101)
   • release_number is the release number (for example, 9.0.0-7.1.0.3163)
3. Install the rpm package
   a) Install the rpm package. As root, run:
   • For a DVD/CD, enter:

```
# rpm -ivh /media/cdrom/TKLCrsp-release_number.i386.rpm
```

where release_number is the release number (for example, 9.0.0-7.1.0.3163)
• For an ISO file, enter:

```
# rpm -ivh /media/TKLCrsp-release_number.i386.rpm
```

where release_number is the release number (for example, 9.0.0-7.1.0.3163)

4. Unmount the media

As root, run:
• For a DVD/CD, enter:

```
# umount /media/cdrom
# cd
# eject
```

and remove the media from drive.
• For an ISO file, enter:

```
# umount /media
```

and remove the ISO file to save disk space.

8.2.2 Install SAP BOE software on Primary Report Server

This procedure describes how to install the SAP BOE application on an IXP server.

Before you perform this procedure:
• The server must have the Report Server application installed.
• Make sure that you have the appropriate SAP BOE DVD/CD or ISO file available.

1. Log in and insert the DVD/CD or mount the ISO file

a) Log in as root on the IXP server where you want to install the SAP BOE software.
b) Insert the SAP BOE DVD/CD or distribute the SAP BOE ISO file (for example boe31_sp3.iso)
to /var/TKLC/upgrade directory using the scp command. (There will need to be up to 2G space available in this directory.)
c) Verify the media. As root run:

```
# md5sum -c boe31_sp3.iso.md5
```

2. Mount the media

As root, run the appropriate command to mount your media:
• For a DVD/CD, enter:

```
# mount –t auto /dev/cdrom /media/cdrom
```

• For an ISO file, enter:

```
# mount –o loop /var/TKLC/upgrade/boe31_sp3.iso /media
```

3. Install BOE

a) As root, run:

```
# /var/TKLC/rsp/install.sh
```

b) Choose the server to install:

```
#############################################################
# Installing Report Server Platform 9.0.0-8.1.0
#############################################################
1) Primary Report Server (Primary RS)
2) Clustered Report Server (Secondary RS)
3) Upgrade Data Aging on all RDS servers.
4) Exit.
```

Select 1 to install **Primary Report Server.**

c) Enter CMS Database IP address or hostname:

```
Please enter CMS Database IP address or hostname:
```

Enter IP address or hostname.

Note: This will depend on the architecture:

• If a Coupled architecture, enter the local IP address. (the real IP configured and not the localhost)
• If a Decoupled architecture, enter an IP address of the IXP xDR storage server where the CMS database will reside. In this case, it will be the remote IP address. Make sure this server is accessible from the local machine; otherwise, the installation will fail.

d) Enter the Oracle database sys user password:

```
Enter Oracle database sys user password:
```

Enter the password. (refer to TR006061 of the default password of “Oracle SYS”)

e) Set the CMC Administrator's password.
This will set the SAP BOE server Central Management Console (CMC) Administrator's password.

```
Please set CMC Administrator's password.
Enter password:
Enter password again:
```

Enter the password, and then enter the same password to confirm.

f) Enter the BOE software mount point.

```
Please hit Enter to mount BusinessObject-SP3 CD/DVD ROM or enter a different
mount point [/media/cdrecorder]
```

Press Enter for DVD/CD or type /media for ISO file.

g) Enter the root user password.

```
Enter root os user password:
```

Enter the password.
h) Continue the installation process.

```
Product: BusinessObjects_31_SP3
Installing BusinessObjects Enterprise Server ... THIS MAKE TAKE SEVERAL
MINUTES!

Check log file /var/TKLC/ixp/boe/setup/logs/BusinessObjects.12.3.log
for internal progress of the BOE server installer.
Please wait...
Checking for recommended patches...
******************************
Linux: Your system is missing required components (STU00120):
******************************
Missing patch: unsupported.linux.release
If you continue your installation may not work correctly. (STU00109)
Please press Enter to continue...
```

Press Enter to continue.
i) When the installation is complete, check the log file /var/TKLC/rsp/rsp_install-<current date time>.log for any errors.

Note: The upgrade may take 30-45 minutes to complete.

If there are any errors, contact the Tekelec PIC Design Support Team

Example output of a successful installation:

```
Installing Crystal Report Server system service
Restarting all...
Stopping all...
Stopping sian...
Starting all servers...
Starting sian...
Installation Completed Successfully!
```

4. **Unmount the media**

As root, run:
• For a DVD/CD, enter:

```
# umount /media/cdrom
# cd
# eject
```

and remove the media from drive.

• For an ISO file, enter:

```
# umount /media
```

and remove the ISO file to save disk space

8.2.3 Verify the SAP BOE Primary Server Installation

This procedure describes how to verify that the SAP BOE software is successfully installed on the Primary Report Server before proceeding with the installation process.

1. Open a web browser and go to:

```
http://RS_IP:8080/CmcApp
```

where RS_IP is the IP address of the Primary Report Server.

2. Type the IP address of the Primary Report Server in the **System** field.
3. Type administrator in the User **Name** field.
4. Enter the **Password** for CMC administrator user.
5. Click **Log On**.

If the CMC home page appears, then you were able to log in successfully; the installation of SAP BOE was successful.

If the home page does not appear, then you were not able to log in and the SAP BOE installation was not successful. Contact the Tekelec Customer Care Center.

8.2.4 Install SAP BusinessObjects 3.1 Fix Pack 3.6

This procedure describes how to install SAP BusinessObjects 3.1 Fix Pack 3.6.

This service pack must be installed only if it had not been installed before. Verification if the service pack must be installed is in the first step of the procedure.

This service pack must be installed only after Report Server installation/upgrade has been successfully completed before.

1. **Verify the SAP BusinessObjects 3.1 Fix Pack 3.6 had not been installed before**

Note: This step will verify if the service pack installation is needed.

a) Open a terminal window and log in on the Report server as root.
As root run:

```
$ cat /var/TKLC/ixp/boe/setup/ProductID.txt
```

b) If SAP BusinessObjects Fix Pack has not been installed, the Product will be displayed as BusinessObjects_31_SP3.
Example:

```
[root@ixp1000-1a ~]# cat /var/TKLC/ixp/boe/setup/ProductID.txt
Vendor : Business Objects
Product : BusinessObjects_31_SP3
Version : 12 3
Date : 22 Apr 2010
Platform : Linux 32
SoftwarePath : linux x86
```

If SAP BusinessObjects Fix Pack has been installed, the Product will be displayed as BusinessObjects_FP_3_6. Example:

```
[root@ixp1000-1a ~]# cat /var/TKLC/ixp/boe/setup/ProductID.txt
Vendor : Business Objects
Product : BusinessObjects_FP_3_6
Version : 12 3
Date : 30 May 2011
Platform : Linux 32
SoftwarePath : linux x86
Continue this procedure only if service pack has not been installed (Product is not BusinessObjects_FP_3_6).
```

2. **Distribute the SAP BusinessObjects Fix Pack to /var/TKLC/ixp**

   a) Copy the SAP BusinessObjects Fix Pack (ENTERPRISE3P_6-10007478.TGZ) to the /var/TKLC/ixp directory.

3. **Extract the SAP BusinessObjects Fix Pack archive**

   a) Log in on the Report Server as root.
   Create the extract directory. As root run:

```
# mkdir /var/TKLC/ixp/boe_inst_cds_31_fp3_6
# cd /var/TKLC/ixp
```

   Extract the file. As root run:

```
# gtar zxf ENTERPRISE03P_6-10007478.TGZ -C boe_inst_cds_31_fp3_6
```

4. **Install the service pack**

   a) Move to boe user and the working directory
   As root run:

```
# su - boe
$ cd /var/TKLC/ixp/boe_inst_cds_31_fp3_6
```

   c) Run the installation as boe user:

```
$ ./install.sh /var/TKLC/ixp/boe
```

   d) Confirm license agreement.
   e) Enter BOE Administrator's password.
   f) Select yes to redeploy the web applications.
   g) On the screen **Enter Web Application Server configuration** press <ENTER>to accept the default configuration.
   h) Confirm the installation. Set Installing To: path to /var/TKLC/ixp/boe and press <ENTER>.
   i) Wait until the installation finishes. It will take approximately 30 minutes at least. The following message will be displayed:

```
SAP BusinessObjects products have been successfully installed in:
/var/TKLC/ixp/boe
```

   Press <ENTER> to go to the next screen. Now the installation has completed.

5. **Verify the SAP BusinessObjects 3.1 Fix Pack 3.6 has been installed successfully**

a) Open a terminal window and log in on the Report server as root.
As root run:

$ cat /var/TKLC/ixp/boe/setup/ProductID.txt

b) If SAP BusinessObjects Fix Pack has been installed, the Product will be displayed as BusinessObjects_FP_3_6.
Example:

```
[root@ixp1000-1a ~]# cat /var/TKLC/ixp/boe/setup/ProductID.txt
Vendor : Business Objects
Product : BusinessObjects_FP_3_6
Version : 12 3
Date : 30 May 2011
Platform : Linux 32
SoftwarePath : linux x86
```

8.3 RSP Post-Install Configuration

For an estimated time for this procedure, refer to the Report Server Platform flowcharts in Installation Overview

8.3.1 Replace the Temporary BOE License Key with the Permanent License Key

Before you perform this procedure, make sure that the Enterprise license key is available. The key is provided by Production Planning.

