

**Oracle® Communications
Diameter Signaling Router 8.0**

C-Class Hardware and Software Installation Procedure 1/2

E76180 Revision 01

April 2017

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Chapter 1

Introduction

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This document provides the methods and procedures used to configure the DSR Management Server TVOE and PM&C, initialize the system's aggregation switches and enclosure switches, and perform the initial configuration of the DSR system's RMS and HP c-Class enclosure.

Following the execution of the subject document the DSR user will follow a release-specific DSR application procedure document (E76181) to complete the DSR application specific configurations.

The procedures in this document should be executed in order. Skipping steps or procedures is not allowed unless explicitly stated.

Note: Before executing any procedures in this document, power must be available to each component, and all networking cabling must be in place. Switch uplinks to the customer network should remain disconnected until instructed otherwise.

The audience for this document includes Oracle customers and:

- Software System
- Product Verification
- Documentation
- Customer Service including Software Operations and First Office Applications
- Oracle Partners

Revision History

Date	Description
October 2016	Initial release

References

For HP Blade and RMS firmware upgrades, Software Centric customers will need the HP Solutions Firmware Upgrade Pack, Software Centric Release Notes on <http://docs.oracle.com> under Platform documentation. Beyond the minimum version specified for the Platform below, the application will dictate which Firmware Upgrade Packs to use.

1. *HP Solutions Firmware Upgrade Pack*, version 2.x.x (the latest is recommended if an upgrade is to be performed, otherwise version 2.2.9 is the minimum).
2. *HP Solutions Firmware Upgrade Pack, Software Centric Release Notes* (the latest version is recommended if an upgrade is performed, otherwise the minimum version is 2.2.9).
3. *TPD Initial Product Manufacture Software Installation Procedure*, E53017.
4. *DSR Software Installation and Configuration Procedure Part 2/2*, E76181.

Acronyms

An alphabetized list of acronyms used in the document:

Table 1: Acronyms

Acronym	Definition
BIOS	Basic Input Output System
CA	Certificate Authority
CSR	Certificate Signing Request
DNS	Domain Name System
DSCP	Differentiated Services Code Point, a form of QoS
DVD	Digital Versatile Disc
EBIPA	Enclosure Bay IP Addressing
FMA	File Management Area
FQDN	Fully Qualified Domain Name
FRU	Field Replaceable Unit

Acronym	Definition
HP c-Class	HP blade server offering
HP FUP	HP Firmware Upgrade Pack
iLO	Integrated Lights Out remote management port
iLOM, ILOM	Integrated Lights Out Manager
IE	Internet Explorer
IPM	Initial Product Manufacture – the process of installing TPD on a hardware platform
MSA	Modular Smart Array
NAPD	Network Architecture Planning Diagram
OA	HP Onboard Administrator
OS	Operating System (e.g. TPD)
PM&C	Platform Management & Configuration
RMS	Rack Mount Server
QOS	Quality of Service
SAN	Storage Area Network
SFTP	Secure File Transfer Protocol
SNMP	Simple Network Management Protocol
SSO	Single Sign On
TPD	Tekelec Platform Distribution
TVOE	Tekelec Virtual Operating Environment
VSP	Virtual Serial Port

Terminology

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

Describes the location/server on which the action takes place and the operation to be performed.

*Each command that the technician is to enter is in **bold Courier font***

1. **ServerX:** Connect to the console of the server

Establish a connection to the server using cu on the terminal server/console

```
$ cu -l /dev/ttyS7
```

Figure 1: Example Of An Instruction That Indicates The Server To Which It Applies

Table 2: Terminology

Community String	An SNMP community string is a text string used to authenticate messages sent between a management station and a device (the SNMP agent). The community string is included in every packet that is transmitted between the SNMP manager and the SNMP agent.
Domain Name System	A system for converting hostnames and domain names into IP addresses on the Internet or on local networks that use the TCP/IP protocol
Management Server	An HP ProLiant DL 360/DL 380 that has physical connectivity required to configure switches and may host the PM&C application or serve other configuration purposes.
NetBackup Feature	Feature that provides support of the Symantec NetBackup client utility on an application server.
Non-Segregated Network	Network interconnect where the control and management, or customer, networks utilize the same physical network.
PM&C	An application that supports platform-level capability to manage and provision platform components of the system, so they can host applications.
Segregated Network	Network interconnect where the control and management, or customer, networks utilize separate physical networks.
Server	A generic term to refer to a server, regardless of underlying hardware, be it physical hardware or a virtual TVOE guest server.

Software Centric	A term used to differentiate between customers buying both hardware and software from Oracle, and customers buying only software.
Virtual PM&C	Additional term for PM&C - used in networking procedures to distinguish activities done on a PM&C guest and not the TVOE host running on the Management server.

My Oracle Support (MOS)

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

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

1. Select **2** for New Service Request
2. Select **3** for Hardware, Networking and Solaris Operating System Support
3. Select one of the following options:
 - For Technical issues such as creating a new Service Request (SR), Select **1**
 - For Non-technical issues such as registration or assistance with MOS, Select **2**

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

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

Emergency Response

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

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

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

- Loss of the system ability to provide any required critical or major trouble notification

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

Customer Training

Oracle University offers training for service providers and enterprises. Visit our web site to view, and register for, Oracle Communications training:

<http://education.oracle.com/communication>

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site:

www.oracle.com/education/contacts

Locate Product Documentation on the Oracle Help Center Site

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

1. Access the Oracle Help Center site at <http://docs.oracle.com>.
2. Click **Industries**.
3. Under the Oracle Communications subheading, click the **Oracle Communications documentation** link.
The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."
4. Click on your Product and then the Release Number.
A list of the entire documentation set for the selected product and release appears.
5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.

Chapter 2

Acquiring Firmware

Topics:

- [*Acquiring Firmware.....17*](#)

Acquiring Firmware

Several procedures in this document pertain to the upgrading of firmware on various servers and hardware devices that are part of the Platform configuration.

Platform 7.0.x servers and devices requiring possible firmware updates are:

- HP c7000 BladeSystem Enclosure Components:
 - Onboard Administrator
 - 1Gb Ethernet Pass-Thru Module
 - Cisco 3020 Enclosure Switches
 - HP6120XG Enclosure Switches
 - HP6125G Enclosure Switches
 - HP6125XLG Enclosure Switches
 - Brocade Fibre Channel Switches
 - Blade Servers (BL460/BL620)
- HP Rack Mount Servers (DL380)
- HP External Storage Systems
 - MSA2012fc
 - D2200sb (Storage Blade)
 - D2220sb (Storage Blade)
 - D2700
 - P2000
- Cisco 4948/4948E/4948E-F Rack Mount Network Switches

HP

Software Centric Customers do not receive firmware upgrades through Oracle. Instead, refer to the *HP Solutions Firmware Upgrade Pack, Software Centric Release Notes* on <http://docs.oracle.com> under Platform documentation. The latest release is recommended if an upgrade is performed, otherwise release 2.2.9 is the minimum.

The required firmware and documentation for upgrading the firmware on HP hardware systems and related components are distributed as the *HP Solutions Firmware Upgrade Pack 2.x.x*. The minimum firmware release required for Platform 7.0.x is *HP Solutions Firmware Upgrade Pack 2.2.9*. However, if a firmware upgrade is needed, the current GA release of the *HP Solutions Firmware Upgrade Pack 2.x.x* should be used.

Each version of the *HP Solutions Firmware Upgrade Pack* [2] contains multiple items including media and documentation. If an HP FUP 2.x.x version newer than the Platform 7.0.x minimum of HP FUP 2.2.9 is used, then the *HP Solutions Firmware Upgrade Guide* [3] should be used to upgrade the firmware. Otherwise, the Upgrade Guide of the *HP Solutions Firmware Upgrade Pack* [2] is not used for new installs. Instead, this document provides its own upgrade procedures for firmware.

The three pieces of required firmware media provided in the *HP Solutions Firmware Upgrade Pack 2.x.x* releases are:

Acquiring Firmware

- HP Service Pack for ProLiant (SPP) firmware ISO image
- HP Service Pack for ProLiant (SPP) firmware USB image
- HP MISC Firmware ISO image

Refer to the Release Notes of the *HP Solutions Firmware Upgrade Pack* [2] to determine specific firmware versions provided. Contact [My Oracle Support \(MOS\)](#) for more information on obtaining the HP Firmware Upgrade Pack.

Chapter 3

Install Overview

Topics:

- [Required Materials.....20](#)
- [Installation Strategy.....20](#)
- [SNMP Configuration.....21](#)
- [NTP Strategy.....22](#)
- [Overview of DSR Networks.....23](#)

This section contains the installation overview, and includes information about required materials, strategies, and SNMP configuration.

This section will configure the DSR base hardware systems (RMS and HP c-Class enclosure) (RMS and Blade IPM, Networking, Enclosure and PM&C Configuration). Following the execution of this document the DSR user will follow a DSR application procedure document (*E76181*) to complete the DSR application specific configurations.

Note that IPM refers to installing either TVOE or TPD on the target system. TVOE is used when virtualization is needed (e.g., for the PM&C and NO/SO). TPD is used for systems that do not require virtualization and for the Virtual Machines.

Required Materials

1. One (1) ISO of TPD 7.x, release specified by Release Notes.
2. One (1) ISO of PM&C 6.x, release specified by Release Notes.
3. One (1) USB of TVOE 3.0, release specified by Release Notes.
4. One (1) USB or ISO of DSR and all configuration files and templates acquired via the DSR ISO.
5. Passwords for users on the local system.
6. Access to the iLO Terminal or direct access to the server VGA port.
7. *HP Solutions Firmware Upgrade Pack*, version 2.x.x (the latest version must be used if an upgrade is to be performed, otherwise version 2.2.9 is the minimum). A 4GB or larger USB Flash Drive.
8. NAPD and all relevant configuration materials for ALL sites involved. This includes host IP addresses, site network element XML files, and netConfig configuration files.
9. Keyboard and monitor if configuring iLO addresses.

Note: Customers are required to download all software from the Oracle Software Delivery Cloud (OSDC). A readme file which provides instructions for the Customer to create required bootable USBs using the .usb file will be included with the software. Please obtain required bootable USBs from the customer representative.

Installation Strategy

To ensure a successful application installation, carefully plan and assess all configuration materials and installation variables. After a customer site survey has been conducted, an installer can use this section to plan the exact procedure list that should be executed at each site.

The following list summarizes this process.

1. An overall installation requirement is established. This data that should be collected:
 - The total number of sites
 - The number of servers at each site and their role(s)
 - Determine whether the application's networking interface terminates on a Layer 2 or Layer 3 boundary
 - Establish the number of enclosures at each site (if any)
 - Determine if the application uses rack-mount servers or server blades
 - What time zone should be used across the entire collection of application sites
 - Will SNMP traps be viewed at the application level, or will an external NMS be used (or both)
2. A site survey is conducted to determine exact networking and site details. Additionally, IP networking options must be well understood, and IP address allocations collected from the customer, in order to complete switch configurations.

SNMP Configuration

The network-wide plan for SNMP configuration should be decided upon before DSR installation proceeds. This section provides some recommendations for these decisions.

SNMP traps can originate from the following entities in a DSR installation:

- DSR Application Servers (NOAMP, SOAM, MPs of all types)
- DSR Auxiliary Components (OA, Switches, TVOE hosts, PMAC)

DSR application servers can be configured to:

1. Send all their SNMP traps to the NOAMP via merging from their local SOAM. All traps will terminate at the NOAMP and be viewable from the NOAMP GUI (entire network) and the SOAM GUI (site specific) if only NOAMP and SOAM are configured as Manager and the **Traps Enabled** checkbox is selected for these managers on **Main Menu > Administration > Remote Servers > SNMP Trapping screen**. This is the default configuration option.
2. Send all their SNMP traps to an external Network Management Station (NMS). The traps will NOT be seen at the SOAM OR at the NOAM. They will be viewable at the configured NMS(s) only if the external NMS is configured as Manager and **Traps Enabled** checkbox is selected for this manager on **Main Menu > Administration > Remote Servers > SNMP Trapping screen**.
3. Send SNMP traps from individual servers like MPs of all types If **Traps from Individual Servers** check box is selected on **Main Menu > Administration > Remote Servers > SNMP Trapping screen**.

Application server SNMP configuration is done from the NOAMP GUI, near the end of DSR installation. See the procedure list for details.

DSR Auxiliary components must have their SNMP trap destinations set explicitly. Trap destinations can be the NOAMP VIP, the SOAMP VIP, or an external (customer) NMS. The recommended configuration is as follows:

The following components:

- TVOE for PMAC server
- PMAC (App)
- OAs
- All Switch types (4948, 3020, 6120, 6125)
- TVOE for DSR Servers

Should have their SNMP trap destinations set to:

1. The local SOAM VIP
2. The customer NMS, if available

Note: All the entities must use the same Community String during configuration of the NMS server.

Note: SNMP community strings i.e. (Read Only or Read Write SNMP community strings) should be same for all the components like OAM/MP servers, PMACs, TVOE and external NMS.

Note: Default SNMP Trap port used to receive traps is 162. Customer can provide the port number from the SNMP configuration screen

NTP Strategy

The following set of general principals capture the recommendations for NTP configuration of DSR.

Principle 1 - Virtual guests should not be used as NTP servers

Avoid specifying virtual guests as NTP references for other servers. Guest emulated clocks have been shown to result in poor NTP server behavior

Principle 2 - Virtual guests should synchronize to their virtual hosts

When virtualization is used in the product deployment, virtual guests should use their TVOE hosts as their NTP references.

Principle 3 - Follow a topology based approach

MP servers should use their topology parents (SOAMs in a three tier topology), or if those parents are virtual guests, the enclosing virtual hosts should be used instead. The PM&C TVOE host should be used as a third NTP source. See [Figure 2: Per Site NTP Topology](#) for clarification.

Similarly SOAM servers should use their topology parents (NOAMs), or if those parents are virtual guests, the enclosing virtual hosts should be used instead. See [Figure 2: Per Site NTP Topology](#) for clarification.

NOAMP and other A-Level servers should use a pool of reliable, customer provided references if the NOAMPs are implemented in hardware, otherwise they should sync to their virtual hosts.

Principle 4 - Provide a robust pool of sources

The pool of customer NTP server references should be of stratum 3 or above, accurate and highly reliable. If possible both local site server and backup remote site servers should be provided. Three or more customer NTP sources are required.

Principle 5 - Prefer local references

When references from multiple sites or networks are used on one server, the "prefer" keyword should be applied to the local references.

Principle 6 - Ensure connectivity

Care should be taken to ensure that all NTP references are reachable through the appropriate networking configuration. In particular firewall rules must be correctly specified to allow NTP clients to connect to their specified references.

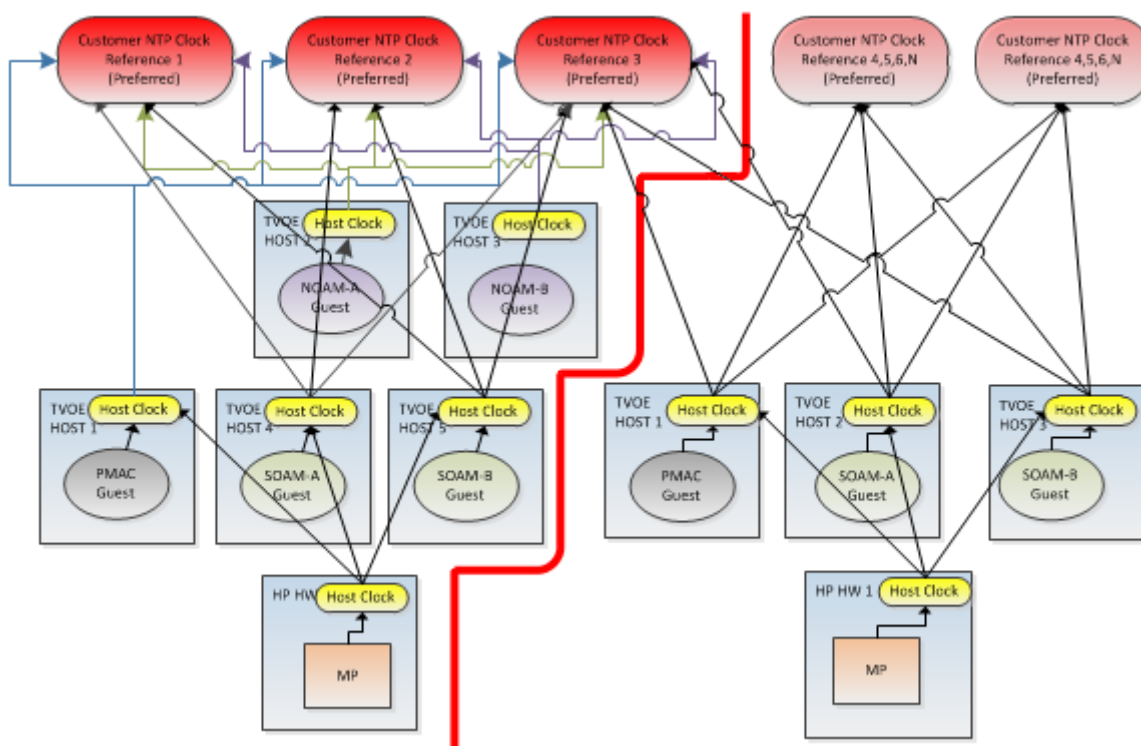


Figure 2: Per Site NTP Topology

Overview of DSR Networks

This table presents an overview of the networks configured and used by DSR at a site. Based on the deployment type/requirements, the networks could be physically or logically separated via VLANs.

Network Name	Default VLAN ID*	Routeable	Description
Control	1	No	Network used by PM&C to IPM the servers/blades/VMs. Refer to the NAPD for site-specific IP information. (IPs are assigned via by the PM&C using DHCP)
Management	2	Yes	Network used for iLO interfaces, OAs, and enclosure switches. Also used to provide remote access to the TVOE and PM&C servers

Network Name	Default VLAN ID*	Routable	Description
XMI	3	Yes	Network used to provide access to the DSR entities (GUI, ssh), and for inter-site communication
IMI	4	No	Network used for intra-site communication
XSI-1	5	Yes	Network used for DSR signaling traffic
XS2-XSI-16**	6-20	Yes	Networks used for DSR signaling traffic
Replication**	21	Yes	Network used for DSR PCA Secondary Replication (i.e., PCA)

* The VLAN ID assignments are site and deployment specific.

** Optional

Chapter 4

Software Installation Procedures

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This section contains the software installation procedures, including preparation and configuration information for a site.

The procedures in this section are expected to be executed in the order presented in this section.

If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to [My Oracle Support \(MOS\)](#).

Sudo

Platform 6.7 introduced a new non-root user, admusr. As a non-root user, many commands (when run as admusr) now require the use of **sudo**. Using **sudo** will require a password with the first command, as well as intermittently over a period of time. Therefore, if a prompt for [sudo] password: appears, the user should re-enter the admusr login password.

Example:

```
[admusr@hostname ~]$ sudo <command>
[sudo] password for admusr: <ENTER
PASSWORD HERE>
<command output omitted>
[admusr@hostname ~]$
```

Configure and IPM Management Server

Note: The Management Server is installed as a Virtual Host environment, and will host the PM&C application, and may host other DSR applications (as defined by the deployment configuration for the customer site).

Note: Depending on the deployment plan, a server may be IPM'ed with either TVOE (if virtualization is needed) or TPD (if no virtualization is needed)

Installing TVOE on the Management Server

Install the TVOE Hypervisor platform on the Management Server

The PM&C is not available to do an IPM of the TVOE management server. It is necessary to physically provide the TVOE media via a bootable USB. Refer to section [Required Materials](#) for more information.

1. For more information about configuring the iLO IP address, refer to Appendix F in *Initial Product Manufacture*, E53017 [6].
2. Install TVOE onto the Management Server
Follow [IPM DL380 Server](#) to IPM the management server with TVOE.

IPM DL380 Server

This procedure provides instructions for configuring and IPMing the DL380 server.

Needed material:

- TPD or TVOE installation media to be used for IPM.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

Configure and IPM the DL380 server

Follow Appendix [Initial Product Manufacture of RMS and Blade Servers](#) to configure and IPM the management server.

For a DL380 Gen8/Gen9 server, the correct options to use for the IPM of the management server are:

```
TPDnoraaid console=tty0 diskconfig=HWRAID,force
```

Note: Do not use the remote serial console for installation.

Upgrade Management Server Firmware

Software Centric Customers: If Oracle Consulting Services or any other Oracle Partner is providing services to a customer that includes installation and/or upgrade then, as long as the terms of the scope of those services include that Oracle Consulting Services is employed as an agent of the customer (including update of Firmware on customer provided services), then Oracle consulting services can install FW they obtain from the customer who is licensed for support from HP."

Note: This procedure uses a custom SPP version that cannot be obtained from the customer and therefore cannot be used for a Software Centric Customer. Software Centric Customers must ensure their firmware versions match those detailed in the *HP Solutions Firmware Upgrade Pack, Software Centric Release Notes* document.

DL380 Server

This procedure will upgrade the DL380 server firmware. All servers should have SNMP disabled. Refer to Appendix [Changing SNMP Configuration Settings for iLO](#).

The service Pack for ProLiant (SPP) installer automatically detects the firmware components available on the target server and will only upgrade those components with firmware older than what is provided by the SPP in the HP FUP version being used.

Procedure Reference Tables:

Variable	Value
<iilo_IP>	Fill in the IP address of the iLO for the server being upgraded _____
<iilo_admin_user>	Fill in the username of the iLO's Administrator User _____
<iilo_admin_password>	Fill in the password for the iLO's Administrator User _____
<local_HPSP_image_path>	Fill in the filename for the HP Support Pack for ProLiant ISO _____
<admusr_password>	Fill in the password for the admusr user for the server being upgraded _____

Needed Material:

- HP Service Pack for ProLiant (SPP) firmware ISO image
- HP MISC firmware ISO image (for errata updates if applicable)
- Release Notes of the *HP Solutions Firmware Upgrade Pack* [1]
- Upgrade Guide of the *HP Solutions Firmware Upgrade Pack* [1]
- 4GB or larger USB stick with the HP Service Pack for ProLiant (SPP) USB image previously written to it per directions in the *HP Solutions Firmware Upgrade Pack, Upgrade Guide*

Important Notes for this Procedure: The following procedure has some instructions meant for a production system in the field and you should be aware of the following notes regarding this procedure:

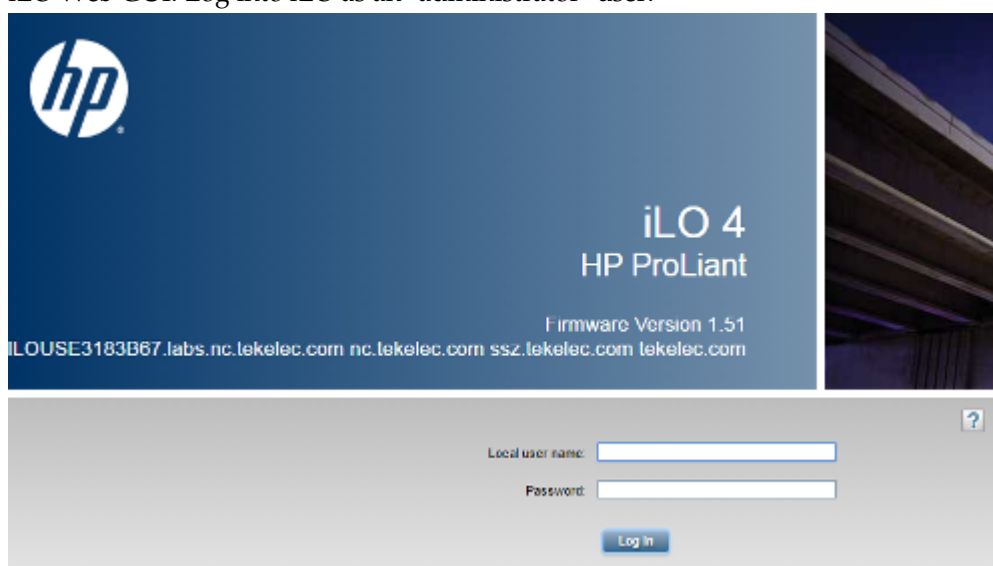
- Ignore references to the "Copy the ISO Images to the Workstation" procedure. Know that you must have the ISO files listed in the "Needed Material" section above.
- Ignore the <local_HPSP_image_path> variable.
- For the "Update Firmware Errata" step check the Release Notes of the *HP Solutions Firmware Upgrade Pack* [1] to see if there are any firmware errata items that apply to the server being upgraded. If there is, there will be a directory matching the errata's ID in the /errata directory of the HP MISC firmware ISO image. The errata directories contain the errata firmware and a README file detailing the installation steps.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Local Workstation: Insert the USB Flash Drive.
If starting with the Oracle USB media, insert the SPP USB media into a USB port on the server. See Section 3.3.1.1 of the *HP Solutions Firmware Upgrade Pack, Upgrade Guide* for steps on creating bootable SPP USB media.
2. Local Workstation: Access the iLO Web GUI.
Access the ProLiant Server iLO Web Login Page from an Internet Explorer® session using the following URL:

```
https://<iLO_IP>/
```

3. iLO Web GUI: Log into iLO as an "administrator" user.



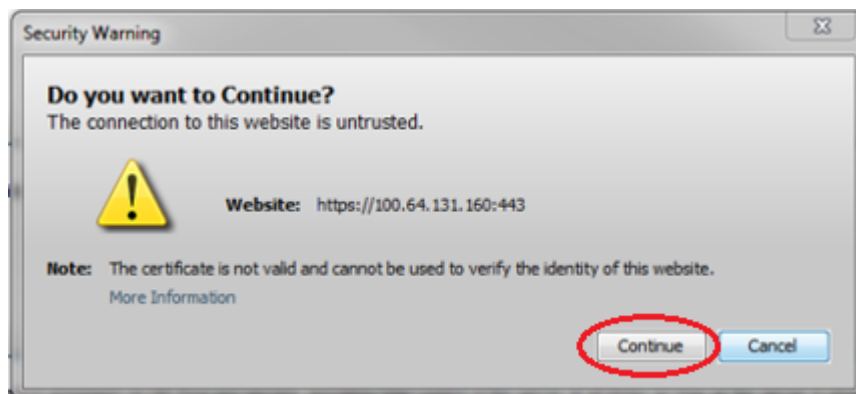
Username = <iLO_admin_user>

Password = <iLO_admin_password>

4. iLO4 Web GUI: Launch the Java Integrated Remote Console applet.
On the menu to the left navigate to the Remote Console page. Click on the Java Integrated Remote Console to open it.



5. iLO4 - Security Prompt: Acknowledge Security Warning.
If a dialog similar to the one below is presented, click **Continue** to acknowledge the issue and proceed.

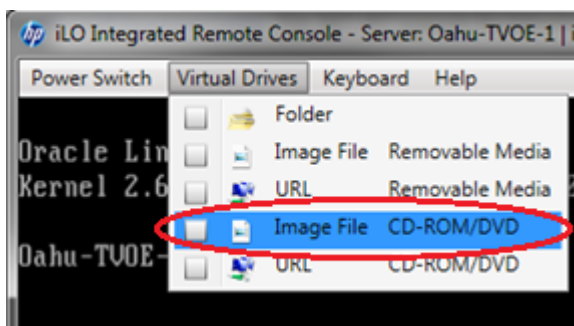


If other warning dialogs are presented you may also acknowledge them as well to proceed to the Java Integrated Remote Console applet.

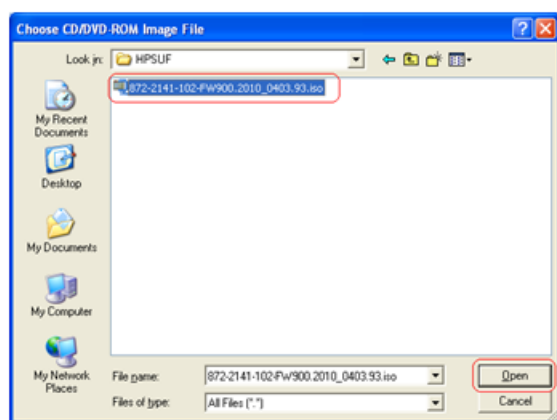
6. iLO4 - Remote Console: Create Virtual Drive Connection

If using SPP USB media plugged into the server, skip to step 17

Click on the Virtual Drives drop down menu, then click on Image File (CD-ROM/DVD).



Navigate to the *HP Support Pack for ProLiant ISO* ISO file copied to the workstation from the Copy the ISO images to the workstation procedure.



Select the ISO image file and click Open.

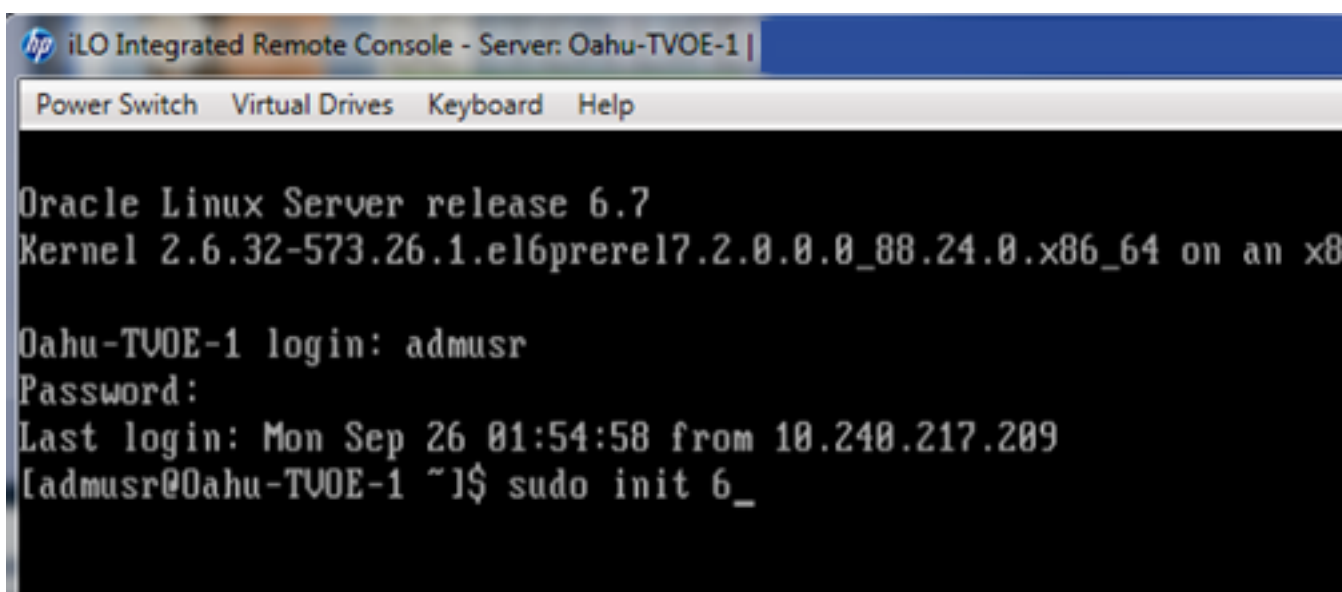
7. Remote Console: Reboot the server.