1. Log in on the Central Management Console (CMC)

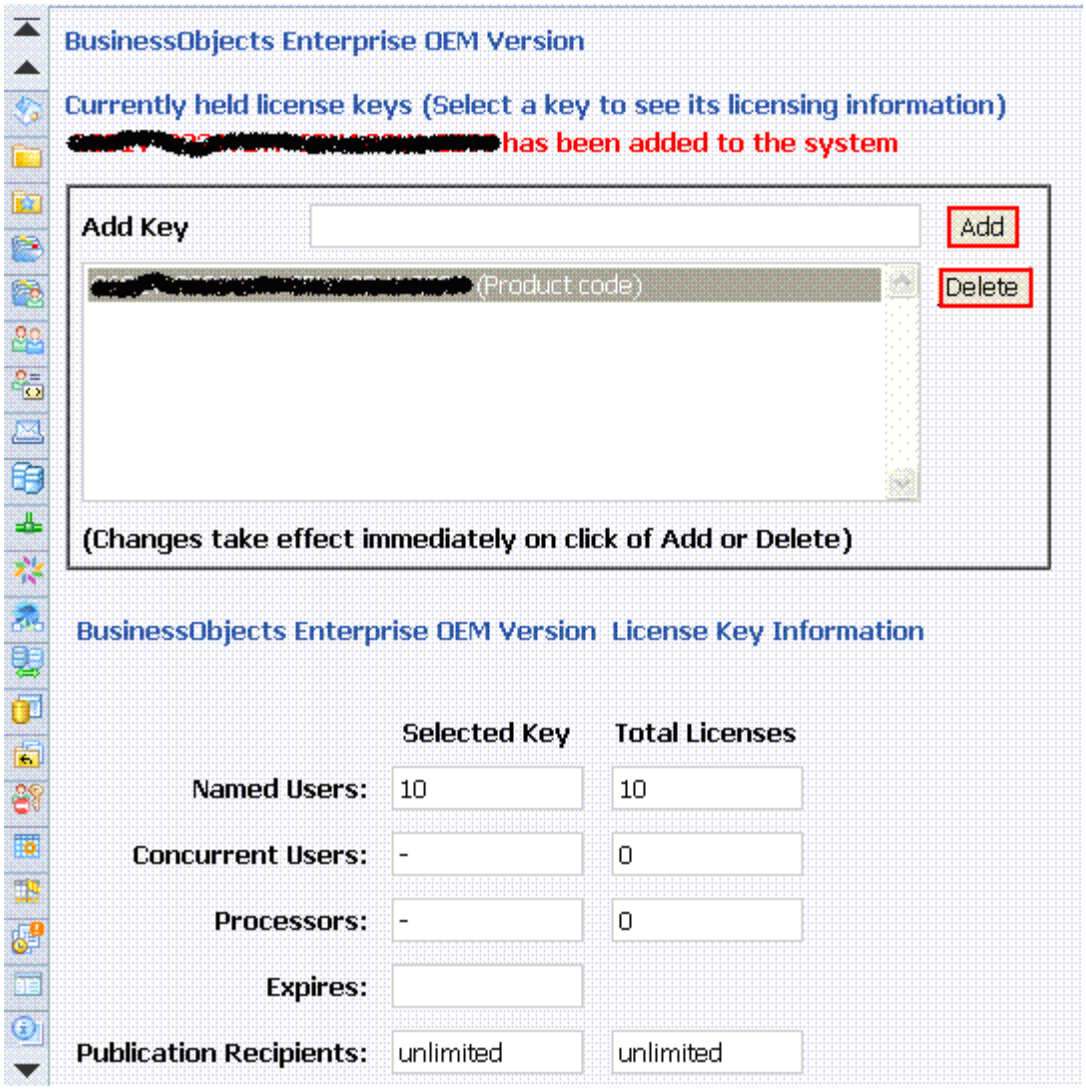
Log in as Administrator on the CMC, if not already logged in.

2. Add license keys

a) ClickLicense Keys on the home page.

Note: If the shown license key is ended with "6PUA00W-229F", it is a temporary key and you should continue with below steps.

b) Delete the existing temporary license key.
c) Enter the permanent named user license key and click Add.

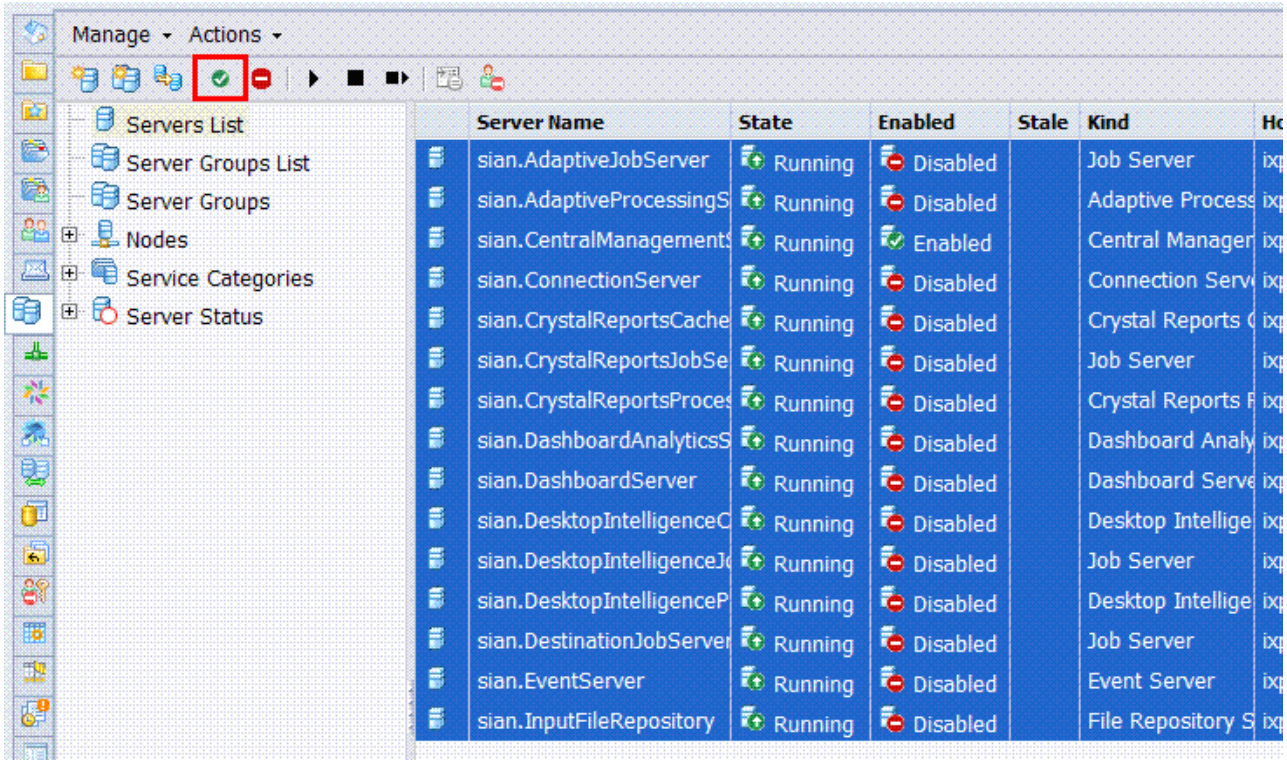


If the permanent license key was the same as the temporary key, then this procedure is complete.

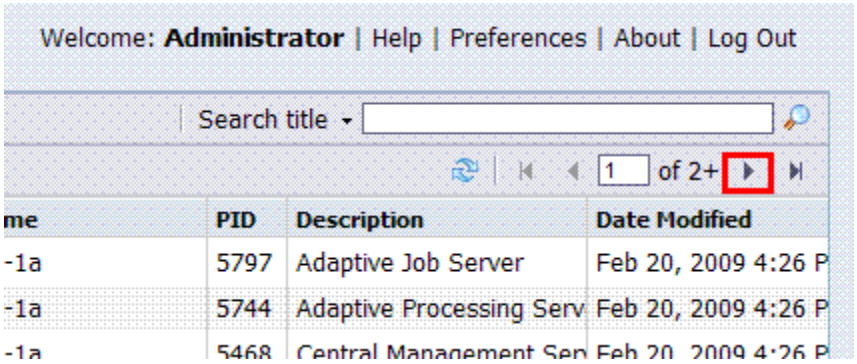
If the license key has been changed, all of the server processes will be disabled. Continue with the next step to enable these processes.

3.Enable servers

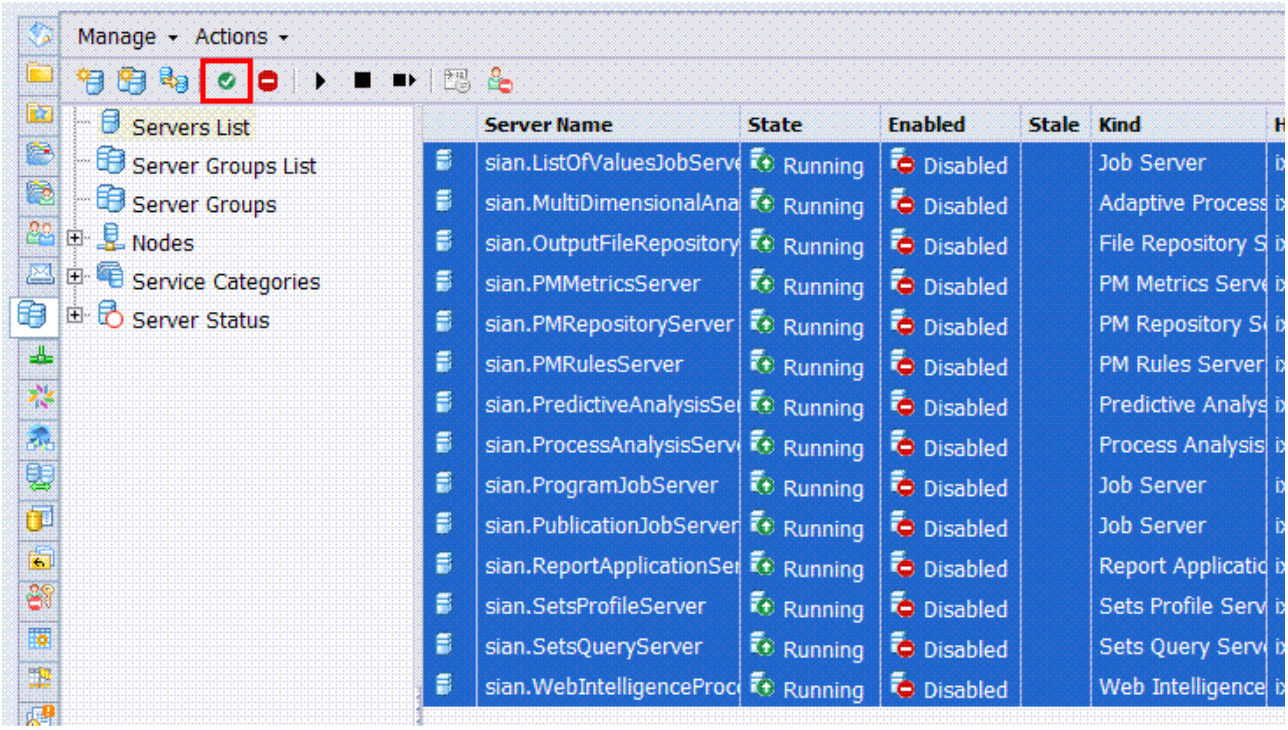
a) Click **Servers** on the home page.
b) Select all of the servers on the list and click **Enable** to enable them.



c) Click **Next** Page icon.



d) Select all of the servers on the list and click **Enable** to enable them.



e) Repeat steps 3.c.-3.d. as needed.

8.3.2 Add IAS Administrator Default User

This procedure will create a iasadmin in IAS User Administrator group.