Once the remote console application opens to the login prompt, log into the server as **admusr**.

```
localhost login: admusr
Password: <admusr_password>
```

Next, initiate server reboot by executing the following command:

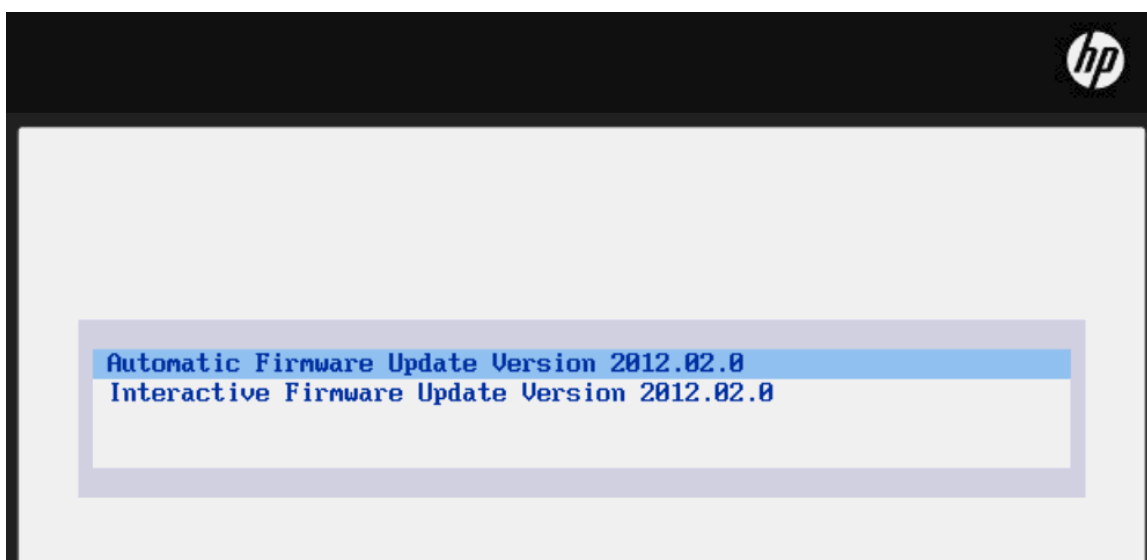
```
$ sudo init 6
```



8. Remote Console: Perform an unattended firmware upgrade.

The server will reboot into the *HP Support Pack for ProLiant ISO* and present the following boot prompt.

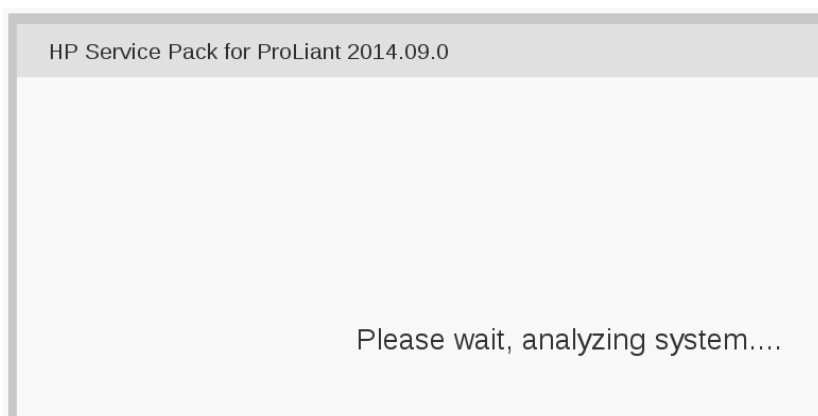
Press [Enter] to select the **Automatic Firmware Update** procedure.



If no key is pressed in 30 seconds the system will automatically perform an Automatic Firmware Update.

9. Remote Console: Monitor Installation.

Important: Do not click inside the remote console during the rest of the firmware upgrade process. The firmware install will stay at the EULA acceptance screen for a short period of time. The time it takes this process to complete will vary by server and network connection speed and will take several minutes. During that time, the following screen is displayed on the console.

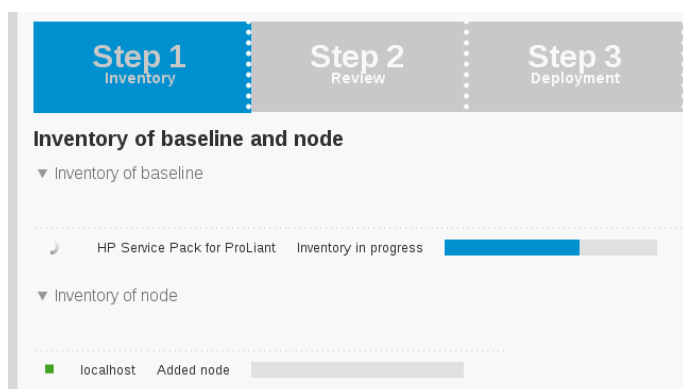


Note: No progress indication is displayed during the system scan and analysis stage. In about 10 minutes, the installation will automatically proceed to the next step.

10. Remote Console: Monitor Installation.

Once analysis is complete, the installer will begin to inventory and deploy the eligible firmware components. A progress indicator is displayed at this time, as shown below.

If iLO firmware is applied, the Remote Console will disconnect, but will continue upgrading. If the Remote Console closes due to the iLO upgrading, wait 3-5 minutes and log back in to the iLO Web GUI and re-connect to the Remote Console. The server might already be done upgrading and might have rebooted.



Note: If the iLO firmware is to be upgraded, the iLO2 session will be terminated and you will lose the remote console, virtual media and Web GUI connections to the server. This is expected and will not impact the firmware upgrade process.

11. Local Workstation: Clean up.

Once the firmware updates have been completed the server will automatically be rebooted.

- If you are upgrading a Gen8 (iLO4) server; closing the remote console window will disconnect the Virtual Image and you can close the iLO4 Web GUI browser session.
- If you are using SPP USB media plugged into the server you can now remove it.

12. Local Workstation: Verify server availability

Wait 3 to 5 minutes and verify the server has rebooted and is available by gaining access to the login prompt.

13. Update Firmware Errata:
Refer to the ProLiant Server Firmware Errata section to determine if this HP Solutions Firmware Update Pack contains additional firmware errata updates that should be applied to the server at this time.
14. Repeat for all remaining RMSs:
Repeat this procedure for all remaining RMSs, if any.

Deploying Virtualized PM&C Overview

Deployment Procedure

Deploying a VM guest in the absence of a PM&C is complicated. To facilitate this, the PM&C media will include a guest archive and a script that will deploy the running PMAC into a state where the Initialization process can begin.

- Install TVOE 3.0 on the management server via the ILO.
- Create and configure the management bridge.
- Determine if NetBackup Feature is enabled for this system. If enabled, install appropriate NetBackup client to the PM&C TVOE host.
- Attach PM&C media to the TVOE (USB).
- Mount the media.
- Use the <mount-point>/upgrade/pmac-deploy script to create the VM and configure the guest on the first boot.
- Navigate browser to the management IP address of the deployed PM&C.
- Perform Initial Configuration.

What You Will Need -- Worksheet

Use the completed NAPD information to fill in the appropriate data in this Procedure's Reference tables. The following are provided to aid with the data collection for the TVOE management server and the PM&C Application hosted on the Management Server TVOE.

- Determine if the network configuration of this management server is Non-Segregated or Segregated.
Note: The term "segregated networks" refers to the separation of the Management Server's control and plat-management networks onto separate physical NICs. If either of the following scenarios exists the networks are considered segregated.
 1. Devices eth01 and eth02 of the Management Server are physically connected to the first pair of the c7000 enclosure switches.
 2. Devices eth01 and eth02 of two RMS servers are directly connected to each other (e.g. eth01 > eth01 and eth02 > eth02)
- Determine the TVOE management server's required network interface, bond, and Ethernet device, and route data.
- Determine if the control network on the TVOE management server is to be tagged. If appropriate, fill in the <control VLAN ID> value in the table, otherwise the control network is not tagged.
- Determine if the management network on the TVOE management Server is to be tagged. If appropriate, fill in the <management_VLAN_ID> value in the table, otherwise the management network is not tagged.

- Determine the bridge name to be used on the TVOE management server for the management network. Fill in the <TVOE_Management_Bridge> value in the table.
- Determine if the NetBackup feature is enabled
 - Determine the NetBackup network on the TVOE management server is to be tagged. If appropriate, fill in the <NetBackup_VLAN_ID> value in the table, otherwise the NetBackup network is not tagged.
 - Determine the bridge name to be used on the TVOE management server for the NetBackup network. Fill in the <TVOE_NetBackup_Bridge> value in the table.
 - Determine if the NetBackup network is to be configured with jumbo frames. If appropriate, fill in the <NetBackup_MTU_size> value in the table, otherwise the NetBackup network will use the default MTU size.
 - If the PM&C NetBackup feature is enabled, and the backup service will be routed, with a source interface different than the management interface where the default route is applied, then define the route during PM&C initialization as a host route to the NetBackup server.
- The PM&C initialization profiles have been designed to configure the PM&C's networks and features. Profiles must identify interfaces. Existing profiles provided by PM&C use standard named interfaces (control, management). No vlan tagging is expected on the PM&C's interfaces, all tagging should be handled on the TVOE management server configuration.

Network Interface	DL380 (with HP 4pt Gigabit in PCI Slot 1) (Gen8, 9)	DL380 (with HP 1Gb 4pt 331FLR Adapter)
<ethernet_interface_1>	eth01	eth01
<ethernet_interface_2>	eth02	eth02
<ethernet_interface_3>	eth11	eth03
<ethernet_interface_4>	eth12	eth04
<ethernet_interface_5>	eth04	eth05

PM&C Interface Alias	TVOE Bridge Name	TVOE Bridge Interface
control	control	Fill in the appropriate value for this site (default is bond0): _____ <TVOE_Control_Bridge_Interface>
management	Fill in the appropriate value for this site: _____ <TVOE_Management_Bridge>	Fill in the appropriate value for this site: _____ <TVOE_Management_Bridge_Interface>

PM&C Interface Alias	TVOE Bridge Name	TVOE Bridge Interface
NetBackup	Fill in the appropriate value for this site: _____	Fill in the appropriate value for this site: _____
	<TVOE_NetBackup_Bridge>	<TVOE_NetBackup_Bridge_Interface>

Fill in the appropriate value for this site:

Variable	Value	Description
<control_VLAN_ID>		For non-segregated networks, the control network may have a VLAN id assigned. In most cases, there is none.
<base_device_hosting_control_network>		If <control_VLAN_ID> has a value, then the device used for the control network <TVOE_Control_Bridge_Interface> will have a tagged interface name. The base device for the control network is the untagged interface name. (For example, if the device interface is bond1.2 then the base device is bond1).
<management_VLAN_ID>		For non-segregated networks, the management network will be on a tagged VLAN coming in on bond0
<mgmtVLAN_gateway_address>		Gateway address used for routing on the management network.
<NetBackup_server_IP>		The IP address of the remote NetBackup Server.
<NetBackup_VLAN_ID>		For non-segregated networks, the NetBackup network will be on a tagged VLAN coming in on bond0
<NetBackup_gateway_address>		Gateway address used for routing on the NetBackup network.
<NetBackup_network_ip>		The Network IP for the NetBackup network
<PMAC_NetBackup_netmask_or_prefix>		The IPv4 netmask or IPv6 prefix assigned to the PM&C for

Variable	Value	Description
		participation in the NetBackup network
<PMAC_NetBackup_ip_address>		The IP Address assigned to the PM&C for participation in the NetBackup network
<NetBackup_MTU_size>		If desired, the MTU size can be set to tune the NetBackup network traffic.
<management_server_mgmt_ip_address>		The TVOE Management Server's IP address on the management network.
<PMAC_mgmt_ip_address>		The PM&C Application's IP address on the management network.
<mgmt_netmask_or_prefix>		The IPv4 netmask or IPv6 prefix for the management network.
<PMAC_control_ip_address>		The PM&C Application's IP address on the control network.
<control_netmask>		The IP netmask for the control network.

Fill in the appropriate value for this site:

Network Bond Interface	Enslaved Interface 1	Enslaved Interface 2
bond0		
For Segregated Networks Only		
bond1		
bond2		Bonding used for abstraction only, not multiple interfaces

TVOE Network Configuration

1. TVOE Management Server iLO: Log into the management server on the remote console
Log into iLO using application provided passwords via [How to Access a Server Console Remotely](#).
Log into iLO in IE using password provided by application:

```
http://<management_server_iLO_ip>
```

Click on the **Remote Console** tab and launch the Integrated Remote Console on the server.

Click **Yes** if the Security Alert pops up.

2. TVOE Management Server: Configure the control network bond for back-to-back configurations

If the control network for the RMS servers consists of direct connections between the servers with no intervening switches (known as a "back-to-back" configuration), execute this step to set the primary interface of bond0 to <ethernet_interface_1>, otherwise skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces (network devices, bonds, and bond enslaved devices) to configure.

```
$ sudo /usr/TKLC/plat/bin/netAdm set --device=bond0 --onboot=yes --type=Bonding
--mode=active-backup --miimon=100 --primary=<ethernet_interface_1>Interface
bond0 updated
```

3. TVOE Management Server: Verify the control network bridge

Note: The output below is for illustrative purposes only. It shows the control bridge configured.

```
$ sudo /usr/TKLC/plat/bin/netAdm query --type=Bridge --name=control
Bridge Name: control
  On Boot: yes
  Protocol: dhcp
  Persistent: yes
Promiscuous: no
  Hwaddr: 00:24:81:fb:29:52
  MTU:
Bridge Interface: bond0
```

If the bridge has been configured, skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure. Create control bridge (<TVOE_Control_Bridge>).

```
$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=<TVOE_Control_Bridge>
--bootproto=dhcp --onboot=yes --bridgeInterfaces=<TVOE_Control_Bridge_Interface>
```

4. TVOE iLO: Create tagged control interface and bridge (optional)

If you are using a tagged control network interface on this PM&C, then complete this step using values for the control interface on bond0 from the preceding tables. Otherwise, proceed to the next step.

```
$ sudo /usr/TKLC/plat/bin/netAdm set --type=Bridge --name=control
--delBridgeInt=bond0
Interface bond0 updated
Bridge control updated
$ sudo /usr/TKLC/plat/bin/netAdm add --device=<TVOE_Control_Bridge_Interface>
--onboot=yes
Interface <TVOE_Control_Bridge_Interface> created
$ sudo /usr/TKLC/plat/bin/netAdm set --device=<Enslaved Interface 1> --onboot=yes
$ sudo /usr/TKLC/plat/bin/netAdm set --device=<Enslaved Interface 2> --onboot=yes
$ sudo /usr/TKLC/plat/bin/netAdm set --type=Bridge --name=control
--bridgeInterfaces=<TVOE_Control_Bridge_Interface>
```

5. TVOE Management Server Verify the tagged/non-segregated management network

Note: A Segregated Management Network can be either "tagged" or "untagged." In most cases the network will be tagged when the TVOE Host is used to host DSR guests in addition to the PM&C guest. In this scenario, both the "Management" and "XMI" networks are required and will be tagged

on the same bond. In scenarios where only the PM&C is hosted by the TVOE and only the "Management" network is required, untagged can be used. The switch configuration of the connected switches must match the server configuration "tagged" or "untagged".

Note: This step only applies if the management network is tagged (non-segregated).

Note: The output below is for illustrative purposes only. It shows the management bridge configured on a non-segregated network setup.

```
$ sudo /usr/TKLC/plat/bin/netAdm query --device=bond0.2
  Protocol:  none
  On Boot:   yes
  IP Address:
  Netmask:
  Bridge:    Member of bridge management
```

If the device has been configured, skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces (network devices, bonds, and bond enslaved devices) to configure.

Note: The example below illustrates a PM&C management server configuration in a Non-Segregated network, an untagged control network, and a tagged management network.

For this example created tagged device for management device.

```
$ sudo /usr/TKLC/plat/bin/netAdm add --device=<TVOE_Management_Bridge_Interface>
--onboot=yes
Interface <TVOE_Management_Bridge_Interface> added
```

6. TVOE Management Server: Verify the untagged/segregated management network

Note: This step only applies if the management network is untagged (segregated).

Note: The output below is for illustrative purposes only. It shows the management bond configured on a segregated network setup.

```
$ sudo /usr/TKLC/plat/bin/netAdm query --device=<TVOE_Management_Bridge_Interface>
$ sudo /usr/TKLC/plat/bin/netAdm query --device=bond1
  Protocol:  none
  On Boot:   yes
  IP Address:
  Netmask:
  Bonded Mode:  active-backup
  Enslaving:   <ethernet_interface_3> <ethernet_interface_4>
```

If the bond has been configured, skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.

```
$ sudo /usr/TKLC/plat/bin/netAdm add --device=<TVOE_Management_Bridge_Interface>
--onboot=yes --type=Bonding --mode=active-backup --miimon=100
--bondInterfaces="<ethernet_interface_3>,<ethernet_interface_4>"
Interface <TVOE_Management_Bridge_Interface> added
```

7. TVOE Management Server: Verify the management bridge

Note: The output below is for illustrative purposes only. It shows the management bridge configured on a non-segregated network setup.

```
$ sudo /usr/TKLC/plat/bin/netAdm query --type=Bridge --name=management
Bridge Name: management
  On Boot: yes
  Protocol: none
  IP Address: 10.240.4.86
  Netmask: 255.255.255.0
Promiscuous: no
  Hwaddr: 00:24:81:fb:29:52
  MTU:
Bridge Interface: bond0.2
```

If the bridge has been configured, skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.

For this example, created a tagged device for management bridge.

```
$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=<TVOE_Management_Bridge>
--address=<management_server_mgmtVLAN_IP> --netmask=<mgmtVLAN_netmask_or_prefix>
--onboot=yes --bridgeInterfaces=<TVOE_Management_Bridge_Interface>
```

8. TVOE Management Server: Verify the NetBackup network (if needed)

If the NetBackup feature is not needed, skip to the next step.

Note: The output below is for illustrative purposes only. It shows the NetBackup bridge is configured.

```
$ sudo /usr/TKLC/plat/bin/netAdm query --type=Bridge --name=netbackup
Bridge Name: netbackup
  On Boot: yes
  Protocol: none
  IP Address: 10.240.6.2
  Netmask: 255.255.255.0
Promiscuous: no
  Hwaddr: 00:24:81:fb:29:58
  MTU:
Bridge Interface: bond2
```

If the bridge has been configured, skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.

Note: The example below illustrates a TVOE management server configuration with the NetBackup feature enabled. The NetBackup network is configured with a non-default MTU size.

Note: The MTU size must be consistent between a network bridge, device, or bond, and associated VLANs.

Select only one of the following configurations:

- Option 1: Create NetBackup bridge using an untagged native interface.

```
$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=<TVOE_NetBackup_Bridge>
--bootproto=none --onboot=yes --MTU=<NetBackup_MTU_size>
```

```
--bridgeInterfaces=<Ethernet_interface_5> --address=<TVOE_NetBackup_IP>
--netmask=<TVOE_NetBackup_Netmask_or_prefix>
```

- Option 2: Create NetBackup bridge using a tagged device.

```
$ sudo /usr/TKLC/plat/bin/netAdm add --device=<TVOE_NetBackup_Bridge_Interface>
--onboot=yes
Interface <TVOE_NetBackup_Bridge_Interface> added
$ sudo /usr/TKLC/plat/bin/netAdm add --type=Bridge --name=<TVOE_NetBackup_Bridge>
--onboot=yes --MTU=<NetBackup_MTU_size>
--bridgeInterfaces=<TVOE_NetBackup_Bridge_Interface> --address=<TVOE_NetBackup_IP>
--netmask=<TVOE_NetBackup_Netmask_or_prefix>
```

9. TVOE Management Server: Setup syscheck

syscheck must be configured to monitor bond interfaces. Replace "**bondedInterfaces**" with "**bond0**" or "**bond0 ,bond1**" if segregated networks are used:

```
$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond --set --var=DEVICES
--val=<bondedInterfaces>
$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond -enable
$ sudo /usr/TKLC/plat/bin/syscheck -v net ipbond
```

Note: The following is an example of the setup of syscheck with a single bond, bond0:

```
$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond --set --var=DEVICES --val=bond0
$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond -enable
$ sudo /usr/TKLC/plat/bin/syscheck -v net ipbond
```

Note: The following is an example of the setup of syscheck with multiple bonds, bond0 and bond1:

```
$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond --set --var=DEVICES
--val=bond0,bond1
$ sudo /usr/TKLC/plat/bin/syscheckAdm net ipbond -enable
$ sudo /usr/TKLC/plat/bin/syscheck -v net ipbond
```

10. TVOE Management Server: Verify the default route

Note: The output below is for illustrative purposes only. It shows the default route on the management bridge is configured.

```
$ sudo /usr/TKLC/plat/bin/netAdm query --route=default --device=management
Routes for TABLE: main and DEVICE: management
* NETWORK: default
  GATEWAY: 10.240.4.1
```

If the route has been configured, skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces, (network devices, bonds, and bond enslaved devices), to configure.

For this example add default route on management network.

```
$ sudo /usr/TKLC/plat/bin/netAdm add --route=default
--device=<TVOE_Management_Bridge> --gateway=<mgmt_gateway_address>
Route to <TVOE_Management_Bridge> added
```

11. TVOE Management Server: Verify the NetBackup route (optional)

If the NetBackup network is a unique network for NetBackup data, verify the existence of the appropriate NetBackup route.

Note: The output below is for illustrative purposes only. It shows the route on the NetBackup bridge is configured.

If the NetBackup route is to be a network route, then:

```
$ sudo /usr/TKLC/plat/bin/netAdm query --route=net
--device=<TVOE_NetBackup_Bridge>
Routes for TABLE: main and DEVICE: netbackup
* NETWORK: net
GATEWAY: 169.254.253.1
```

If the NetBackup route is to be a host route then:

```
$ sudo /usr/TKLC/plat/bin/netAdm query --route=host
--device=<TVOE_NetBackup_Bridge>
Routes for TABLE: main and DEVICE: netbackup
* NETWORK: host
GATEWAY: 169.254.253.1
```

If the route has been configured, skip to the next step.

Note: The output below is for illustrative purposes only. The site information for this system will determine the network interfaces (network devices, bonds, and bond enslaved devices) to configure.

For this example add network route on management network.

```
$ sudo /usr/TKLC/plat/bin/netAdm add --route=net --device=<TVOE_Management_Bridge>
--gateway=<NetBackup_gateway_address> --address=<NetBackup_network_IP>
--netmask=<TVOE_NetBackup_Netmask_or_prefix>
Route to <TVOE_NetBackup_Bridge> added
```

For this example, add host route on management network.

Note: For the configuration of a host route, the <TVOE_NetBackup_Netmask> will be set to "255.255.255.255".

```
$ sudo /usr/TKLC/plat/bin/netAdm add --route=host
--device=<TVOE_Management_Bridge> --gateway=<NetBackup_Server_IP>
--address=<NetBackup_Server_IP> --netmask=<TVOE_NetBackup_Netmask_or_prefix>
Route to <TVOE_NetBackup_Bridge> added
```

12. TVOE Management Server: Set hostname

```
$ sudo /bin/su - platcfg
```

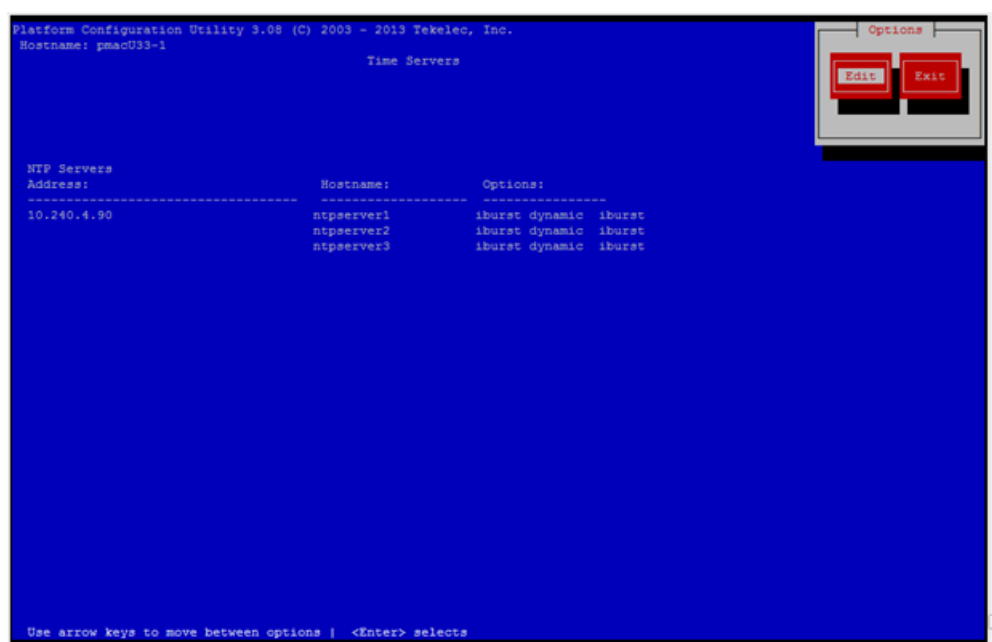
1. Navigate to **Server Configuration > Hostname** and set the hostname.
2. Set TVOE Management Server hostname
3. Press OK.
4. Navigate out of Hostname

13. TVOE Management Server: Set time zone and/or hardware clock

1. Navigate to **Server Configuration > Time Zone**.
2. Select Edit.

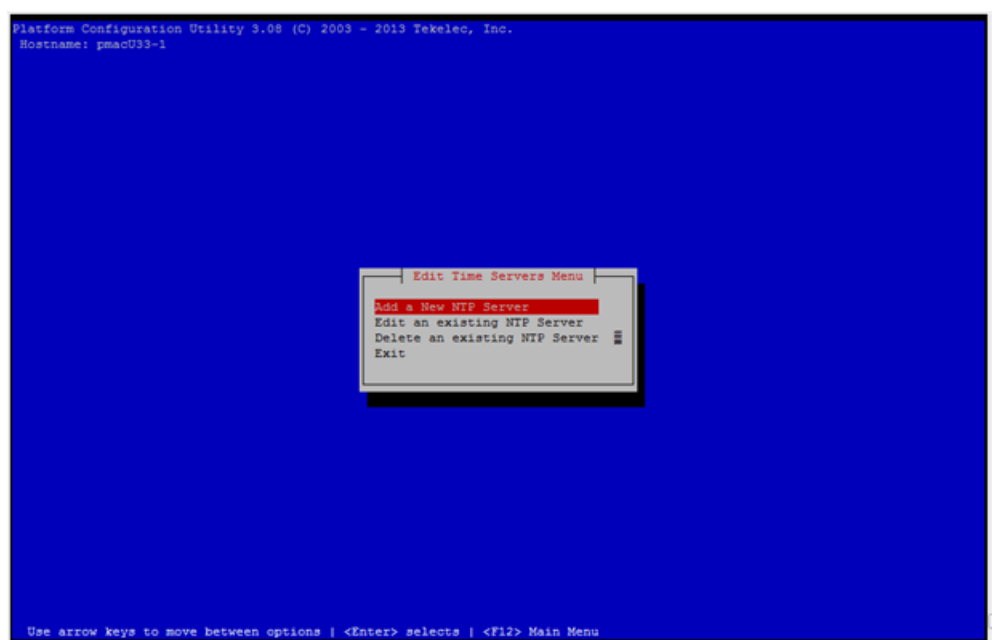
3. Set the time zone and/or hardware clock to GMT (Greenwich Mean Time).
 4. Press OK.
 5. Navigate out of Server Configuration.
14. This step will configure NTP servers for a server based on TPD.
- Note:** 3 NTP Sources will be configured in this step. Refer to [NTP Strategy](#).
- a) Server: Log in as platcfg

Log in as platcfg user on the server. The platcfg main menu will be shown.
 - b) Server: Navigate to Time Servers configuration page. Select the following menu options sequentially: **Network Configuration** > **NTP**. The 'Time Servers' page will now be shown, which shows the configured NTP servers and peers.



- c) Server: Update NTP Information

Select **Edit**. The **Edit Time Servers Menu** is displayed.



d) Server: Edit NTP Information

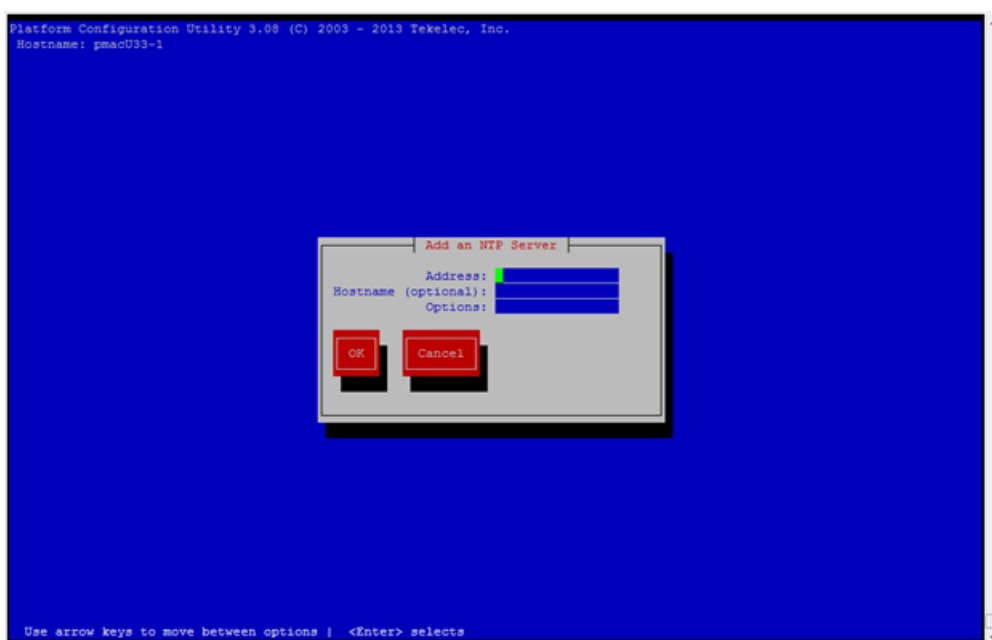
Select the appropriate **Edit Time Servers Menu** option. When all Time Server actions are complete exit the **Edit Time Servers Menu**. Remember that 3 (or more) NTP sources are required.

Note: You can move directly to Substep 2 *Editing an NTP Server* to edit the existing NTP servers (if they exist) instead of adding new NTP servers.

1. Adding an NTP Server

- a. Server: If adding a new NTP server select **Add a New NTP Server**.

The **Add an NTP Server** window is displayed.



- b. Server: Enter Appropriate data, and select **OK**

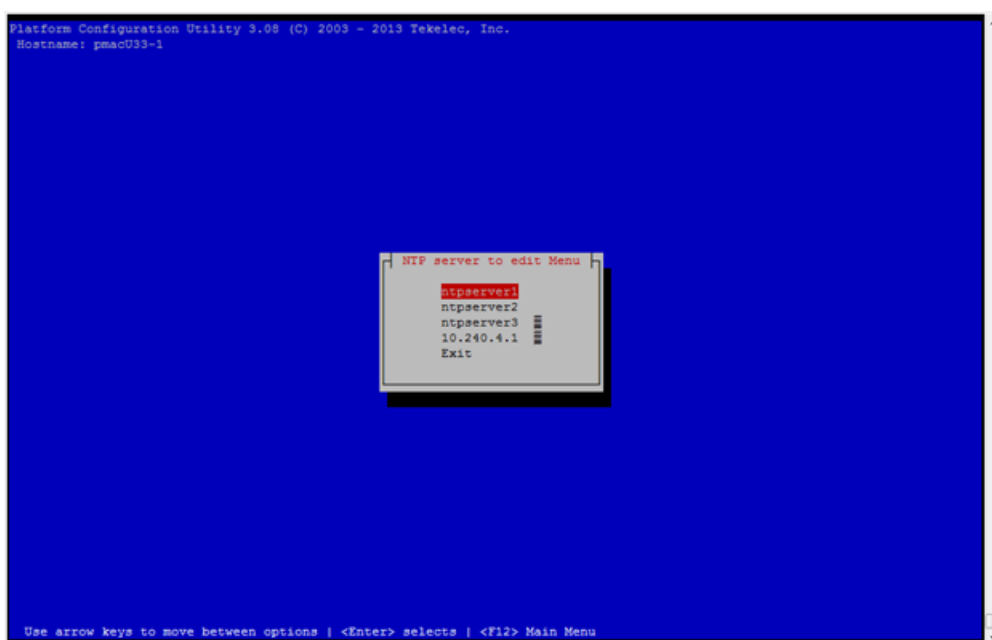
The NTP server is added. The **Edit Time Servers Menu** is displayed.

Note: The default NTP option is iburst. Additional NTP options are listed in the ntp.conf man page, some of the valid options are: burst, minpoll, and maxpoll.