1. Log in on the Central Management Console (CMC)

Log in as Administrator on the CMC, if not already logged in.

2. Create iasadmin user

a) Click on **Users and Groups**.
b) On a new page click on **Create New User**.
c) **Into Account Name** field enter iasadmin and into Password field enter the value defined in TR006061 for “BOE iasadmin”.
d) Check **Password** never expires and uncheck user must change password at next logon.
e) Click on **Create**.

3. Assign iasadmin user to IAS User Administrator group

a) Right click on iasadmin user and select **Join Group**.
b) In the group list chose IAS User Administrator group and add this group to **Destination Group(s)** list. Then click **OK.**

8.3.3 Change Administrator Password (Optional)

This procedure describes how to change the Administrator password.

1. Log in on the Central Management Console (CMC)

Log in as Administrator on the CMC, if not already logged in.

2. Change the password

a) Select **Preference**.
b) Expand the **Change Password tag**.
c) Type values in the **Old Password, New Password and Confirm New Password** fields.

d) Click **Change Password** to submit the change.

8.4 Install PPS Application

For an estimated time for this procedure, refer to the Report Server Platform flowcharts in Installation Overview.

8.4.1 Install PPS Application

This procedure describes how to install the PPS application.

Before you perform this procedure, make sure that the IXP Base server, where PPS will be installed, is part of an existing IXP subsystem

1. Log in and either insert the DVD/CD or distribute the ISO file

a) Log in as root on the server.

b) Insert Network Intelligence DVD/CD or distribute the ISO file via iLO.

2. Mount the media

As root, run the appropriate command to mount the media:

• For a DVD/CD, enter:

```
# mkdir /media/cdrom
# mount –t auto /dev/cdrom /media/cdrom
```

• For an ISO file, enter:

```
# mount –o loop /usr/RS-PPS_part_number_release_number.iso /media
```

where:

• part_number is the part number (for example, 872-2121-101)

• release_number is the release number (for example, 9.0.0-7.1.0.3163)

3. Install the rpm package

As root, run:

• For a DVD/CD, enter:

```
# rpm -ivh /media/cdrom/TKLCpps-release_number.i386.rpm
```

• For an ISO file, enter:

```
# rpm -ivh /media/TKLCpps-release_number.i386.rpm
```

where:

• release_number is the release number (for example, 9.0.0-7.1.0.3163)

4. Unmount the media

As root, run the appropriate command depending on the mount point used:

• For a DVD/CD, enter:

```
# umount /media/cdrom
```

• For an ISO file, enter:

```
# umount /media
```

8.4.2 Post Installation Verification

This procedure describes how to verify the PPS installation.

1. Connect to Knopflerfish OSGi Framework using the remote console

a) Log in as cfguser on the PPS server.
b) Connect to the Knopflerfish OSGi Framework console. As cfguser, run:

```
$ telnet localhost 2323
```

Example output:

```
Verification Connected to localhost.
Escape character is '^]'.
Knopflerfish OSGi console
login: admin
password: refer to TR006061 for the default password for “Knopflerfish admin”
'quit' to end session
```

c) Enter the username (admin) and the associated password.

2. Verify the registered services

a) Check the list of registered services. Run:

```
> services
```

If the initconfig-manager service appears as registered, then the installation is successfull.
Example output:

```
Bundle: initconfig-manager-LIB (#26)
registered: DtsConsumer InitConfigManagerService
[DelegatedExecutionOsgiBundleApplicationContext,
ConfigurableOsgiBundleApplicationContext,
ConfigurableApplicationContext, ApplicationContext, Lifecycle,
ListableBeanFactory,
HierarchicalBeanFactory, MessageSource, ApplicationEventPublisher,
ResourcePatternResolver,
BeanFactory, ResourceLoader, DisposableBean]
```

Note: In addition to the initconfig-manager service, the following services also appear as registered after RDM reporting package is installed on a Primary RS and discovered in CCM.

```
Bundle: oam-service-LIB
Bundle: pps-manager-LIB
Bundle: process-LIB
Bundle: referencedata-service-LIB
Bundle: translator-service-LIB
```

b) Exit the console. Run:

```
> quit
```

9. APPENDIX A: PIC BULKCONFIG FILE DESCRIPTION

9.1 NSP Bulkconfig File Description

The NSP subsystem bulkconfig file contains the overall NSP pre-installation configuration information, most importantly the hostname and SNMP configuration. During the installation process, various scripts use this file to configure NSP.
The bulkconfig file is a text file and as such can be created or updated with any available text editor, e.g. vi or vim.
The bulkconfig file templates can be found on the NSP iso in the / directory. For NSP One-Box you can use the /bulkconfig.nsp-onebox template together with the /bulkconfig.example.nsp-onebox example showing an updated bulkconfig template. Do not use this reference example to configure the NSP system. For NSP Four-Box you can use the /bulkconfig.nsp-fourbox template together with the /bulkconfig.example.nsp-fourbox example.
Note: When you install PIC, you are asked to create this bulkconfig file and update this file. DO NOT remove the NSP bulkconfig file from the server.
This topic provides a description of each keyword and parameter used in the bulkconfig file. It is important to read and understand the contents of this file.

bulkconfig file location and rights
File name: bulkconfig
File absolute path: /root/bulkconfig

Mount the NSP iso file. As root run :
```
# mount –o loop /var/TKLC/upgrade/iso_file.iso /mnt/upgrade
```

Copy the good bulkconfig file template:
For one Box
```
# cp /mnt/upgrade/bulkconfig.nsp-onebox /root/bulkconfig
```
For four Box
```
# cp /mnt/upgrade/bulkconfig.nsp-fourbox /root/bulkconfig
```

Change the permission on the bulkconfig
```
# chmod 644 /root/bulkconfig
```

Unmount the NSP iso file. As root run :
```
# umount /mnt/upgrade
```

bulkconfig file: template
The bulkconfig file is written in the CSV format.
Each line begins with a keyword that describes the type of information that the line contains. The keyword is mandatory. Each line must begin with the keyword, and then contains various values for this keyword. The keyword and its associated values are separated by a comma. There are no empty spaces in the lines.
```
host,hostname_of_server,IP_address,function,interface_name,network_mask,network_gateway
ntpserver1,IP_address
ntpserver2,IP_address
timezone,time_zone
```
Refer to the following descriptions of each keyword and its associated values.

host Description

```
host,hostname_of_server,IP_address,function,interface_name,network_mask,network_gateway
...
```

The host keyword has the following associated values:

hostname_of_server	A valid hostname , it should match the hostname set on server.
The IP address of the server.	For blade systems, the internal IP address of the server.
IP_address	The IP address of the server. For blade systems, the internal IP address of the server.
function	The function of the server. Use one of the following entries: • NSP_ONEBOX for the NSP One-box Server • NSP_APACHE for the NSP Apache Server • NSP_ORACLE for the NSP Oracle Server • NSP_SECONDARY for the NSP Secondary Server • NSP_PRIMARY for the NSP Primary Server
interface_name	Name of the interface where the network settings are applied. • Use eth01 (back-end) for a rackmount system and eth02 (front-end)for the second interface on Apache and One-box servers. • Use bond0.3 for the blade systems and bond0.4 for the second interface on Apache and One-box servers.
network_mask	The network mask.
network_gateway	The default gateway On Apache and One-box servers the gateway must be the one from front-end (eth02) for all interfaces including the back-end interface (eth01) on apache server. Then some manual routes must be added during the customer network inegrattion when adding servers aprt of an other network in the NSP

ntpserver Description

```
ntpserver1,IP_address
ntpserver2,IP_address
```

• ntpserver1 is the first NTP server
• ntpserver2 is the second NTP server

The ntpserver keyword has the following associated value:

IP_address	The IP address of the NTP server

timezone Description

```
timezone,time_zone
```

The timezone keyword has the following associated value:

time_zone	The timezone string. For a list of available timezones that you can use, refer to the /usr/share/zoneinfo/zone.tab file TZ column. For example:

```
 [root@nsp ~]# cat /usr/share/zoneinfo/zone.tab
time_zone
--CUT--
#code coordinates TZ comments
AD +4230+00131 Europe/Andorra
AE +2518+05518 Asia/Dubai
AF +3431+06912 Asia/Kabul
AG +1703-06148 America/Antigua
```

CZ +5005+01426 Europe/Prague
---CUT—

NSP One-box

bulkconfig Template

host,hostname_of_server,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_of_server,IP_address,function,interface_name,network_mask,network_gateway
ntpserver1,IP_address
ntpserver2,IP_address
timezone,time_zone

Example:
A bulkconfig file needs to be created for the NSP One-box:
• Server hostname: nsp-onebox
• Because it is a one-box server, two interfaces are needed
• Because it is a rackmount system, use eth01 and eth02 for these interfaces
Note: If you are configuring C-class blades, replace eth01 with bond0.3 and eth02 with bond0.4 when you create this file.
• *IP addresses:*
  • *First interface (eth01): 10.236.2.141*
  • *Second interface (eth02): 10.236.1.141*
• *Subnet mask: 255.255.255.254*
• *Gateway addresses:*
  • *First interface (eth01): 10.236.2.129*
  • *Second interface (eth02): 10.236.1.129*
• *NTP server IP address: 10.236.129.11*
• *Server timezone: Europe/Prague*

The corresponding bulkconfig file you create should appear as follows:
Note: There is no new line character in the middle of the host configuration.
[root@nsp-onebox ~]# cat /root/bulkconfig
*host,nsp-onebox,10.236.2.141,NSP_ONEBOX,eth01,255.255.255.224,**10.236.1.129***
*host,nsp-onebox,10.236.1.142,NSP_ONEBOX,eth02,255.255.255.224,*10.236.1.129
ntpserver1,10.236.129.11
ntpserver2,
timezone,Europe/Prague

NSP Four-box

bulkconfig Template

host,hostname_apache,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_apache,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_oracle,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_secondary,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_primary,IP_address,function,interface_name,network_mask,network_gateway
ntpserver1,IP_address
ntpserver2,IP_address
timezone,time_zone

Example:
A bulkconfig file needs to be created for the NSP cluster setup with four physical servers:

• Server hostname: *nsp-apache*
• Server hostname: *nsp-oracle*
• Server hostname: *nsp-secondary*
• Server hostname: *nsp-primary*
• Because it is a rackmount system, use eth01 and eth02 for interface names
Note: If you are configuring C-class blades, replace eth01 with bond0.3 and eth02 with bond0.4 when you create this file.
• Apache IP addresses:
    • *First interface (eth01):* 10.236.2.141
    • *Second interface (eth02):* 10.236.1.141
• *Oracle IP address (eth01):* 10.236.2.142
• *Secondary IP address (eth01):* 10.236.2.143
• *Primary IP address (eth01):* 10.236.2.144
• *Subnet mask:* 255.255.255.254
• *Gateway addresses:*
    • *Apache eth01*: 10.236.2.129
    • *Apache eth02*: 10.236.1.129
    • *Default for all other servers:* 10.236.2.129
• *NTP server IP address:* 10.236.129.11
• *Server timezone*: Europe/Prague
The corresponding bulkconfig file you create should appear as follows:

Note: There is no new line character in the middle of host configuration, and there should not be any typos in bulkconfig file.
Take care to use the front-end gateway IP for both interfaces on apache box.

```
[root@nsp ~]# cat /root/bulkconfig
host,nsp-apache,10.236.1.141,NSP_APACHE,eth02,255.255.255.224,10.236.1.129
host,nsp-apache,10.236.2.141,NSP_APACHE,eth01,255.255.255.224,10.236.1.129
host,nsp-oracle,10.236.2.142,NSP_ORACLE,eth01,255.255.255.224,10.236.2.129
host,nsp-secondary,10.236.2.143,NSP_SECONDARY,eth01,255.255.255.224,10.236.2.129
host,nsp-primary,10.236.2.144,NSP_PRIMARY,eth01,255.255.255.224,10.236.2.129
ntpserver1,10.236.129.11
ntpserver2,
ntpserver3,
timezone,Europe/Prague
```

9.2 IXP Bulkconfig File Description

The IXP subsystem bulkconfig file contains the overall IXP pre-installation configuration information. During the installation process, various scripts use this file to configure IXP.
The bulkconfig file is a case sensitive text file and as such can be created or updated with any available text editor, e.g. vi or vim.
The IXP bulkconfig file is also used when installing a Data Warehouse Server (DWS), in which case the file is structured as if the IXP subsystem was made of one single xDR server.

The IXP bulkconfig file template is located on the IXP iso on the /upgrade/IXP_bulkconfig_template path. The file is unique for the IXP subsystem and is present on each server in this subsystem.

Note: When you install PIC, you are asked to create this bulkconfig file and update this file. **DO NOT** remove the IXP bulkconfig file from the server.

The IXP subsystem bulkconfig file is used during these processes:
• Manufacturing installation
• Customer network integration
• Change IP
• Disaster recovery procedure
• RSP install/upgrade procedure

This topic provides a description of each keyword and parameter used in the bulkconfig file. It is important to read and understand the contents of this file.

bulkconfig file location and rights

File name: bulkconfig
File absolute path: /root/bulkconfig

Mount the ixp iso file. As root run :
```
# mount –o loop /var/TKLC/upgrade/iso_file.iso /mnt/upgrade
```

Copy the good bulkconfig file template:
```
# cp /mnt/upgrade/upgarde/IXP_bulkconfig_template /root/bulkconfig
```

Change the permission on the bulkconfig
```
# chmod 644 /root/bulkconfig
```

Unmount the IXP iso file. As root run :
```
# umount /mnt/upgrade
```

bulkconfig file: template

The bulkconfig file is written in the CSV format.

Each line begins with a keyword that describes the type of information that the line contains. The keyword is mandatory. Each line must begin with the keyword, and then contains various values for this keyword. The keyword and its associated values are separated by a comma. There are no empty spaces in the lines.

```
host,hostname_of_1st_server,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_of_2nd_server,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_of_nth_server,IP_address,function,interface_name,network_mask,network_gateway
ntpserver1,IP_address
ntpserver2,IP_address
ntpserver3,IP_address
ntppeerA,
ntppeerB,
nspprimary,IP_address_of_primary_weblogic_or_onebox_nsp
nspsecondary,IP_address_of_secondary_weblogic
nsporacle,IP_address_of_oracle_server
timezone,time_zone
```

Refer to the following descriptions of each keyword and its associated values.

host Description

```
host,hostname_of_1st_server,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_of_2nd_server,IP_address,function,interface_name,network_mask,network_gateway
host,hostname_of_nth_server,IP_address,function,interface_name,network_mask,network_gateway
```

...
Example (installation):

```
host,ixp1981-1a,10.236.2.141,IXP-XDR,eth01,255.255.255.224,10.236.2.129
host,ixp1981-1b,10.236.2.142,IXP-BASE,eth01,255.255.255.224,10.236.2.129
host,ixp1981-1c,10.236.2.143,IXP-PDU,eth01,255.255.255.224,10.236.2.129
```

The count of the host lines equals to the count of the servers in the subsystem. There is a single host line per server in the subsystem.

Example (disaster recovery of ixp1981-1b server):

```
host,ixp1981-1a,10.236.2.141,IXP-XDR,eth01,255.255.255.224,10.236.2.129
host,ixp1981-1b,10.236.2.142,DR-BASE,eth01,255.255.255.224,10.236.2.129
host,ixp1981-1c,10.236.2.143,IXP-PDU,eth01,255.255.255.224,10.236.2.129
```

The count of the host lines equals to the count of the servers in the subsystem. There is a single host line per server in the subsystem.

The host keyword has the following associated values:
hostname_of_nth_server The server hostname in the standard IXP format: ixpNNNN-MA where:
• N is numeric 0-9
• M is numeric 1-9
• A is alphabetical a-z

Note: This bulkconfig is either used for the Report Server installation. All Report Servers must be installed with 1a designation.

IP_address The IP address of the server. For blade systems, the backend (VLAN 3) IP address of the server.

function The function of the server. Use one of the following entries for installation:
• IXP-XDR for the xDR Storage Server, Primary Report Server and Data Warehouse Server (DWS)

	• IXP-PDU for the PDU Storage Server • IXP-BASE for the IXP Base Server, Cluster Report Server and PPS server • IXP-ES for the Export Server Function for the disaster recovery procedure for the particular server is different. Use one of the following entries for disaster recovery: • DR-XDR for the xDR Storage Server • DR-PDU for the PDU Storage Server • DR-BASE for the IXP Base Server • DR-ES for the Export Server
interface_name	Name of the interface where the network settings are applied. • eth01 for the rackmount systems • bond0.3 for the blade systems
network_mask	The network mask.
network_gateway	The default gateway.

ntpserver Description

```
ntpserver1,IP_address
ntpserver2,IP_address
ntpserver3,IP_address
ntppeerA,
ntppeerB,
```

• ntpserver1 is the first NTP server
• ntpserver2 is the second NTP server
• ntpserver3 is the third NTP server
• ntppeerA not applicable; leave empty
• ntppeerB not applicable; leave empty

Example:

```
ntpserver1,10.236.129.11
ntpserver2,
ntpserver3,
ntppeerA,
ntppeerB,
```

The ntpserver keyword has the following associated value:

IP_address	The IP address of the NTP server.

NSP Description

```
nspprimary,IP_address_of_primary_weblogic_or_onebox_nsp
nspsecondary,IP_address_of_secondary_weblogic
nsporacle,IP_address_of_oracle_server
```

• nspprimary is the NSP Primary WebLogic server or the One-box NSP server
• nspsecondary is the NSP Secondary WebLogic server
• nsporacle is the NSP Oracle server

Example (for a One-box NSP):

```
nspprimary,10.10.10.10
nspsecondary,
nsporacle,
```

The NSP keyword has the following associated values:
IP_address_of_primary_weblogic_or_onebox_nsp The IP address of the NSP server:
- One-box: IP address of the One-box NSP server
- Four-box: IP address of the NSP Primary WebLogic server

IP_address_of_secondary_weblogic The IP address of the NSP server:
- One-box: not applicable; leave empty
- Four-box: IP address of the NSP Secondary WebLogic server

IP_address_of_oracle_server The IP address of the NSP Oracle server:
- One-box: not applicable; leave empty
- Four-box: IP address of the NSP Oracle server

timezone Description

```
timezone,time_zone
```

Example:

```
timezone,Europe/Prague
```

The timezone keyword has the following associated value:

time_zone
The timezone string. For a list of available timezones that you can use, refer to the /usr/share/zoneinfo/zone.tab file TZ column. For example:

```
[root@nsp ~]# cat /usr/share/zoneinfo/zone.tab
--CUT--
#code coordinates TZ comments
AD +4230+00131 Europe/Andorra
909-2122-001 Revision 1.11, February 02, 2012 DRAFT 210
PIC Bulkconfig File Description
AE +2518+05518 Asia/Dubai
AF +3431+06912 Asia/Kabul
AG +1703-06148 America/Antigua
CZ +5005+01426 Europe/Prague
---CUT—
```

bulkconfig file: installation example

A bulkconfig file needs to be created for the following IXP subsystem:

- Subsystem hostname: ixp1981
- 1a server is the xDR Storage Server with the IP address: 10.236.2.141
- 1b server is the Base Server with the IP address: 10.236.2.142
- 1c server is the PDU Storage Server with the IP address: 10.236.2.143
- Network interface: eth01
- Network mask: 255.255.255.254
- Default gateway: 10.236.2.129
- NTP server IP address: 10.236.129.11
- NSP One-box IP address: 10.10.10.10
- Server timezone: Europe/Prague

The corresponding bulkconfig file you create should appear as follows:

Note: There is no new line character in the middle of the host configuration.

```
[root@ixp1981-1a ~]# cat /root/bulkconfig
host,ixp1981-1a,10.236.2.141,IXP-XDR,eth01,255.255.255.224,10.236.2.129
host,ixp1981-1b,10.236.2.142,IXP-BASE,eth01,255.255.255.224,10.236.2.129
host,ixp1981-1c,10.236.2.143,IXP-PDU,eth01,255.255.255.224,10.236.2.129
ntpserver1,10.236.129.11
ntpserver2,
ntpserver3,
ntppeerA,
ntppeerB,
nspprimary,10.10.10.10
nspsecondary,
nsporacle,
timezone,Europe/Prague
```

Automated records in /etc/bulkconfig file

During the automated integration of IXP subsystem with EFS server(s) the following line is added to the /etc/bulkconfig file (one per integrated EFS server):

```
efs,hostname_of_EFS,IP_address_of_EFS
```

where
• hostname_of_EFS is the hostname of EFS that local DataFeeds hosts uses as an export target
• IP_address_of_EFS is the IP address of such EFS

Example:

```
efs,ixp7777-1e,10.236.0.33
```

9.3 EFS Bulkconfig File Description

The standalone Export File Server (EFS) bulkconfig file contains the overall EFS pre-installation configuration information. During the installation process, various scripts use this file to configure the EFS server.

The bulkconfig file is a case sensitive text file and as such can be created or updated with any available text editor, e.g. vi or vim.

The EFS bulkconfig file template is located on the EFS iso on the /upgrade/EFS_bulkconfig_template path.
For the EFS server, you must create a new and unique bulkconfig file. Do not reuse the bulkconfig file that was created for the servers in the IXP subsystem.

Note: When you install PIC, you are asked to create this bulkconfig file and update this file. **DO NOT** remove the EFS bulkconfig file from the server.

The EFS bulkconfig file is used during these processes:
• EFS Manufacturing installation
• Customer network integration
• Change IP

This topic provides a description of each keyword and parameter used in the bulkconfig file. It is important to read and understand the contents of this file.

bulkconfig file location and rights

File name: bulkconfig
File absolute path: /root/bulkconfig

Note: If the bulkconfig file is copied form ISO and moved to the /root , the permission will be Readonly.
In this case change the rights to match the example below.

```
[root@ixp1981-1a ~]# pwd
/root
[root@ixp1981-1a ~]# ls -l | grep bulkconfig
-rw-r--r-- 1 root root 358 Dec 4 19:20 bulkconfig
```

bulkconfig file: template

The bulkconfig file is written in the CSV format.
Each line begins with a keyword that describes the type of information that the line contains. The keyword is mandatory. Each line must begin with the keyword, and then contains various values for this keyword. The keyword and its associated values are separated by a comma. There are no empty spaces in the lines.

```
host,hostname_of_efs_server,IP_address,function,interface_name,network_mask,network_gateway
ntpserver1,IP_address
ntpserver2,IP_address
ntpserver3,IP_address
```

```
ntppeerA,
ntppeerB,
nspprimary,IP_address_of_primary_weblogic_or_onebox_nsp
nspsecondary,IP_address_of_secondary_weblogic
nsporacle,IP_address_of_oracle_server
timezone,time_zone
```

Refer to the following descriptions of each keyword and its associated values.

host Description

```
host,hostname_of_efs_server,IP_address,function,interface_name,network_mask,network_gateway
```

...
Example (installation):

```
host,ixp1981-1a,10.236.2.141,EFS,eth01,255.255.255.224,10.236.2.129
```

Example (disaster recovery):

```
host,ixp1981-1a,10.236.2.141,DR-EFS,eth01,255.255.255.224,10.236.2.129
```

The host keyword has the following associated values:
where:

hostname_of_efs_server	The server hostname in the standard IXP format: ixpNNNN-MA • N is numeric 0-9 • M is numeric 1-9 • A is alphabetical a-z **Note:** This bulkconfig is either used for the Report Server installation.All Report Servers must be installed with 1a designation.
IP_address	The IP address of the server.
function	The function of the server. Use EFS.
interface_name	*Name* of the interface where the network settings are applied. Use eth01 for the rackmount system.
network_mask	The network mask.
network_gateway	The default gateway.

ntpserver Description

```
ntpserver1,IP_address
ntpserver2,IP_address
ntpserver3,IP_address
ntppeerA,
ntppeerB,
```

• ntpserver1 is the first NTP server
• ntpserver2 is the second NTP server
• ntpserver3 is the third NTP server
• ntppeerA not applicable; leave empty
• ntppeerB not applicable; leave empty

Example:

```
ntpserver1,10.236.129.11
ntpserver2,
ntpserver3,
ntppeerA,
ntppeerB,
```

The ntpserver keyword has the following associated value:

IP_address	The IP address of the NTP server.

NSP Description

```
nspprimary,IP_address_of_primary_weblogic_or_onebox_nsp
nspsecondary,IP_address_of_secondary_weblogic
nsporacle,IP_address_of_oracle_server
```

- nspprimary is the NSP Primary WebLogic server or the One-box NSP server
- nspsecondary is the NSP Secondary WebLogic server
- nsporacle is the NSP Oracle server

Example (for a One-box NSP):

```
nspprimary,10.10.10.10
nspsecondary,
nsporacle,
```

The NSP keyword has the following associated values:

IP_address_of_primary_weblogic_or_onebox_nsp	The IP address of the NSP server: • One-box: IP address of the One-box NSP server • Four-box: IP address of the NSP Primary WebLogic server
IP_address_of_secondary_weblogic	The IP address of the NSP server: • One-box: not applicable; leave empty • Four-box: IP address of the NSP Secondary WebLogic server
IP_address_of_oracle_server	The IP address of the NSP Oracle server: • One-box: not applicable; leave empty • Four-box: IP address of the NSP Oracle server

timezone Description

```
timezone,time_zone
```

Example:

```
timezone,Europe/Prague
```

The timezone keyword has the following associated value:

time_zone

The timezone string. For a list of available timezones that you can use, refer to the /usr/share/zoneinfo/zone.tab file TZ column. For example:

```
[root@nsp ~]# cat /usr/share/zoneinfo/zone.tab
--CUT--
#code coordinates TZ comments
AD +4230+00131 Europe/Andorra
AE +2518+05518 Asia/Dubai
AF +3431+06912 Asia/Kabul
AG +1703-06148 America/Antigua
CZ +5005+01426 Europe/Prague
---CUT—
```

bulkconfig file: example

A bulkconfig file needs to be created for the following EFS:

- EFS server hostname: ixp1981-1a
- EFS server IP address: 10.236.2.141
- Network interface: eth01
- Network mask: 255.255.255.254
- Default gateway: 10.236.2.129
- NTP server IP address: 10.236.129.11
- NSP One-box IP address: 10.10.10.10
- Server timezone: Europe/Prague

The corresponding bulkconfig file you create should appear as follows:

Note: There is no new line character in the middle of the host configuration.

```
[root@ixp1981-1a ~]# cat /root/bulkconfig
host,ixp1981-1a,10.236.2.141,EFS,eth01,255.255.255.224,10.236.2.129
ntpserver1,10.236.129.11
ntpserver2,
ntpserver3,
ntppeerA,
ntppeerB,
nspprimary,10.10.10.10
nspsecondary,
nsporacle,
timezone,Europe/Prague
```

Automated records in /etc/bulkconfig file

During the automated integration of EFS server with IXP subsystem the following line is added to the /etc/bulkconfig file (one per IXP DataFeed hosts server):

```
ixp,hostname_of_IXP,IP_address_of_IXP
```

where

- hostname_of_IXP is the hostname of IXP server that hosts DataFeed application.
- IP_address_of_IXP is the IP address of such IXP server

Example:

```
ixp,ixp7777-1a,10.236.0.33
```

10. APPENDIX B: KNOWLEDGE BASE PROCEDURES

10.1 How to mount the ISO file via iLO

1. Store the ISO file to the local disk.
2. Open a web browser and enter the IP address of server iLO. After security exception a login page will appear. Log in as root.
3. Navigate to the **Remote Console** tab.
4. Click on **Integrated Remote Console** .
An **Integrated Remote Console** window appears.
5. Click on **Virtual Media** which is visible in blue bar at the top of the **Integrated Remote Console** window.
6. Navigate to **Image** with a small CD-ROM picture on the left side. Click on Mount .
A window will pop up asking for the ISO path. Navigate to the ISO file and click **Open**.
7. Now the ISO file is mounted on a target server as a virtual CD-ROM. Such new device will appear under /dev/ directory.
To find the new virtual CD-ROM media run on a target server as root:

```
# getCDROMmedia
```

This will list a virtual CD-ROM media devices with the exact device name. Example output:

```
[root@ixp1977-1a ~]# getCDROMmedia
HP Virtual DVD-ROM:scd0
```

this record denotes virtual CD-ROM device /dev/scd0 ready for any other operation.

10.2 How to connect to the console via the MRV

1. Telnet to the console via the MRV
a) Connect using ssh where <port> comes from the list below below and <mrv_address> is the IP address of the MRV.
ssh tklc@<mrv_address> -p <port>

Table 2: DCL Table 1

Target Designation	MRV Port
xA (server1)	2122
xB (server1)	2222
xC (server1)	2322
xA (server1)	2422
xA (server1)	2522
Yellow Switch	2722
Blue Switch	2822

2. Connect to the console via the MRV
a) Connect using ssh where <port> comes from the list below and <mrv_address> is the IP address of the MRV.
ssh tklc@<mrv_address> -p <port>
b) If this is the first time connecting to the server, answer yes to exchange secure keys.
The authenticity of host 'earthoobm1a (192.168.62.200)' can't be established.
RSA key fingerprint is 38:9f:5c:31:6c:e6:7a:a9:43:9f:a7:0a:77:7d:42:da.
Are you sure you want to continue connecting (yes/no)?
yes
c) At the password prompt type the tklc user's password and press <enter>

d) Press <enter> to get a login prompt.
e) Verify the Login prompt displays the desired hostname
3. When finished use the following key sequence to exit the oobm.
(Enter followed by Tilde).
a) Type exit
b) Press <enter> and <shift>+<~>+<.>

10.3 Configure and Verify iLO Connection

This procedure is applicable to HP DL360 servers (IXP, NSP and Standalone PMF)
iLO is an independent subsystem inside a HP server, which is used for out of band remote access. This subsystem permits to monitor, power-off, and power-on the server through a LAN-HTTP interface.
The setup of this device shows up during each power-on sequence of the server. When the message for iLO configuration is proposed, hit the <F8> key and follow the on-screen instruction. In case of no user action after a few seconds, the boot sequence continues to the next step. In this situation, it would
be necessary to reboot the device to return to this choice.
Recommended configuration consists of assigning an IP address to the system and create a “root” user. This setup needs to be done in accordance with the customer’s supervision environment.
Minimal steps are:
• Menu “Network”, “DNS/DHCP”, “DHCP enable”, change to OFF, save [F10]
• Menu “Network”, “NIC and TCP/IP”, fill-in the IP address, Subnet Mask, Gateway, Save [F10]
• Menu “User”, “Add user”, “User name” root, “Password”, < same-value-than-TPD >
• Menu “ File”, exit and save
For verification of the setup, connect the iLO interface to the network switch.
Open Internet Explorer
a) Open Internet Explorer on a workstation and enter in the iLo IP address.
http://192.168.120.12
Where 192.168.120.12 is the IP address of the iLo.
b) You will get a SSL security warning
c) Accept the warning.
d) Fill in Login name and Password and enter the iLO.
e) Once you are logged in click on Launch to start Integrated Remote Console.
f) If you will receive another certificate warning click on Yes to continue
g) If you get The application’s digital signature can not be verified click Always trust content from this publisher then click Run.
h) A remote console window will now appear to allow you to access the HP server.

10.4 Adding ISO Images to the PM&C Image Repository

This procedure will provide the steps how add ISO images to PM&C repository.

IF THIS PROCEDURE FAILS, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR

ASSISTANCE.

1. Make the image available to PM&C

There are two ways to make an image available to PM&C.

Insert the CD containing an iso image into the removable media drive of the PM&C server.