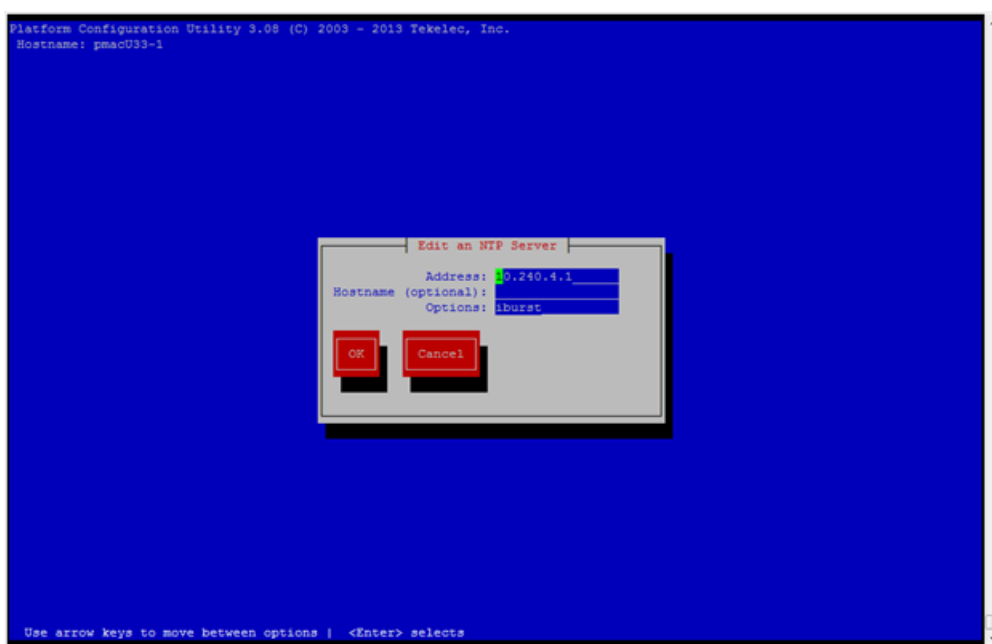
2. Editing an NTP Server

- a. Server: If editing an existing NTP server select **Edit an existing NTP Server**.

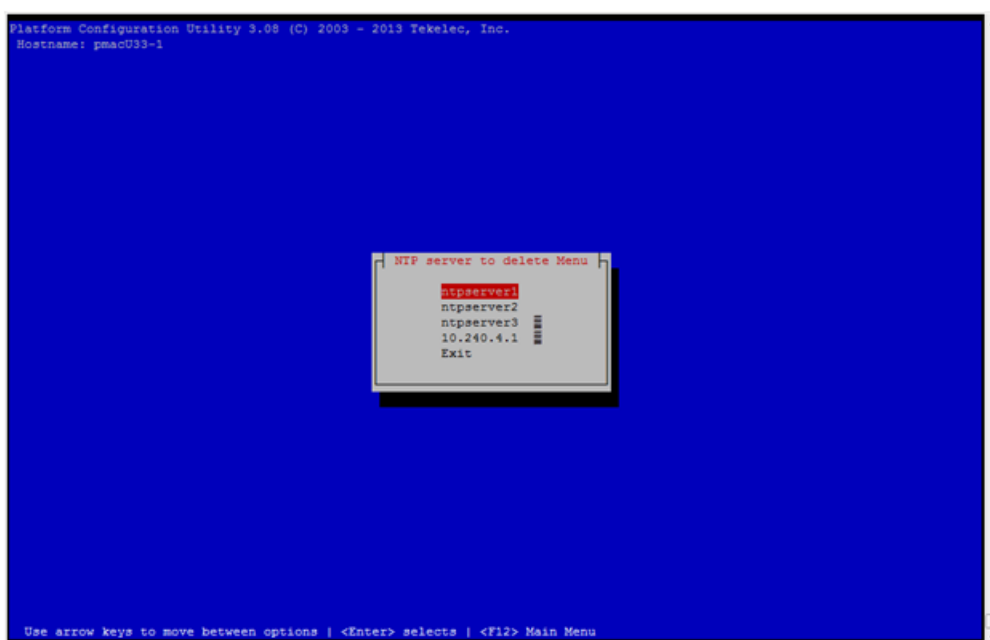
The **NTP Server to edit Menu** window is displayed.



- b. Server: Select appropriate NTP server.
The **Edit an NTP Server** window is displayed.



3. Deleting an existing NTP Server
- a. Server: If deleting an existing NTP server, select **Delete an existing NTP Server**.
The **NTP server to delete Menu** is displayed.



- b. Server: Select appropriate NTP server.

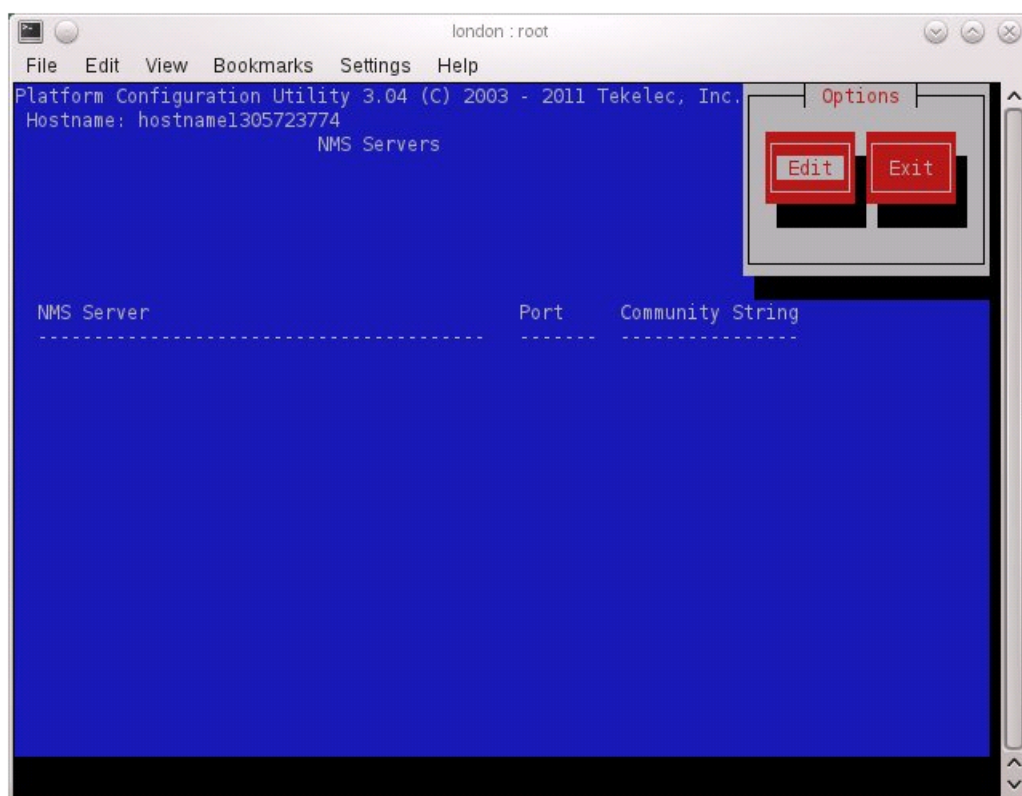
The NTP server is deleted. The **Edit Time Servers Menu** is displayed.

- e) Server: Restart the NTP server

15. This step will add an SNMP trap destination to a server based on TPD. All alarm information will then be sent to the NMS located at the destination.

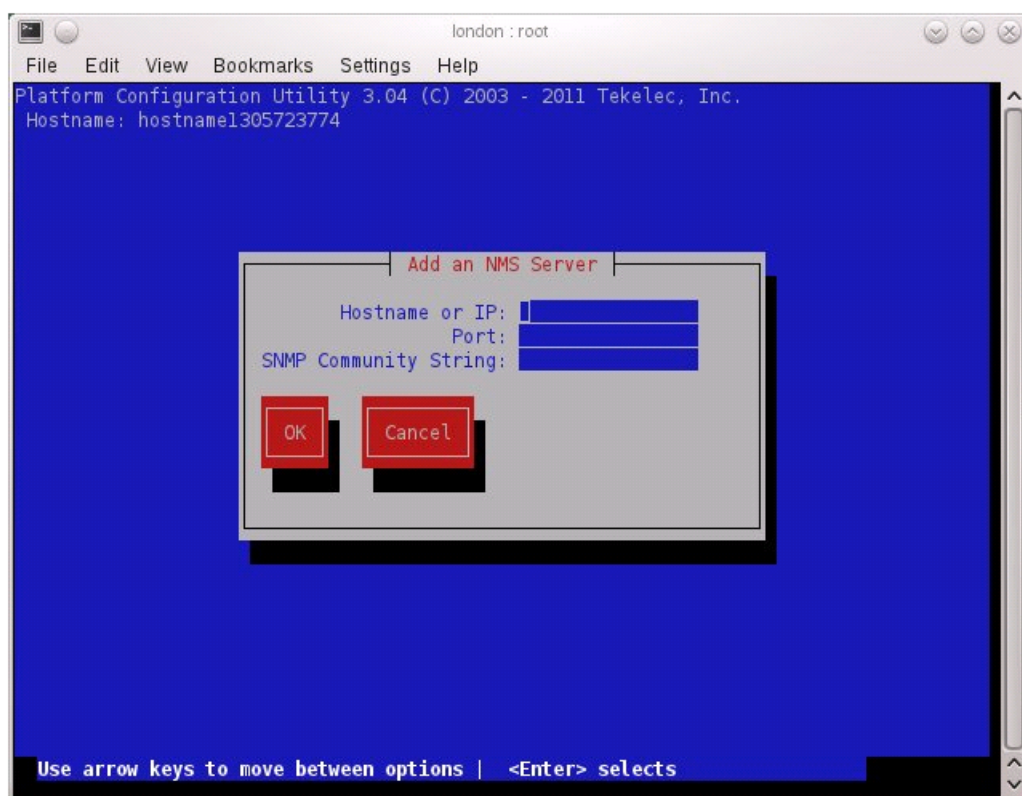
- a) Server: Log in as platcfg user on the server. The platcfg main menu will be shown.
- b) Server: Navigate to NMS server configuration page.

Select the following menu options sequentially: **Network Configuration > SNMP Configuration > NMS Configuration**. The 'NMS Servers' page will be shown, which displays all configured NMS servers for the server.



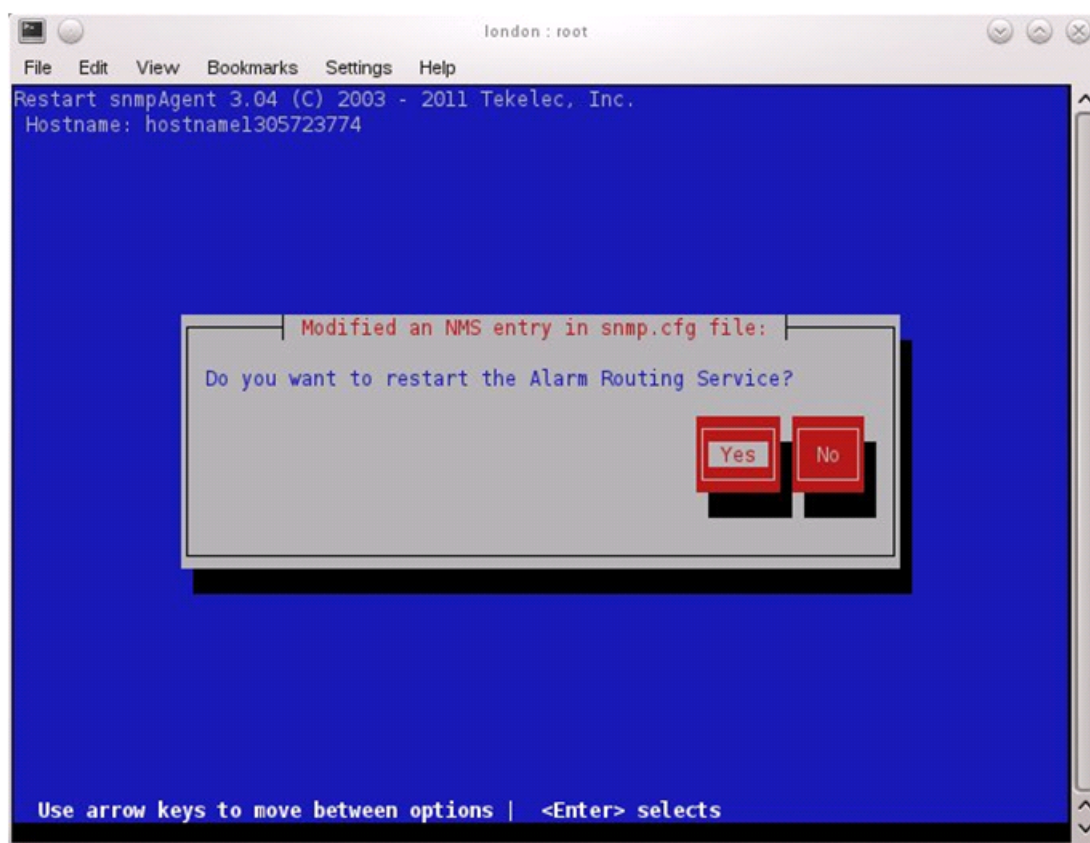
c) Server: Add the SNMP trap destination.

Select **Edit** and then choose **Add a New NMS Server**. The 'Add an NMS Server' page will be displayed.



Complete the form by entering in all information about the SNMP trap destination. Refer to [SNMP Configuration](#). Select **OK** to finalize the configuration.

The 'NMS Server Action Menu' will now be displayed. Select **Exit**. The following dialogue will then be presented.



Select **Yes** and then wait a few seconds while the Alarm Routing Service is restarted. At that time the SNMP Configuration Menu will be presented.

d) Select **Exit** on each menu until platcfg has been exited.

Note: If NetBackup is to be configured on the TVOE host, please follow the steps in Appendix [Install NetBackup Client on TVOE Server \(optional\)](#). The steps in Appendix [Install NetBackup Client on TVOE Server \(optional\)](#) can only be performed after the Aggregation Switches in [Configure Aggregation Switches](#) have been properly configured.

16. TVOE Management Server: Verify server health

```
$ sudo /usr/TKLC/plat/bin/alarmMgr --alarmStatus
```

Alarms may be observed if network connectivity has not been established.

17. TVOE Management Server: Ensure time set correctly.

a) Set time based on NTP Server

```
$ sudo /sbin/service ntpd stop
$ sudo /usr/sbin/ntpdate ntpserver1
$ sudo /sbin/service ntpd start
```

b) Reboot the server

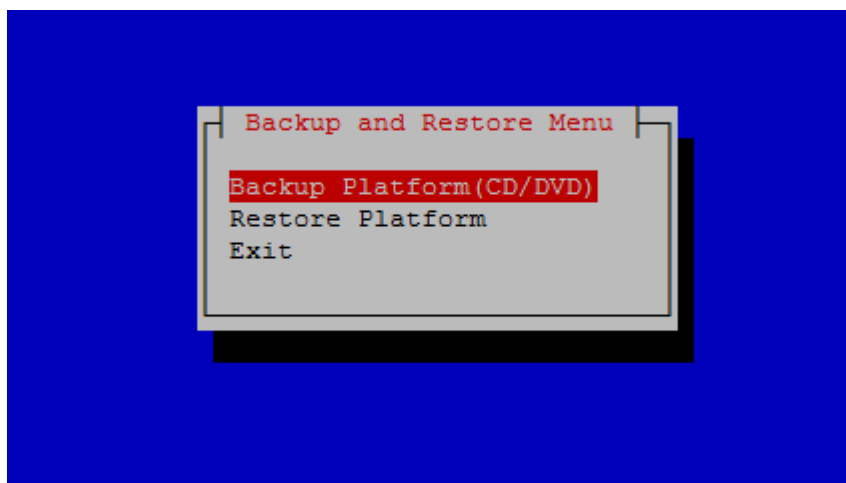
```
$ sudo /sbin/init 6
```

18. This step will backup system files which can be used at a later time to restore a failed system.

Note: The backup image is to be stored on a customer provided medium.