Alternatively:

Use sftp to transfer the iso image to the PM&C server in the

/var/TKLC/smac/image/isoimages/home/smacftpusr/ directory as pmacftpusr user:

a) cd into the directory where your ISO image is located (not on the PM&C server)

b) Using sftp, connect to the PM&C management server

> sftp pmacftpusr@<PM&C_management_network_IP>

> put <image>.iso

c) After the image transfer is 100% complete, close the connection

> quit

Refer to the documentation provided by application for pmacftpusr password.

2. PM&C GUI: Login

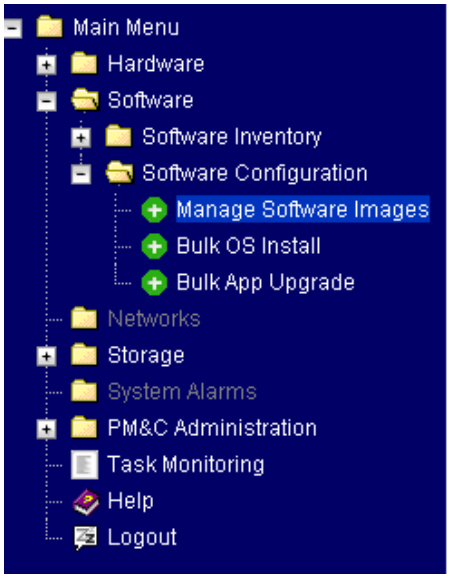
Open web browser and enter:

http://<management_network_ip>/gui

Login as pmacadmin user.

3. PM&C GUI: Navigate to Manage Software Images

Navigate **to Main Menu ➢ Software ➢ Software Configuration ➢ Manage Software Images**



4. PM&C GUI: Add image
Press the **Add Image** button .

Use the dropdown to select the image you want to add to the repository.
Note: Optical media device appears as device ://dev/hdc
Add appropriate image description and press Add New Image button

You may check the progress using the Task Monitoring link. Observe the green bar indicating success.

11. APPENDIX C: SAN CONFIGURATION TEMPLATES AND HOW TO UPDATE THEM

Below are the templates of the SAN configuration files and vlan.conf files. Highlighted parts need to be updated to accomodate a specific network settings. Follow the red instructions.

NOTE: USE BOND0 PRIVATE IP ADDRESSES in the following NSP and IXP .xml files FOR ALL BLADES. These addresses are automatically assigned by DHCP each time the blade is IPM'ed.

11.1 IXP templates

IXP iso contains templates according to server storage type (xDR, PDU, ES).

Update each kind of template as many times as you plan to have the count of storage servers in a pool.

For the full PDU Storage pool (4 servers) and the full xDR Storage pool (4 servers) there is going to be 2 MSA of 48 disks each. Each of the MSA will have 2 SAN controllers (in the template they are called A and B). The disks on the first MSA will be numbered from 0.0 to 0.11 then from 1.0 to 1.11, 2.0 to 2.11 and 3.0 to 3.11. The same numbering will be present on the second MSA. You will be asked to use this numbering when updating <Disks> section in the template. Make sure each disk is used just once!

It's recommended not to put all xDR Storages on a single MSA due to performance reasons. In this case configure 2 xDR Storages and 2 PDU Storages on the first MSA and 2 xDR Storages and 2 PDU Storages on the second MSA.

Each VDISK can be owned by either controller A or controller B as it is highlighted in templates below. Due to performance reasons always make sure xDR and PDU servers are equally balanced across these owners. For example, if you have two PDU servers in one MSA, make sure first one is owned by A and second one by B. On xDR servers, partitions must be taken into account as well; the best configuration is the following:

- If 1 xDR server in the MSA, DATA partition owned by controller A and INDEX partition owned by controller B.
- If more than 1 xDR server in the MSA, both one DATA partition and one INDEX partition owned by each controller.

Example:

Server	Partition	Template value X	Template value Y	Disks	Owner	MSA
1. xDR Storage	DATA	0	1	0.0-0.11	A	1
1. xDR Storage	INDEX	0	1	0.0-0.11	A	1
1. PDU Storage	N/A	1	1	1.0-1.11	A	1
2. xDR Storage	DATA	2	2	2.0-2.11	B	1
2. xDR Storage	INDEX	2	2	2.0-2.11	B	1
2. PDU Storage	N/A	3	2	3.0-3.11	B	1
3. xDR Storage	DATA	0	3	0.0-0.11	A	2
3. xDR Storage	INDEX	0	3	0.0-0.11	A	2
3. PDU Storage	N/A	1	3	1.0-1.11	A	2
4. xDR Storage	DATA	2	4	2.0-2.11	B	2
4. xDR Storage	INDEX	2	4	2.0-2.11	B	2
4. PDU Storage	N/A	3	4	3.0-3.11	B	2

template_ixp_xdr.xml (use this for xDR Storage)

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<SharedStorageConfig>
  <VdiskConfig>
    <Controllers>
      <Controller>Put_SAN_Controller_A_IP_address_here</Controller>
```

```
      <Vdisks>
        <Vdisk>
          <Name>Y_data</Name>
```
(replace Y with 1 when preparing the first xDR Storage server of the pool, 2 for the second xDR Storage server in a pool, ...)
```
          <Owner>A</Owner>
          <RAIDlevel>5</RAIDlevel>
          <Disks>
            <Disk>X.0</Disk>
```
(0 for the first storage, 1 for the second ... within the MSA)
```
            <Disk>X.1</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.2</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.3</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.4</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.5</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
          </Disks>
        </Vdisk>

        <Vdisk>
          <Name>Y_index</Name>
```
(replace Y with 1 when preparing the first xDR Storage server of the pool, 2 for the second xDR Storage server in a pool, ...)
```
          <Owner>A</Owner>
          <RAIDlevel>5</RAIDlevel>
          <Disks>
            <Disk>X.6</Disk>
```
(0 for the first storage, 1 for the second ..within the MSA)
```
            <Disk>X.7</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.8</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.9</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.10</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
            <Disk>X.11</Disk>
```
(0 for the first storage, 1 for the second storage...)
```
          </Disks>
        </Vdisk>
      </Vdisks>
    </Controllers>
  </VdiskConfig>

  <HostVolumeConfig>
    <HostVolume>
      <Host>Put_IXP_XDR_server_IP_address_here</Host>
      <VolumeMB>1499915</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/opt/oracle/oradata</MountPoint>
      <Controller>Put_SAN_Controller_IP_Address_here</Controller>
```
(controller A or B according to the load balancing recommendations as explained above)
```
      <LUN>XX</LUN>
```
(replace XX with actual logical unit number - LUN)
```
      <VdiskName>Y_data</VdiskName>
```
(replace Y with 1 when preparing the first xDR Storage server of the pool, 2 for the second xDR Storage server in a pool, ...)
```
      <VolumeName>Y_oracle_data</VolumeName>
```
(replace Y with 1 when preparing the first xDR Storage server of the pool, 2 for the second xDR Storage server in a pool, ...)
```
    </HostVolume>

    <HostVolume>
      <Host>Put_IXP_XDR_server_IP_address_here</Host>
      <VolumeMB>1499915</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/opt/oracle/oraindex</MountPoint>
      <Controller>Put_SAN_Controller_IP_Address_here</Controller>
```
(controller A or B according to the load balancing recommendations as explained above)

```
      <LUN>XX</LUN>(replace XX with actual logical unit number - LUN)
      <VdiskName>Y_index</VdiskName>>(replace Y with 1 when preparing the first xDR Storage server of the pool, 2 for the second xDR Storage  server in a pool, ...)
      <VolumeName>Y_oracle_index</VolumeName>>(replace Y with 1 when preparing the first xDR Storage server of the pool, 2 for the second xDR Storage  server in a pool, ...)
    </HostVolume>
  </HostVolumeConfig>

</SharedStorageConfig>
```

template_ixp_pdu.xml (use this for PDU Storage)

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<SharedStorageConfig>
 <VdiskConfig>
    <Controllers>
      <Controller>Put_SAN_Controller_A_IP_address_here</Controller>
      <Vdisks>
        <Vdisk>
          <Name>Y_pdu</Name>(replace Y with 1 when preparing the first PDU Storage server of the pool, 2 for the second PDU Storage  server in a pool, ...)
          <Owner>A</Owner>
          <RAIDlevel>5</RAIDlevel>
          <Disks>
            <Disk>X.0</Disk>  (0 for the first storage, 1 for the second ..within the MSA)
            <Disk>X.1</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.2</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.3</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.4</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.5</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.6</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.7</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.8</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.9</Disk>  (0 for the first storage, 1 for the second storage)
            <Disk>X.10</Disk>(0 for the first storage, 1 for the second storage)
          </Disks>
        </Vdisk>
      </Vdisks>

      <GlobalSpares>
        <Disk>X.11</Disk>  (0 for the first storage, 1 for the second storage)
      </GlobalSpares>

    </Controllers>
  </VdiskConfig>

  <HostVolumeConfig>
    <HostVolume>
      <Host>Put_IXP_PDU_server_IP_address_here</Host>
      <VolumeMB>1499915</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/pdu_1</MountPoint>
      <Controller>Put_SAN_Controller_B_IP_Address_here</Controller>
      <LUN>XX</LUN>(replace XX with actual logical unit number - LUN)
      <VdiskName>Y_pdu</VdiskName>(replace Y with 1 when preparing the first PDU Storage server of the pool, 2 for the second PDU Storage  server in a pool, ...)
```

```
      <VolumeName>Y_pdu_1</VolumeName>(replace Y with 1 when preparing the first PDU Storage server of the pool, 2 for the second PDU Storage  server in a pool, ...)
    </HostVolume>

    <HostVolume>
      <Host>Put_IXP_PDU_server_IP_address_here</Host>
      <VolumeMB>1499915</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/pdu_2</MountPoint>
      <Controller>Put_SAN_Controller_IP_Address_here</Controller>
      <LUN>XX</LUN>(replace XX with actual logical unit number - LUN)
      <VdiskName>Y_pdu</VdiskName>(replace Y with 1 when preparing the first PDU Storage server of the pool, 2 for the second PDU Storage  server in a pool, ...)
      <VolumeName>Y_pdu_2</VolumeName>(replace Y with 1 when preparing the first PDU Storage server of the pool, 2 for the second PDU Storage  server in a pool, ...)
    </HostVolume>
  </HostVolumeConfig>
</SharedStorageConfig>
```