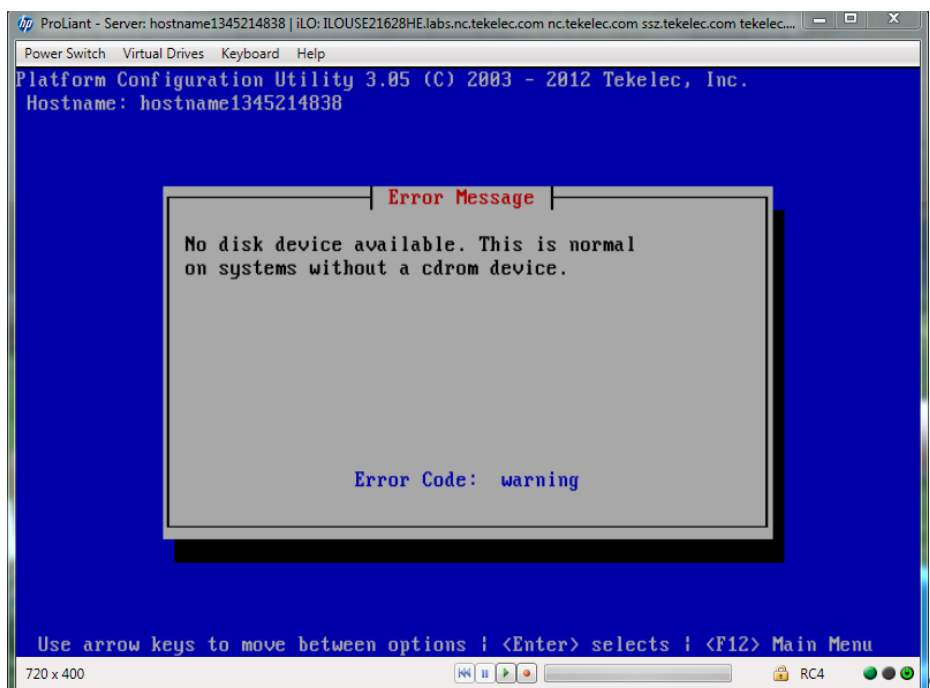
- a) TVOE Host: Log in as platcfg user.

Select the following menu options sequentially: **Maintenance > Backup and Restore > Backup Platform**. The 'Backup and Restore Menu' will now be shown.



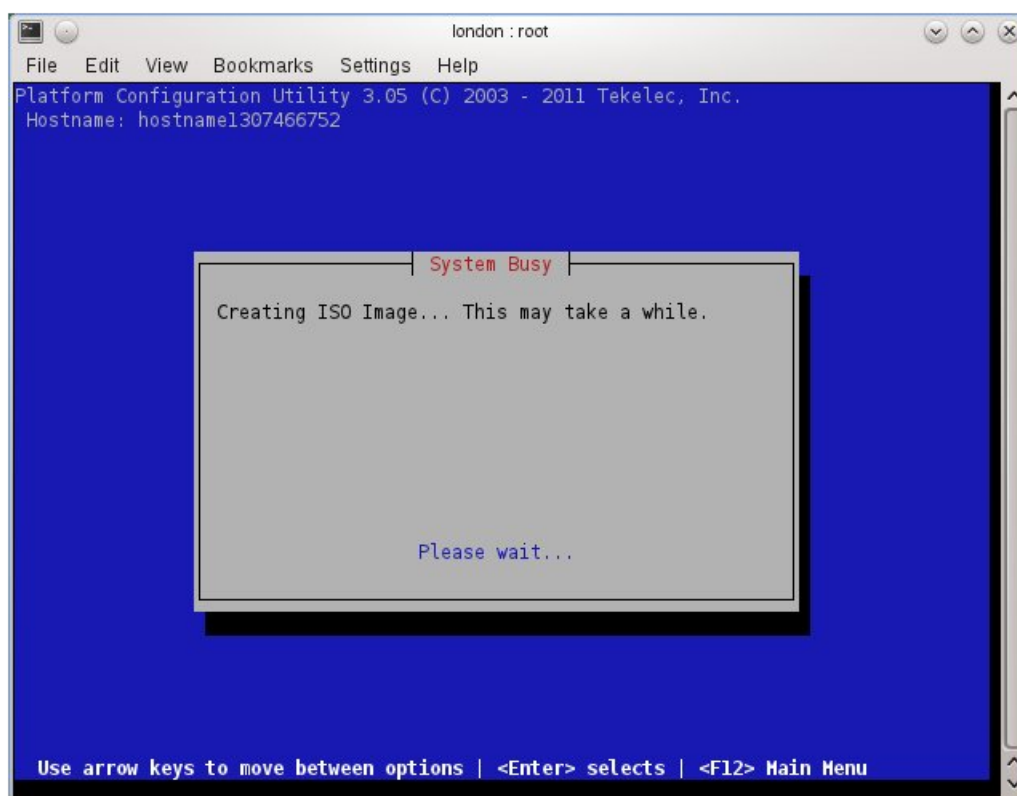
Select the menu 'Backup Platform (CD/DVD)'.

Note: If this operation is attempted on a system without media, the following message will appear:



- b) TVOE Host: Build the backup ISO image. Select **Build ISO file only**. The following screen will display:

Note: Creating the ISO image may happen so quickly that this screen may only appear for an instant.



After the ISO is created, platcfg will return to the Backup TekServer Menu as shown in step 2. The ISO has now been created and is located in the `/var/TKLC/bkp/` directory. An example filename of a backup file that was created is: "hostname1307466752-plat-app-201104171705.iso"

c) TVOE Host: Exit platcfg

Select **Exit** on each menu until platcfg has been exited. The SSH connection to the TVOE server will be terminated.

d) Customer Server: Log into the customer server and copy backup image to the customer server where it can be safely stored.

If the customer system is a Linux system, execute the following command to copy the backup image to the customer system.

```
# scp tvoexfer@<TVOE IP Address>:backup/* /path/to/destination/
```

When prompted, enter the tvoexfer user password and press **Enter**.

An example of the output looks like:

```
# scp tvoexfer@<TVOE IP Address>:backup/* /path/to/destination/
tvoexfer@10.24.34.73's password:
hostname1301859532-plat-app-301104171705.iso      100% 134MB 26.9MB/s 00:05
```

If the Customer System is a Windows system refer to [Using WinSCP](#) to copy the backup image to the customer system.

The TVOE backup file has now been successfully placed on the Customer System.

Install PM&C

Deploy PM&C Guest

The pmac-deploy script is responsible for deploying a PM&C guest in the absence of a PM&C to create the guest and install the OS and application. This is all done at build-time and the system disk image is kept on the PM&C media, along with this script. Once the PM&C media is mounted, the pmac-deploy script can be found in the upgrade directory of the media.

1. TVOE Management Server iLO: Log into the management server on the remote console

Log into iLo using application provided passwords via [How to Access a Server Console Remotely](#).

```
http://<management_server_iLO_ip>
```

Click in the Remote Console tab and launch the Integrated Remote Console on the server.

Click Yes if the Security Alert pops up.

```
login as: Administrator
Administrator@10.250.80.238's password:
User:Administrator logged-in to ILOUSE109N3LL. (10.250.80.238)
iLO 2 Advanced 2.20 at 12:45:22 May 08 2013
Server Name: rmsTVOE-Kauai-A
Server Power: On

</>hpiLO-> vsp

Starting virtual serial port.
Press 'ESC (' to return to the CLI Session.

</>hpiLO-> Virtual Serial Port active: IO=0x03F8 INT=4

Oracle Linux Server release 6.5
Kernel 2.6.32-431.11.2.el6prere16.7.0.0.1_84.15.0.x86_64 on an x86_64

rmsTVOE-Kauai-A login: admusr
Password:
Last login: Wed Jul 30 20:04:44 from 10.240.246.6
[admusr@rmsTVOE-Kauai-A ~]$
```

2. TVOE Management Server: Mount the PM&C media to the TVOE Management server.

Alternatively, the user can log into the management console through PuTTY.

For a sample of mounting a USB media

```
$ sudo /bin/ls /media/*/*.iso
/media/usb/872-2441-104-5.0.0_50.8.0-PMAC-x86_64.iso
$ sudo /bin/mount -o loop /media/usb/872-2441-104-5.0.0_50.8.0-PMAC-x86_64.iso
/mnt/upgrade
```

3. TVOE Management Server: Validate the PM&C media.

Execute the self-validating media script:

```
$ cd /mnt/upgrade/upgrade
$ sudo .validate/validate_cd
Validating cdrom...

UMVT Validate Utility v2.2.2, (c)Tekelec, June 2012
Validating <device or ISO>
Date&Time: 2012-10-25 10:07:01
Volume ID: tklc_872-2441-106_Rev_A_50.11.0
Part Number: 872-2441-106_Rev_A
Version: 50.11.0
Disc Label: PMAC
Disc description: PMAC
The media validation is complete, the result is: PASS

CDROM is Valid
```

If the media validation fails, the media is not valid and should not be used.

4. TVOE Management Server: Using the pmac-deploy script, deploy the PM&C instance using the configuration detailed by the completed NAPD.

For this example, deploy a PM&C without NetBackup feature

```
$ cd /mnt/upgrade/upgrade
$ sudo ./pmac-deploy --guest=<PMAC_Name> --hostname=<PMAC_Name>
--controlBridge=<TVOE_Control_Bridge> --controlIP=<PMAC_Control_ip_address>
--controlNM=<PMAC_Control_netmask> --managementBridge=<PMAC_Management_Bridge>
--managementIP=<PMAC_Management_ip_address>
--managementNM=<PMAC_Management_netmask_or_prefix>
--routeGW=<PMAC_Management_gateway_address>
--ntpserver=<TVOE_Management_server_ip_address> --isoimagesVolSizeGB=20
```

Deploying a PM&C with the NetBackup feature requires the "--netbackupVol" option, which creates a separate NetBackup logical volume on the TVOE host of PM&C. If the NetBackup feature's source interface is different from the management interface include the "--bridge" and the "--nic" as in the example below.

```
$ cd /mnt/upgrade/upgrade
$ sudo ./pmac-deploy --guest=<PMAC_Name> --hostname=<PMAC_Name>
--controlBridge=<TVOE_Control_Bridge> --controlIP=<PMAC_Control_ip_address>
--controlNM=<PMAC_Control_netmask> --managementBridge=<PMAC_Management_Bridge>
--managementIP=<PMAC_Management_ip_address>
--managementNM=<PMAC_Management_netmask_or_prefix>
--routeGW=<PMAC_Management_gateway_address>
--ntpserver=<TVOE_Management_server_ip_address>
--netbackupVol
--bridge=<TVOE_NetBackup_Bridge>
--nic=netbackup
```

Note: If a mistake in the pmac-deploy is identified during this step the operator under the advisement of customer service can remove the guest with the following command:

```
$ sudo /usr/TKLC/plat/bin/guestMgr --remove <PMAC_Name>
```

5. The PM&C will deploy and boot. The management and control network will come up based on the settings that were provided to the pmac-deploy script.
6. TVOE Management Server: Unmount the media and remove.

```
$ cd /
$ sudo /bin/umount /mnt/upgrade
```

7. TVOE Management Server: Remove the PM&C Media

Setup PM&C

The steps in this section configure the PM&C application guest environment on the Management Server TVOE host. It also initializes the PM&C application. At the conclusion of this section, the PM&C application environment is sufficiently configured to allow configuration of system network assets associated with the Management Server.

1. TVOE Management Server iLO: Log in to the management server on the remote console
Log in to iLo using application provided passwords via [How to Access a Server Console Remotely](#).

```
http://<management_server_iLO_ip>
```

Click in the Remote Console tab and launch the Integrated Remote Console on the server.

Click Yes if the Security Alert pops up.

2. Log into the PM&C with admusr credentials

Note: On a TVOE host, If you launch the virsh console, i.e., "\$ **sudo /usr/bin/virsh console X**" or from the virsh utility "virsh # **console X**" command and you get garbage characters or the output is not correct, then there is likely a stuck "virsh console" command already being run on the TVOE host. Exit out of the "virsh console", then run "**ps -ef |grep virsh**", then kill the existing process "**kill -9 <PID>**". Then execute the "virsh console X" command. Your console session should now run as expected.

Log in using **virsh**, and wait until you see the login prompt. If a login prompt does not appear after the guest is finished booting, press **ENTER** to make one appear:

```
$ sudo /usr/bin/virsh
virsh # list

```

Id	Name	State
4	pmacU17-1	running

```
virsh # console pmacU17-1
[Output Removed]

#####
1371236760: Upstart Job readahead-collector: stopping
```

```
1371236767: Upstart Job readahead-collector: stopped
#####

CentOS release 6.4 (Final)
Kernel 2.6.32-358.6.1.el6prere16.5.0_82.16.0.x86_64 on an x86_64

pmacU17-1 login:
```

3. Verify the PM&C configured correctly on first boot.

Run the following command (there should be no output):

```
$ sudo /bin/ls /usr/TKLC/plat/etc/deployment.d/
$
```

4. Determine the TimeZone to be used for the PM&C

Note: Valid time zones can be found on the server in the directory "/usr/share/zoneinfo". Only the time zones within the sub-directories (i.e. America, Africa, Pacific, Mexico, etc.....) are valid with platcfg.

5. Set the TimeZone

Run:

```
$ sudo /usr/TKLC/smac/bin/set_pmac_tz.pl <timezone>
```

For Example:

```
$ sudo set_pmac_tz.pl America/New_York
```

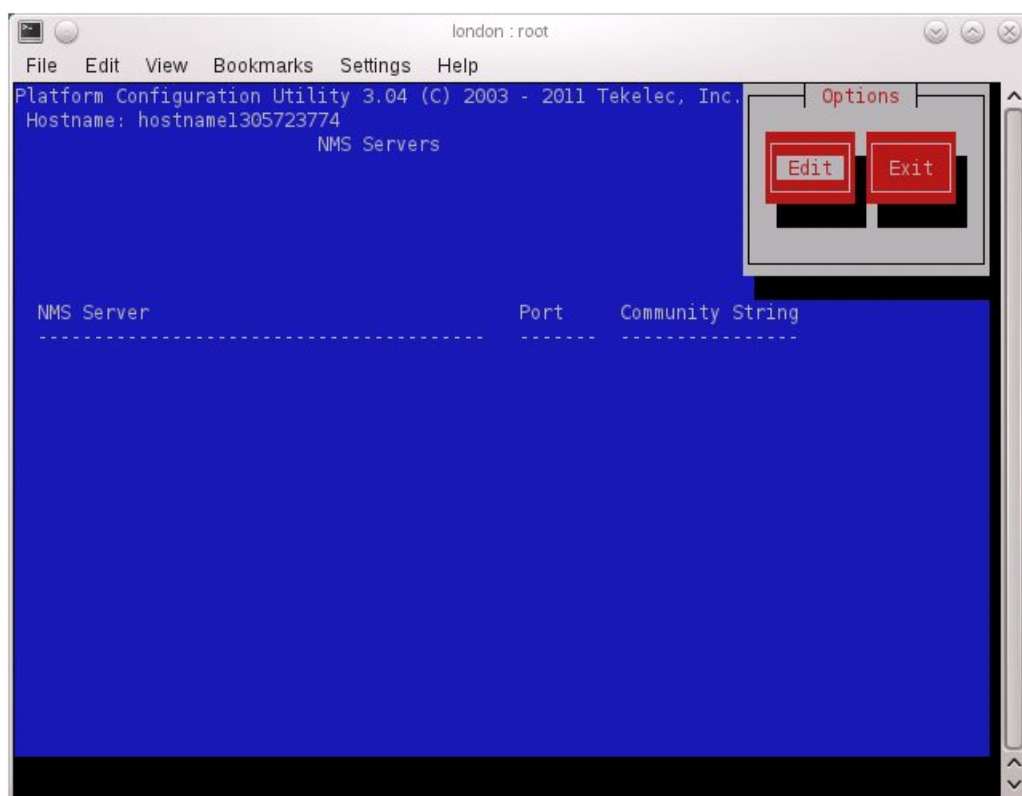
6. Verify the TimeZone has been updated

Run:

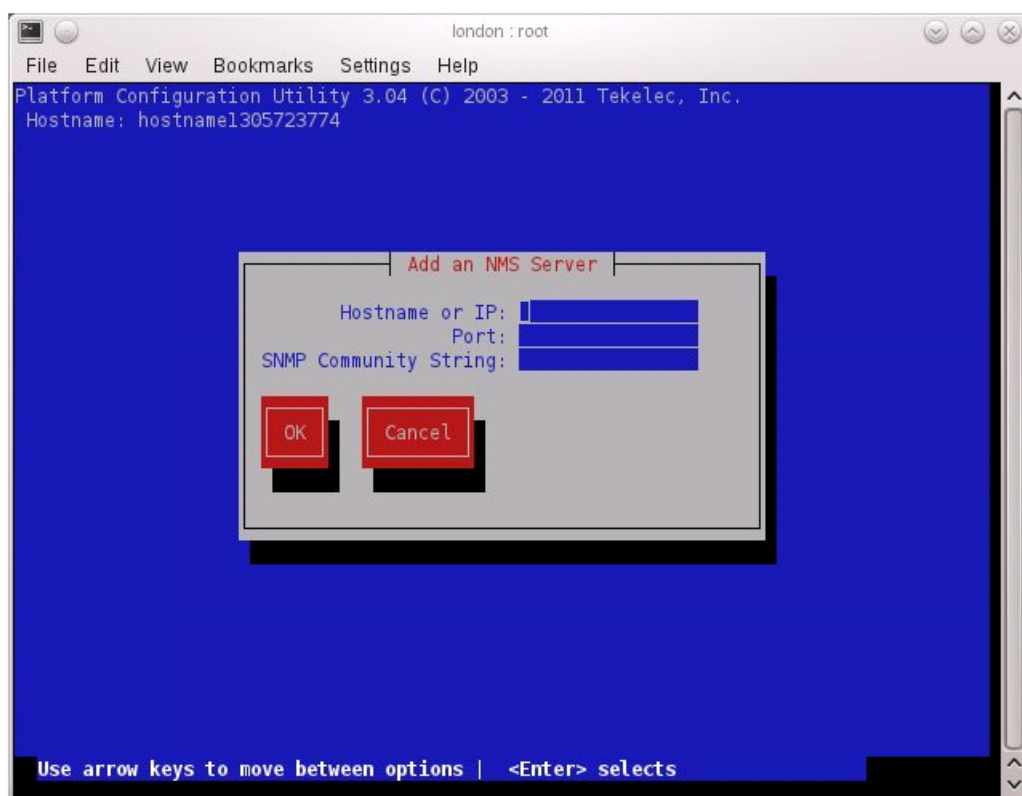
```
$ sudo /bin/date
```

7. This step will add an SNMP trap destination to a server based on TPD. All alarm information will then be sent to the NMS located at the destination.

1. Server: Log in as user platcfg on the server. The platcfg main menu will be shown.
2. Server: Navigate to NMS server configuration page. Select the following menu options sequentially: **Network Configuration > SNMP Configuration > NMS Configuration**. The 'NMS Servers' page will be shown, which displays all configured NMS servers for the server.

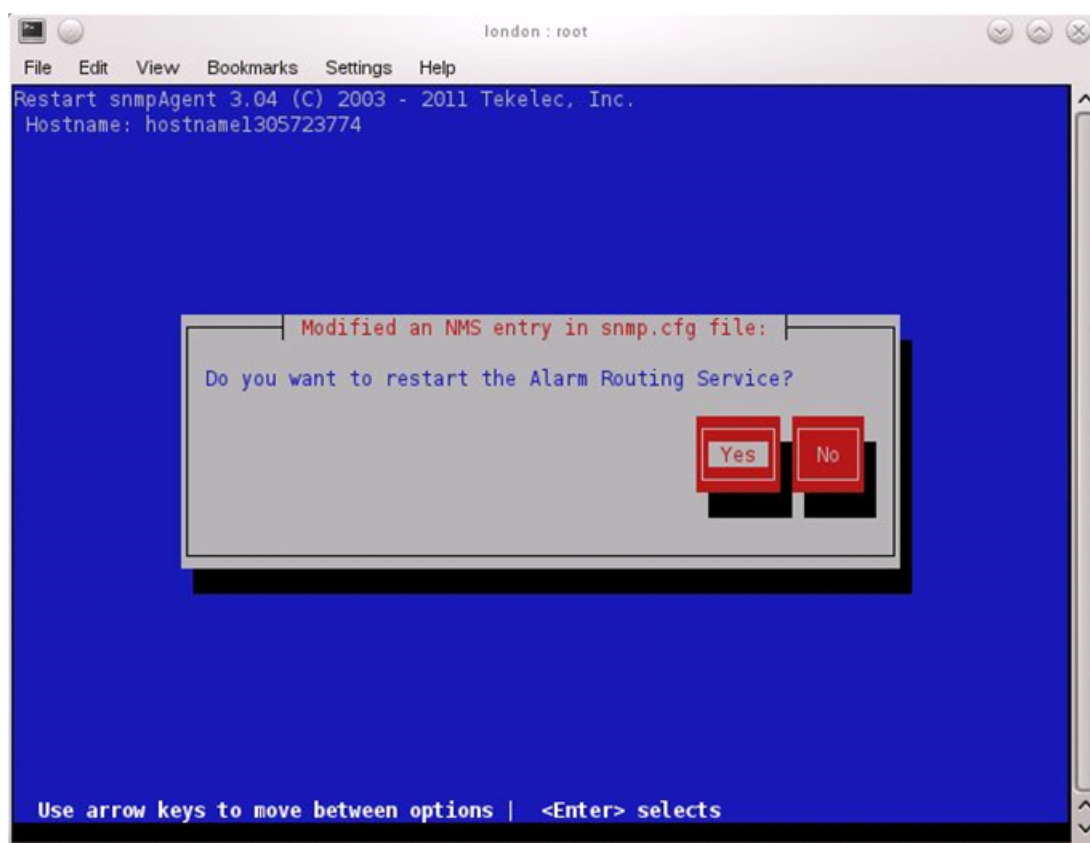


3. Server: Add the SNMP trap destination. Select **Edit** and then choose **Add a New NMS Server**. The 'Add an NMS Server' page will be displayed.



Complete the form by entering in all information about the SNMP trap destination. Refer to [SNMP Configuration](#). Select **OK** to finalize the configuration.

The 'NMS Server Action Menu' will now be displayed. Select **Exit**. The following dialog will then be presented.



Select **Yes** and then wait a few seconds while the Alarm Routing Service is restarted. At that time the SNMP Configuration Menu will be presented.

4. Server: Exit platcfg. Select **Exit** on each menu until platcfg has been exited. The PM&C login prompt will be printed.
 8. Log in to the PM&C as user admusr.
 9. Reboot the server to ensure all processes are started with the new TimeZone.
- Run:

```
$ sudo /sbin/init 6
```

10. Use this procedure to gather and prepare configuration files that are required to proceed with the DSR installation.

Needed Material:

- HP Misc. Firmware DVD
- Upgrade Pack of the *HP Solutions Firmware Upgrade Pack Notes* [2]

If this procedure fails, contact My Oracle Support and ask for assistance.

Gather and prepare configuration files that must be resident on the PM&C. These might be required to proceed with the Application installation after the PM&C has been deployed but before it has been initialized. These files are usually located within a given ISO on physical media.

- a) Once the PM&C has completed rebooting, but prior to initializing, log into the PM&C as admusr using virsh on the management server iLO.
- b) Make the media available to the TVOE Host server. Mount the media on the TVOE Host using the following method:

1. Insert the USB with the DSR application ISO into an available USB slot on the TVOE Host server and execute the following command to determine its location and the ISO to be mounted:

```
$ sudo /bin/ls /media/*/*.iso
```

Example: /media/sddl/872-2507-111-4.1.0_41.16.2-DSR-x86_64.iso

Note: The USB device is immediately added to the list of media devices once it is inserted into a USB slot on the TVOE Host server.

2. Note the device directory name under the media directory. This could be sdb1, sdc1, sdd1, or sde1, depending on the USB slot into which the media was inserted.
3. Loop mount the ISO to the standard TVOE Host mount point (if it is not already in use):

```
$ sudo /bin/mount -o loop /media/<device directory>/<ISO Name>.iso /mnt/upgrade
```

- c) Execute the following commands on the PM&C guest to copy the required files from the TVOE host to the PM&C guest.

Wildcards can be used as necessary.

```
$ sudo /usr/bin/scp -r
admusr@<TVOE_management_ip_address>:/mnt/upgrade/upgrade/overlay/*
/usr/TKLC/smac/etc/
```

- d) Change the permission of TVOEc clean.sh and TVOEc fg.sh file

```
$ sudo chmod 555 /usr/TKLC/smac/etc/TVOEc clean.sh
$ sudo chmod 555 /usr/TKLC/smac/etc/TVOEc fg.sh
$ sudo chmod 555 /usr/TKLC/smac/etc/DSR_NOAM_FD_Blade.xml
$ sudo chmod 555 /usr/TKLC/smac/etc/DSR_NOAM_FD_RMS.xml
```

- e) Management server: Copy IOS images into place (this will copy both the 4948E and 3020 IOS images into place).

1. Insert the *Misc. Firmware* media into the CD or USB drive of the management server. For this step, be sure to use the correct IOS version specified by the Release Notes of the *HP Solutions Firmware Upgrade Pack* [2]. Copy each IOS image called out by the release notes [2].
2. Execute the following commands to copy the required files. Note that the <PMAC Management_IP Address> is the one used to deploy PM&C in [Deploying Virtualized PM&C Overview](#).

```
$ sudo /usr/bin/scp -r admusr@<PMAC_management_ip_address>:/media/<device
directory>/files/<4948EF_IOS_image_filename> /var/TKLC/smac/image/
$ sudo /usr/bin/scp -r admusr@<PMAC_management_ip_address>:/media/<device
direcotry>/files/<2030(6120)_IOS_image_filename> /var/TKLC/smac/image/
```

Make sure you copy the images for all type of enclosure switches present by re-running the previous command.

3. Remove the application media from the TVOE host:

```
$ sudo /bin/umount /mnt/upgrade
```

4. Remove the *Misc. Firmware* media from the drive.

11. Initialize the PM&C Application; run the following commands:

Note: If performing the setup on a Redundant PM&C do not initialize, skip this step and continue to [Step 15](#).

If using IPv4:

```
$ sudo /usr/TKLC/smac/bin/pmacadm applyProfile --fileName=TVOE
Profile successfully applied.
$ sudo /usr/TKLC/smac/bin/pmacadm getPmacFeatureState
PMAC Feature State = InProgress
$ sudo /usr/TKLC/smac/bin/pmacadm addRoute --gateway=<mgmt_IpV4gateway_address>
--ip=0.0.0.0 --mask=0.0.0.0 --device=management
Successful add of Admin Route
$ sudo /usr/TKLC/smac/bin/pmacadm finishProfileConfig
Initialization has been started as a background task
```

If using IPv6:

```
$ sudo /usr/TKLC/smac/bin/pmacadm applyProfile --fileName=TVOE
Profile successfully applied.
$ sudo /usr/TKLC/smac/bin/pmacadm getPmacFeatureState
PMAC Feature State = InProgress
$ sudo /usr/TKLC/smac/bin/pmacadm addRoute --gateway=<IPv6mgmt_gateway_address>
--ip=:: --mask=0 --device=management
Successful add of Admin Route
$ sudo /usr/TKLC/smac/bin/pmacadm finishProfileConfig
Initialization has been started as a background task
```

12. Wait for the background task to successfully complete.

The command will show "IN_PROGRESS" for a short time.

Run the following command until a "COMPETE" or "FAILED" response is seen similar to the following:

```
$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks
1: Initialize PM&C COMPLETE - PM&C initialized
Step 2: of 2 Started: 2012-07-13 08:23:55 running: 29 sinceUpdate: 47
taskRecordNum: 2 Server Identity:
Physical Blade Location:
Blade Enclosure:
Blade Enclosure Bay:
Guest VM Location:
Host IP:
Guest Name:
TPD IP:
Rack Mount Server:
IP:
Name:
```

Note: Some expected networking alarms may be present.

13. Perform a system healthcheck on PM&C

```
$ sudo /usr/TKLC/plat/bin/alarmMgr --alarmStatus
```

This command should return no output on a healthy system.

Note: An NTP alarm will be detected if the system switches are not configured.

```
$ sudo /usr/TKLC/smac/bin/sentry status
```

All Processes should be running, displaying output similar to the following:

```
PM&C Sentry Status
-----

sentryd started: Mon Jul 23 17:50:49 2012
Current activity mode: ACTIVE
Process          PID      Status          StartTS          NumR
-----
smacTalk         9039     running         Tue Jul 24 12:50:29 2012  2
smacMon          9094     running         Tue Jul 24 12:50:29 2012  2
hpiPortAudit     9137     running         Tue Jul 24 12:50:29 2012  2
snmpEventHandler 9176     running         Tue Jul 24 12:50:29 2012  2
eclipseHelp      9196     running         Tue Jul 24 12:50:30 2012  2

Fri Aug  3 13:16:35 2012
Command Complete.
```

14. Verify the PM&C application release

Verify that the PM&C application Product Release is as expected.

Note: If the PM&C application Product Release is not as expected, STOP and contact [My Oracle Support \(MOS\)](#).

```
$ sudo /usr/TKLC/plat/bin/appRev
  Install Time: Fri Sep 28 15:54:04 2012
  Product Name: PMAC
  Product Release: 5.0.0_50.10.0
  Part Number ISO: 872-2441-905
  Part Number USB: 872-2441-105
  Base Distro Product: TPD
  Base Distro Release: 6.0.0_80.22.0
  Base Distro ISO: TPD.install-6.0.0_80.22.0-CentOS6.2-x86_64.iso
  OS: CentOS 6.2
```

15. Logout of the virsh console

Press **Ctrl-]** to exit the virtual PM&C console.

16. Management Server iLO: Exit the TVOE console.

Run:

```
$ logout
```

You may now close the iLO browser window.

Configure Aggregation Switches

Configure netConfig Repository

This procedure will configure the netConfig repository for all required services and for each switch to be configured.

At any time, you can view the contents of the netConfig repository by using one of the following commands:

- For switches, use the command: **sudo /usr/TKLC/plat/bin/netConfig --repo listDevices**
- For services, use the command: **sudo /usr/TKLC/plat/bin/netConfig --repo listServices**

Users returning to this procedure after initial installation should run the above commands and note any devices and/or services that have already been configured. Duplicate entries cannot be added; if changes to a device repository entry are required, use the editDevice command. If changes to a services repository entry are necessary, you must delete the original entry first and then add the service again.

Terminology

The term 'netConfig server' refers to the entity where netConfig is executed. This may be a virtualized or physical environment. 'Management server' may also accurately describe this location but has been historically used to describe the physical environment while 'Virtual PM&C' was used to describe the virtualized netConfig server. Use of the term 'netConfig server' to describe dual scenarios of physical and virtualized environments will allow for future simplification of network configuration procedures.

Procedure Reference Tables

Steps within this procedure and subsequent procedures that require this procedure may refer to variable data indicated by text within "<>". Fill these worksheets out based on NAPD, then refer back to these tables for the proper value to insert depending on your system type.

Variable	Value
<management_server_iLO_ip>	
<management_server_mgmt_ip_address>	
<netConfig_server_mgmt_ip_address>	
<switch_backup_user>	admusr
<switch_backup_user_password>	
<serial console type>	u=USB, c=PCIe

For the first aggregation switch (4948, 4948E, or 4948E-F): Fill in the appropriate value for this site.

Variable	Value
<switch_hostname>	
<device_model>	
<console_name>	

Variable	Value
<switch_console_password>	
<switch_platform_username>	
<switch_platform_password>	
<switch_enable_password>	
<switch_mgmt_ip_address>	
<switch_mgmt_netmask>	
<mgmt_vlanID>	
<control_vlanID>	
<IOS_filename>	
<ip_version>	

For the second aggregation switch (4948, 4948E, or 4948E-F): Fill in the appropriate value for this site.

Variable	Value
<switch_hostname>	
<device_model>	
<console_name>	
<switch_console_password>	
<switch_platform_username>	
<switch_platform_password>	
<switch_enable_password>	
<switch_mgmt_ip_address>	
<switch_mgmt_netmask>	
<mgmt_vlanID>	
<control_vlanID>	
<IOS_filename>	
<ip_version>	

For each enclosure switch (6120XG, 6125G, 6125XLG, or 3020): Fill in the appropriate value for this site.