11.2 NSP template

template_nsp.xml

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<SharedStorageConfig>
  <VdiskConfig>
    <Controllers>
      <Controller>Put_SAN_Controller_IP_address_here</Controller>
      <Vdisks>
        <Vdisk>
          <Name>nsp_data</Name>
          <Owner>B</Owner>
          <RAIDlevel>10</RAIDlevel>
          <Disks>
            <Disk>0.2</Disk>
            <Disk>0.3</Disk>
            <Disk>0.4</Disk>
            <Disk>0.5</Disk>
            <Disk>0.6</Disk>
            <Disk>0.7</Disk>
          </Disks>
        </Vdisk>
      </Vdisks>
      <Vdisks>
        <Vdisk>
          <Name>nsp_redo</Name>
          <Owner>A</Owner>
          <RAIDlevel>1</RAIDlevel>
          <Disks>
            <Disk>0.0</Disk>
            <Disk>0.1</Disk>
          </Disks>
        </Vdisk>
      </Vdisks>
      <Vdisks>
        <Vdisk>
          <Name>nsp_backup</Name>
```

```
          <Owner>B</Owner>
          <RAIDlevel>1</RAIDlevel>
          <Disks>
            <Disk>0.9</Disk>
            <Disk>0.10</Disk>
          </Disks>
        </Vdisk>
      </Vdisks>
      <GlobalSpares>
        <Disk>0.8</Disk>
      </GlobalSpares>
    </Controllers>
  </VdiskConfig>

  <HostVolumeConfig>
    <HostVolume>
      <Host>Put_NSP_Oracle_server_IP_address_here</Host>
      <VolumeMB>74754</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/usr/TKLC/oracle/ctrl1</MountPoint>
      <Controller>Put_SAN_Controller_IP_Address_here</Controller>
      <VdiskName>nsp_redo</VdiskName>
      <VolumeName>nsp_redo_vol</VolumeName>
    </HostVolume>
  </HostVolumeConfig>

  <HostVolumeConfig>
    <HostVolume>
      <Host>Put_NSP_Oracle_server_IP_address_here</Host>
      <VolumeMB>449974</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/usr/TKLC/oracle/oradata</MountPoint>
      <Controller>Put_SAN_Controller_IP_Address_here</Controller>
      <VdiskName>nsp_data</VdiskName>
      <VolumeName>nsp_data_vol</VolumeName>
    </HostVolume>
  </HostVolumeConfig>

  <HostVolumeConfig>
    <HostVolume>
      <Host>Put_NSP_Oracle_server_IP_address_here</Host>
      <VolumeMB>149508</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/usr/TKLC/oracle/backup</MountPoint>
      <Controller>Put_SAN_Controller_IP_Address_here</Controller>
      <VdiskName>nsp_backup</VdiskName>
      <VolumeName>nsp_backup_vol</VolumeName>
    </HostVolume>
  </HostVolumeConfig>
  </SharedStorageConfig>
```

template_nsp_backup.xml

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<SharedStorageConfig>
  <VdiskConfig>
    <Controllers>
      <Controller>Put_SAN_Controller_IP_address_here</Controller>
```

```
      <Vdisks>
        <Vdisk>
          <Name>nsp_backup</Name>
          <Owner>B</Owner>
          <RAIDlevel>1</RAIDlevel>
          <Disks>
            <Disk>0.9</Disk>
            <Disk>0.10</Disk>
          </Disks>
        </Vdisk>
      </Vdisks>
    </Controllers>
  </VdiskConfig>


  <HostVolumeConfig>
    <HostVolume>
      <Host>Put_NSP_Oracle_server_IP_address_here</Host>
      <VolumeMB>149508</VolumeMB>
      <Filesystem>ext3</Filesystem>
      <MountPoint>/usr/TKLC/oracle/backup</MountPoint>
      <Controller>Put_SAN_Controller_IP_Address_here</Controller>
      <VdiskName>nsp_backup</VdiskName>
      <VolumeName>nsp_backup_vol</VolumeName>
    </HostVolume>
  </HostVolumeConfig>

</SharedStorageConfig>
```

12. APPENDIX D: SWITCH CONFIGURATION TEMPLATE AND HOW TO UPDATE THEM

Note: Theses configurations are replaced by the ones from the customer integration guide. This is just a reminder of what was done in previous releases.

Below are the templates of the vlan.conf files. Highlighted parts need to be updated to accomodate a specific network settings. Follow the red instructions

Receive the passwords from the Password Dragon. Refer to TR006061.doc

WARNING: while updating this file make sure that there are no other characters (tabs, space) behind the "\" character. Switch config parser will fail in such case.

```
Version 1.1

###### Switch 1A Global Settings ######

switch \
  --sysloghosts=Put_PM&C_Management_VLAN2_IP_adress \
  --name=switch1A \
  --accessmethod=serial \
  --accessport=/dev/ttyS6 \
  --accesshost=localhost \
  --iosimage=/var/TKLC/switchconfig/cat4500-ipbasek9-mz.122-31.SGA8.bin \
  --enablepassword=enable_password_here (use Password Dragon) \
  --telnetpassword=telnet_password_here (use Password Dragon)\
  --consolepassword=telnet_password_here (use Password Dragon)\
  --accessportopts=baudrate=9600,databits=8,stopbits=1,parity=none \
  --comment="Upper Switch in Frame 1" \
  --switchtype=C4948 \
  --rawoptions="service timestamps debug datetime","service timestamps log
datetime","spanning-tree mode rapid-pvst","spanning-tree vlan 1-1024 priority
45056","ip route 0.0.0.0 0.0.0.0 Customer_gateway_for_uplink (Far-end gateway)"
\
  --version=1.1


snmp \
  --switchname=switch1A \
  --trapsink=SNMP_trap_host_IP (IXP: ixp-1a IP, NSP: nsp_primary IP) \
  --traps=bridge,config,cpu,envmon,flash,hsrp,mac-notif,port-sec,snmp,"storm-
control trap-rate 5",vlan-membership \
  --auth=Put_appropriate_snmp_user_here (cfguser)



ntp \
  --switchname=switch1A \
  --ntphost=Put_ntp_host_IP_here (management network IP address of PM&C)\
  --ntptz="Put_GMT_timezone_offset_here (express in hours away from UTC)"

###### Switch 1A VLAN Settings ######
```

```
# Note VLAN 1 will be used as the control VLAN.  By default this VLAN exists and
has its router interface shutdown.
# This is what we want.  So it is not defined here.

vlan \
  --name=management \
  --id=2 \
  --ip=Put_management_vlan_network_address_here (IP is the network address for
thsi subnet) \
  --netmask=Put_network_mask_here \
  --device=bond0.2 \
  --switchname=switch1A \
  --host=switch1A \
  --private \
  --manager \
  --comment="Management VLAN"

vlan \
  --name=back-end \
  --id=3 \
  --ip= Put_back-end_vlan_network_address_here (IP is the network address for
thsi subnet) \
  --netmask= Put_network_mask_here \
  --device=bond0.3 \
  --switchname=switch1A \
  --private \
  --comment="Back-End VLAN"

vlan \
  --name=front-end \
  --id=4 \
  --ip= Put_front-end_vlan_network_address_here (IP is the network address for
this subnet) \
  --netmask= Put_network_mask_here \
  --device=bond0.4 \
  --switchname=switch1A \
  --private \
  --comment="Front-End VLAN"

vlan \
  --name=cust \
  --id=10 \
  --ip= Put_cust_uplink_vlan_network_address_here (IT VLAN, IP is the network
address for thsi subnet)\
  --netmask= Put_network_mask_here \
  --device=bond0.2 \
  --public \
  --switchname=switch1A \
  --comment="Customer facing VLAN for uplink access to Customer LAN"

###### Switch 1A Switchport Settings ######

portrange \
  --range=1 \
  --porttype=portChannel \
  --switchname=switch1A \
  --rawoptions="description ISL_between_c1as1_and_c1en1-sw1","switchport trunk
allowed vlan 1-4" \
```

```
  --spanningtree="portfast"
```

No changes in this section

```
portrange \
  --range=48 \
  --porttype=gigabitEthernet \
  --vlanname=cust \
  --switchname=switch1A \
  --rawoptions="description Customer_Uplink","media-type rj45" \
  --spanningtree="portfast"

###### Switch 1A Router Interface Settings ######

interface --ifname=vlan2 \
     --vlanname=management \
     --switchname=switch1A \
     --ip=Put_switch1A_vlan2_IP_address_here (Actual interface IP address for
the switch in this subnet range for vlan) \
     --netmask=Put_netmask_here \
     --vrrpgroup=2 \
     --uplink=gigabitEthernet1/48 \
     --vip=Put_VIP_address_here (It's default gateway for vlan2) \
     --rawoptions="description management"

interface --ifname=vlan3 \
     --vlanname=back-end \
     --switchname=switch1A \
     --ip=Put_switch1A_vlan3_IP_address_here (Actual interface IP address for
the switch in this subnet range for vlan)\
     --netmask= Put_netmask_here \
     --vrrpgroup=3 \
     --uplink=gigabitEthernet1/48 \
     --vip= Put_VIP_address_here (It's default gateway for vlan3) \
     --rawoptions="description back-end"

interface --ifname=vlan4 \
     --vlanname=front-end \
     --switchname=switch1A \
     --ip= Put_switch1A_vlan4_IP_address_here (Actual interface IP address for
the switch in this subnet range for vlan)\
     --netmask= Put_netmask_here \
     --vrrpgroup=4 \
     --uplink=gigabitEthernet1/48 \
     --vip= Put_VIP_address_here (It's default gateway for vlan4) \
     --rawoptions="description front-end"

interface --ifname=vlan10 \
     --vlanname=cust \
     --switchname=switch1A \
     --ip= Put_switch1A_vlan10_IP_address_here \
     --netmask=Put_netmask_here \
     --vrrpgroup=10 (this value need to be modified depending on customer
network) \
     --vip=Put_VIP_address_here (It's default gateway for vlan10) \
     --rawoptions="description Customer_Uplink"
```

```
###### Switch 1B Global Settings ######

switch \
  --sysloghosts=Put_PM&C_Management_VLAN2_IP_adress \
  --name=switch1B \
  --accessmethod=serial \
  --accessport=/dev/ttyS7 \
  --accesshost=localhost \
  --iosimage=/var/TKLC/switchconfig/cat4500-ipbasek9-mz.122-31.SGA8.bin \
  --enablepassword=enable_password_here (use Password Dragon)  \
  --telnetpassword=telnet_password_here (use Password Dragon) \
  --consolepassword=telnet_password_here (use Password Dragon) \
  --accessportopts=baudrate=9600,databits=8,stopbits=1,parity=none \
  --comment="Upper Switch in Frame 1" \
  --switchtype=C4948 \
  --rawoptions="service timestamps debug datetime","service timestamps log
datetime","spanning-tree mode rapid-pvst","spanning-tree vlan 1-1024 priority
45056","ip route 0.0.0.0 0.0.0.0 Customer_default_gateway_for_uplink (Far-end
gateway)" \
  --version=1.1


snmp \
  --switchname=switch1B \
  --trapsink=Put_SNMP_trap_host_IP_here (ixp: ixp-1a ip, nsp: nsp_primary IP) \
  --traps=bridge,config,cpu,envmon,flash,hsrp,mac-notif,port-sec,snmp,"storm-
control trap-rate 5",vlan-membership \
  --auth=Put_appropriate_user_here (cfguser)

ntp \
  --switchname=switch1B \
  --ntphost=Put_ntp_host_IP_here (management network IP address of PM&C) \
  --ntptz="Put_GMT_timezone_offset_here (express in hours away from UTC)"

###### Switch 1B VLAN Settings ######

# Note VLAN 1 will be used as the control VLAN.  By default this VLAN exists and
has its router interface shutdown.
# This is what we want.  So it is not defined here.

vlan \
  --name=management \
  --id=2 \
  --ip= Put_management_vlan_network_address_here (IP is the network address for
this subnet) \
  --netmask=Put_network_mask_here\
  --device=bond0.2 \
  --switchname=switch1B \
  --host=switch1B \
  --private \
  --manager \
  --comment="Management VLAN"


vlan \
  --name=back-end \
  --id=3 \
```

```
  --ip= Put_back-end_vlan_network_address_here (IP is the network address for
this subnet)\
  --netmask= Put_network_mask_here \
  --device=bond0.3 \
  --switchname=switch1B \
  --private \
  --comment="Back-End VLAN"

vlan \
  --name=front-end \
  --id=4 \
  --ip= Put_front-end_vlan_network_address_here (IP is the network address for
this subnet)\
  --netmask=Put_network_mask_here \
  --device=bond0.4 \
  --switchname=switch1B \
  --private \
  --comment="Front-End VLAN"

vlan \
  --name=cust \
  --id=10 \
  --ip= Put_cust_uplink_vlan_network_address_here (IT VLAN, IP is the network
address for thsi subnet) \
  --netmask= Put_network_mask_here \
  --device=bond0.2 \
  --public \
  --switchname=switch1B \
  --comment="Customer facing VLAN for uplink access to Customer LAN"

###### Switch 1B Switchport Settings ######

portrange \
  --range=1 \
  --porttype=portChannel \
  --switchname=switch1B \
  --rawoptions="description ISL_between_c1as2_and_c1en1-sw2","switchport trunk
allowed vlan 1-4" \
  --spanningtree="portfast"
```

No changes in this section

```
portrange \
  --range=48 \
  --porttype=gigabitEthernet \
  --vlanname=cust \
  --switchname=switch1B \
  --rawoptions="description Customer_Uplink","media-type rj45" \
  --spanningtree="portfast"

###### Switch 1B Router Interface Settings ######

interface --ifname=vlan2 \
     --vlanname=management \
     --switchname=switch1B \
     --ip= Put_switch1B_vlan2_IP_address_here Actual interface IP address for
the switch in this subnet range for vlan)\
```

```
     --netmask=Put_netmask_here\
     --vrrpgroup=2 \
     --uplink=gigabitEthernet1/48 \
     --vip= Put_VIP_address_here (It's default gateway for vlan2)\
     --rawoptions="description management"

interface --ifname=vlan3 \
     --vlanname=back-end \
     --switchname=switch1B \
     --ip=Put_switch1B_vlan3_IP_address_here Actual interface IP address for the
switch in this subnet range for vlan)\
     --netmask= Put_netmask_here \
     --vrrpgroup=3 \
     --uplink=gigabitEthernet1/48 \
     --vip= Put_VIP_address_here (It's default gateway for vlan3) \
     --rawoptions="description back-end"

interface --ifname=vlan4 \
     --vlanname=front-end \
     --switchname=switch1B \
     --ip=Put_switch1B_vlan4_IP_address_here Actual interface IP address for the
switch in this subnet range for vlan)\
     --netmask= Put_netmask_here \
     --vrrpgroup=4 \
     --uplink=gigabitEthernet1/48 \
     --vip= Put_VIP_address_here (It's default gateway for vlan4) \
     --rawoptions="description front-end"

interface --ifname=vlan10 \
     --vlanname=cust \
     --switchname=switch1B \
     --ip= Put_switch1B_vlan10_IP_address_here Actual interface IP address for
the switch in this subnet range for vlan)\
     --netmask= Put_netmask_here \
     --vrrpgroup=10 (this value need to be modified depending on customer
network) \
     --vip= Put_VIP_address_here (It's default gateway for vlan10) \
     --rawoptions="description Customer_Uplink"

###### Switch 3020 Global Settings ######

switch \
  --name=c7000_3020_switch \
  --accessmethod=serial \
  --accessport=/dev/ttyS6 \
  --accesshost=localhost \
  --iosimage=/var/TKLC/switchconfig/cbs30x0-ipbasek9-mz.122-46.SE.bin \
  --enablepassword=enable_password_here (use Password Dragon) \
  --telnetpassword=telnet_password_here (use Password Dragon) \
  --consolepassword=telnet_password_here (use Password Dragon) \
  --accessportopts=baudrate=9600,databits=8,stopbits=1,parity=none \
  --rawoptions="spanning-tree mode rapid-pvst","spanning-tree vlan 1-1024
priority 53248","interface fa0","ip address dhcp","exit" \
  --comment="Any c7000 3020 Switch in any enclosure" \
  --switchtype=C3020 \
  --version=1.1

snmp \
```

```
  --switchname=c7000_3020_switch \
  --trapsink=Put_SNMP_trap_host_IP_here (ixp: ixp-1a ip, nsp: nsp_primary IP) \
  --traps=bridge,config,cpu,envmon,flash,hsrp,mac-notif,port-sec,snmp,"storm-
control trap-rate 5",vlan-membership \
  --auth=Put_appropriate_user_here (cfguser)

ntp \
  --switchname=c7000_3020_switch \
  --ntphost=Put_ntp_host_IP_here (management network IP address of PM&C) \
  --ntptz="Put_GMT_timezone_offset_here (express in hours away from UTC)"

###### Switch 3020 VLAN Settings ######

# Note VLAN 1 will be used as the control VLAN.  By default this VLAN exists and
has its router interface shutdown.
# This is what we want.  So it is not defined here.

vlan \
  --name=management \
  --id=2 \
  --ip=Put_management_vlan_network_address_here (IP is the network address for
this subnet range for vlan)\
  --netmask=Put_network_mask_here\
  --device=bond0.2 \
  --switchname=c7000_3020_switch \
  --host=c7000_3020_switch \
  --private \
  --manager \
  --comment="Management VLAN"

vlan \
  --name=back-end \
  --id=3 \
  --ip=Put_back-end_vlan_network_address_here (IP is the network address for
this subnet range for vlan)\
  --netmask=Put_network_mask_here \
  --device=bond0.3 \
  --switchname=c7000_3020_switch \
  --private \
  --comment="Back-End VLAN"

vlan \
  --name=front-end \
  --id=4 \
  --ip=Put_front-end_vlan_network_address_here (IP is the network address for
this subnet range for vlan)\
  --netmask=Put_network_mask_here \
  --device=bond0.4 \
  --switchname=c7000_3020_switch \
  --public \
  --comment="Front-End VLAN"

###### Switch 3020 Switchport Settings ######

portrange \
  --range=1 \
  --porttype=portChannel \
  --switchname=c7000_3020_switch \
```

```
  --rawoptions="description ISL_between_4948_and_3020","switchport trunk allowed
vlan 1-4" \
  --spanningtree="portfast"
```

No more changes after that

13. APPENDIX E: DEFAULT IP ADDRESSING

Shown below are the default IP addresses to be used for test when customer IP addresses are not available.

The following table is to be used for the IMF/PMF Cabinet

Server	eth01 IP Address	eth03 IP Address	iLO IP Address	Netmask	Gateway
Server A	192.168.100.10	192.168.100.30	192.168.100.50	255.255.255.0	192.168.100.1
Server B	192.168.100.11	192.168.100.31	192.168.100.51	255.255.255.0	192.168.100.1
Server C	192.168.100.12	192.168.100.32	192.168.100.52	255.255.255.0	192.168.100.1
Server D	192.168.100.13	192.168.100.33	192.168.100.53	255.255.255.0	192.168.100.1
Server E	192.168.100.14	192.168.100.34	192.168.100.54	255.255.255.0	192.168.100.1
Server F	192.168.100.15	192.168.100.35	192.168.100.55	255.255.255.0	192.168.100.1
Server G	192.168.100.16	192.168.100.36	192.168.100.56	255.255.255.0	192.168.100.1
Server H	192.168.100.17	192.168.100.37	192.168.100.57	255.255.255.0	192.168.100.1
Server I	192.168.100.18	192.168.100.38	192.168.100.58	255.255.255.0	192.168.100.1
Server J	192.168.100.19	192.168.100.39	192.168.100.59	255.255.255.0	192.168.100.1
Server K	192.168.100.20	192.168.100.40	192.168.100.60	255.255.255.0	192.168.100.1
Server L	192.168.100.21	192.168.100.41	192.168.100.61	255.255.255.0	192.168.100.1

The following table is to be used for the PIC Control cabinet

Server	eth01 IP Address	eth02 IP Address	iLO IP Address	Netmask	Gateway
Server A	192.168.100.10	192.168.100.30*	192.168.100.50	255.255.255.0	192.168.100.1
Server B	192.168.100.11	N/A	192.168.100.51	255.255.255.0	192.168.100.1
Server C	192.168.100.12	N/A	192.168.100.52	255.255.255.0	192.168.100.1
Server D	192.168.100.13	192.168.100.30**	192.168.100.53	255.255.255.0	192.168.100.1
Server E	192.168.100.14	N/A	192.168.100.54	255.255.255.0	192.168.100.1
Server F	192.168.100.15	N/A	192.168.100.55	255.255.255.0	192.168.100.1
Server G	192.168.100.16	N/A	192.168.100.56	255.255.255.0	192.168.100.1
Server H	192.168.100.17	N/A	192.168.100.57	255.255.255.0	192.168.100.1
Server I	192.168.100.18	N/A	192.168.100.58	255.255.255.0	192.168.100.1
Server J	192.168.100.19	N/A	192.168.100.59	255.255.255.0	192.168.100.1
Server K	192.168.100.20	N/A	192.168.100.60	255.255.255.0	192.168.100.1
Server L	192.168.100.21	N/A	192.168.100.61	255.255.255.0	192.168.100.1

* For One Box NSP (Server D)
** For Four Box NSP (Server A)