Variable	Value
<switch_hostname>	
<enclosure_switch_IP>	
<switch_platform_username>	

Variable	Value
<switch_platform_password>	
<switch_enable_password>	
<io_bay>	
<OA1_enX_ip_address>	X= the enclosure #
<OA_password>	
<FW_image>	

For each enclosure switch (6120XG, 6125G, 6125XLG, or 3020): Fill in the appropriate value for this site.

Variable	Value
<switch_hostname>	
<enclosure_switch_IP>	
<switch_platform_username>	
<switch_platform_password>	
<switch_enable_password>	
<io_bay>	
<OA1_enX_ip_address>	X= the enclosure #
<OA_password>	
<FW_image>	

1. Management server iLO: Log in and launch the integrated remote console.
 - a) On the management server, log in to iLO in IE using the password provided by the application:
http://<management_server_iLO_ip>
 - b) For HP servers, click in the Remote Console tab and launch the Remote Console on the server.
 - c) Click Yes if the Security Alert dialog box is displayed.
 - d) If you have not already done so, log in as admusr.

2. Management Server: Procedure pre-check

If the installation is not designed for a virtual PM&C, go to [Step 3](#).

If there is a virtual PM&C, log in to the console of the virtual PM&C.

- Verify virtual PM&C installation by issuing the following commands as admusr on the management server:

```
$ sudo /usr/bin/virsh list --all
Id Name State
-----
6 vm-pmac1A running
```

- If this command provides no output, it is likely that a virtual instance of PM&C is not installed.

- If there is a virtual PM&C, log in to the console of the virtual PM&C.
- If the installation is not designed for a virtual PM&C, go to [Step 3](#).
- From the management server, log in to the console of the virtual PM&C instance found above.

Example:

```
$ sudo /usr/bin/virsh console vm-pmac1A
Connected to domain vm-pmac1A
Escape character is ^]
<Press ENTER key>
CentOS release 6.2 (Final)
Kernel 2.6.32-220.7.1.el6prere16.0.0_80.13.0.x86_64 on an x86_64
```

If the root user is already logged in, log out and log back in as admusr.

```
[root@pmac ~]# logout
```

```
vm-pmac1A login: admusr
Password:
Last login: Fri May 25 16:39:04 on ttyS4
```

- If this command fails, it is likely that a virtual instance of PM&C is not installed.
- If this is unexpected, refer to application documentation or contact [My Oracle Support \(MOS\)](#).

3. netConfig Server: Check that the switch templates directory exists:

```
$ /bin/ls -i /usr/TKLC/smac/etc/switch/xml
```

If the command returns an error:

```
ls: cannot access /usr/TKLC/smac/etc/switch/xml/: No such file or directory
```

Create the directory:

```
$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/switch/xml
```

Change directory permissions:

```
$ sudo /bin/chmod go+rx /usr/TKLC/smac/etc/switch/xml
```

Change directory ownership:

```
$ sudo /bin/chown -R pmacd:pmacbackup /usr/TKLC/smac/etc/switch
```

4. netConfig Server: Set up netConfig repository with necessary ssh information.

Use netConfig to create a repository entry that will use the ssh service. This command will provide the user with several prompts. The prompts shown with <variables> as the answers are site specific that the user MUST modify. Other prompts that don't have a <variable> shown as the answer must be entered EXACTLY as they are shown here.

```
[admusr@minilab-pmac-1~]$ sudo netConfig --repo addService name=ssh_service
Service type? (dhcp, oa, oobm, ssh, tftp, conserver) ssh
Service host? 1.2.3.4
Enter the value for user: admusr
```

```

Enter the value for password: <admusr_password>
Verify Password: <admusr_password>
Add service for ssh_service successful
$

```

To ensure that you entered the information correctly, use the following command and inspect the output, which will be similar to the one shown below.

```

$ sudo /usr/TKLC/plat/bin/netConfig --repo showService name=ssh_service
Service Name: ssh_service
Type: ssh
Host: 10.250.8.4
Options:
password: C20F7D639AE7E7
user: admusr
$

```

5. netConfig Server: Set up netConfig repository with necessary tftp information.

Note: If there are no new Cisco (3020, 4948, 4948E or 4948E-F) switches to be configured, go to the next step.

Use netConfig to create a repository entry that will use the tftp service. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user MUST modify. Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.

- For a PM&C system:

```

$ sudo /usr/TKLC/plat/bin/netConfig --repo addService name=tftp_service
Service type? [dhcp, oa, oobm, ssh, tftp, consver] tftp
Service host? <netConfig_server_mgmt_ip_address>
Directory on host? /var/TKLC/smac/image/
Add service for tftp_service successful

```

- For a non-PM&C system:

```

$ sudo /usr/TKLC/plat/bin/netConfig --repo addService name=tftp_service
Service type? [tftp, ssh, consver, oa] tftp
Service host? <netConfig_server_mgmt_ip_address>
Directory on host? /var/lib/tftpboot/
Add service for tftp_service successful

```

6. netConfig Server: Set up netConfig repository with necessary OA information.

Note: If there are no new HP 6125G/6125XLG/6120XG switches to be configured, go to the next step.

Use netConfig to create a repository entry that will use the OA service. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user MUST modify. Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.

```

$ sudo /usr/TKLC/plat/bin/netConfig --repo addService name=oa_service_en<enclosure #>
Service type? [dhcp, oa, oobm, ssh, tftp, consver]? oa
Primary OA IP? <OA1_enX_ip_address>
Secondary OA IP? <OA2_enX_ip_address>

```

```

OA username? root
OA password? password
Verify password:<OA_password>
Add service for oa_service successful

```

7. netConfig Server: Run conserverSetup command.

```

$ sudo /usr/TKLC/plat/bin/conserverSetup -<serial console type> -s
<management_server_mgmt_ip_address>

```

You will be prompted for the platcfg credentials.

An example:

```

[admsr@vm-pmac1A]$ sudo /usr/TKLC/plat/bin/conserverSetup -u -s
<management_server_mgmt_ip_address>
Enter your platcfg username, followed by [ENTER]:platcfg
Enter your platcfg password, followed by [ENTER]:<platcfg_password>
Checking Platform Revision for local TPD installation...
The local machine is running:
    Product Name: PMAC
    Base Distro Release: 7.0.0.0.0_86.1.0

Checking Platform Revision for remote TPD installation...
The remote machine is running:
    Product Name: TVOE
    Base Distro Release: 7.0.0.0.0_86.2.0
Configuring switch 'switch1A_console' console server...Configured.
Configuring switch 'switchBA_console' console server...Configured.
Configuring iptables for port(s) 782...Configured.
Configuring iptables for port(s) 1024:65535...Configured.
Configuring console repository service...
Repo entry for "console_service" already exists; deleting entry for:
    Service Name: console_service
    Type: conserver
    Host: <management_server_mgmt_ip_address>
...Configured.

Slave interfaces for bond0:

    bond0 interface: eth01
    bond0 interface: eth02

```

- If this command fails, contact [My Oracle Support \(MOS\)](#).
- Verify the output of the script.
- Verify that your Product Release is based on Tekelec Platform 7.0 (versions 7.0.x.x.x_x.x.x).
- Note the slave interface names of bond interfaces (<ethernet_interface_1> and <ethernet_interface_2>) for use in subsequent steps.

8. netConfig Server: Mount the HP Misc Firmware ISO

Note: If this is a Software Centric deployment, skip this step and proceed to step 9.

```

$ sudo /bin/mount -o loop /var/TKLC/upgrade/<misc_ISO> /mnt/upgrade

```

Example:

```
$ sudo /bin/mount -o loop /var/TKLC/upgrade/872-2161-113-2.1.10_10.26.0.iso
/mnt/upgrade
```

9. netConfig Server: Copy Cisco switch FW to the **tftp_directory**

Note: If this is a Software Centric deployment, the customer must place the FW files for the Cisco switches (C3020, 4948/E/E-F) into the tftp directory listed below. Otherwise, perform the commands to copy the file from the FW ISO.

For each Cisco switch model (C3020, 4948/E/E-F) present in the solution, copy the FW identified by **<FW_image>** in the aggregation switch variable table (4948) or enclosure switch variable table (C3020) to the **tftp_service** directory and change the permissions of the file:

- For a PM&C system: **<tftp_directory> = /var/TKLC/smac/image/**
- For a non-PM&C system: **<tftp_directory> = /var/lib/tftpboot/**

```
$ sudo /bin/cp /mnt/upgrade/files/<FW_image> <tftp_directory>
$ sudo /bin/chmod 644 <tftp_directory>/<FW_image>
```

Example:

```
$ sudo /bin/cp /mnt/upgrade/files/cat4500e-entservicesk9-mz.122-54.XO.bin
/var/TKLC/smac/image/
$ sudo /bin/chmod 644 /var/TKLC/smac/image/cat4500e-entservicesk9-mz.122-54.XO.bin
```

If there are no Cisco switches, skip to the next step.

10. netConfig Server: Copy HP switch FW to the **ssh** directory

Note: If this is a Software Centric deployment, the customer must place the FW files for the HP switches into the ssh directory listed below. Otherwise, perform the commands to copy the file from the FW ISO.

For each HP switch model (HP6125G/XLG, HP6120XG) present in the solution, copy the FW identified by **<FW_image>** in the enclosure switch variable tables to the **ssh_service** directory and change the permissions of the file:

```
$ sudo /bin/cp /mnt/upgrade/files/<FW_image> ~<switch_backup_user>/
$ sudo /bin/chmod 644 ~<switch_backup_user>/<FW_image>
```

Example:

```
$ sudo /bin/cp /mnt/upgrade/files/Z_14_37.swi ~admusr/
$ sudo /bin/chmod 644 ~admusr/Z_14_37.swi
```

If there are no HP switches, skip to the next step.

11. netConfig Server: Unmount the ISO

```
$ sudo /bin/umount /mnt/upgrade
```

12. netConfig Server: Set up netConfig repository with aggregation switch information.

Note: If there are no new aggregation switches to be configured, go to the next step.

Use netConfig to create a repository entry for each switch. The initial command will prompt the user multiple times. The prompts with <variables> as the answers are site specific that the user MUST modify. Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.

- The <device_model> can be 4948, 4948E, or 4948E-F depending on the model of the device. If you do not know, stop now and contact [My Oracle Support \(MOS\)](#).
- The device name must be 20 characters or less.

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo addDevice name=<switch_hostname>
--reuseCredentialsDevice Vendor? Cisco
Device Model? <device_model>
What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for
management?: <switch_mgmt_ip_address>
Is the management interface a port or a vlan? [vlan]: [Enter]
What is the VLAN ID of the management VLAN? [2]: [mgmt_vlanID]
What is the name of the management VLAN? [management]: [Enter]
What switchport connects to the management server? [GE40]: [Enter]
What is the switchport mode (access|trunk) for the management server port?
[trunk]: [Enter]
What are the allowed vlans for the management server port? [1,2]:
<control_vlanID>, <mgmt_vlanID>
Enter the name of the firmware file [cat4500e-entservicesk9-mz.122-54.XO.bin]:
<IOS_filename>
Firmware file to be used in upgrade: <IOS_filename>
Enter the name of the upgrade file transfer service: tftp_service
File transfer service to be used in upgrade: tftp_service
Should the init oob adapter be added (y/n)? y
Adding consoleInit protocol for <switch_hostname> using oob...
What is the name of the service used for OOB access? console_service
What is the name of the console for OOB access? <console_name>
What is the platform access username? <switch_platform_username>
What is the device console password? <switch_console_password>
Verify password: <switch_console_password>
What is the platform user password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the device privileged mode password? <switch_enable_password>
Verify password: <switch_enable_password>
Should the live network adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using network...
Network device access already set: <switch_mgmt_ip_address>
Should the live oob adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using oob...
OOB device access already set: console_service
Device named <switch_hostname> successfully added.
```

To check that you entered the information correctly, use the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
```

and check the output, which will be similar to the one shown:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
Device: <switch_hostname>
Vendor: Cisco
Model: <device_model>
FW Ver: 0
FW Filename: <IOS_image>
FW Service: tftp_service
Initialization Management Options
mgmtIP: <switch_mgmt_ip_address>
```

```

    mgmtInt: vlan
    mgmtVlan: <mgmt_vlanID>
    mgmtVlanName: management
    interface: GE40
    mode: trunk
    allowedVlans: <control_vlanID>, <mgmt_vlanID>
Access:   Network: <switch_mgmt_ip_address>
Access:   OOB:
           Service: console_service
           Console: <console_name>
Init Protocol Configured
Live Protocol Configured
$

```

Repeat this step for each 4948/4948E /4948 E-F, using appropriate values for those switches.

13. netConfig Server: Set up netConfig repository with 3020 switch information.

Note: If there are no new 3020s to be configured, go to the next step.

Note: The Cisco 3020 is not compatible with IPv6 management configuration.

Use netConfig to create a repository entry for each 3020. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user **MUST** modify. Other prompts that don't have a <variable> as an answer must be entered **EXACTLY** as they are shown here.

- If you do not know any of the required answers, stop now and contact [My Oracle Support \(MOS\)](#).
- The device name must be 20 characters or less.

```

$ sudo /usr/TKLC/plat/bin/netConfig --repo addDevice name=<switch_hostname>
--reuseCredentials
Device Vendor? Cisco
Device Model? 3020
What is the management address? <enclosure_switch_ip>
Enter the name of the firmware file [cbs30x0-ipbasek9-tar.122-58.SE1.tar]:
<FW_image>
Firmware file to be used in upgrade: <IOS_image>
Enter the name of the upgrade file transfer service: <tftp_service>
File transfer service to be used in the upgrade: <tftp_service>
Should the init network adapter be added (y/n)? y
Adding netBootInit protocol for <switch_hostname> using network...
Network device access already set: <enclosure_switch_ip>
What is the platform access username? <switch_platform_username>
What is the platform user password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the device privileged mode password? <switch_enable_password>
Verify password: <switch_enable_password>
Should the init file adapter be added (y/n)? y
Adding netBootInit protocol for <switch_hostname> using file...
What is the name of the service used for TFTP access? tftp_service
Should the live network adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using network...
Network device access already set: <enclosure_switch_ip>
Device named <switch_hostname> successfully added.

```

To check that you entered the information correctly, use the following command:

```

$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>

```

and check the output, which will be similar to the one shown below.

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
Device: <switch_hostname>
  Vendor:    Cisco
  Model:     <device_model>
  FW Ver:    0
  FW Filename: <FW_image>
  FW Service: tftp_service
  Access:    Network: <enclosure_switch_IP>
Init Protocol Configured
Live Protocol Configured
```

Repeat this step for each 3020, using appropriate values for those 3020s.

Note: If you receive the WARNING below, it means the <FW_image> is not found in the directory named in the FW Service. For the ssh_service, it is the user's home directory. For tftp_service, it is normally /var/TKLC/smac/image:

WARNING: Could not find firmware file on local host. If using a local service, please update the device entry using the editDevice command or copy the file to the correct location.

14. netConfig Server: Set up netConfig repository with HP 6120XG switch information.

Note: If there are no 6120XGs to be configured, stop and continue with the appropriate switch configuration procedure.

Use netConfig to create a repository entry for each 6120XG. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user MUST modify. Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.

- If you do not know any of the required answers, stop now and contact [My Oracle Support \(MOS\)](#).
- The device name must be 20 characters or less.

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo addDevice name=<switch_hostname>
--reuseCredentials
Device Vendor? HP
Device Model? 6120
What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for
management?: <switch_mgmt_ip_address>
Enter the name of the firmware file [Z_14_37.swi]: <FW_image>
Firmware file to be used in upgrade: <FW_image>
Enter the name of the upgrade file transfer service: ssh_service
File transfer service to be used in upgrade: ssh_service
Should the init oob adapter be added (y/n)? y
Adding consoleInit protocol for <switch_hostname> using oob...
What is the name of the service used for OOB access? oa_service_en<enclosure #>
What is the name of the console for OOB access? <io_bay>
What is the platform access username? <switch_platform_username>
What is the device console password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the platform user password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the device privileged mode password? <switch_platform_password>
Verify password: <switch_platform_password>
Should the live network adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using network...
Network device access already set: <switch_mgmt_ip_address>
Should the live oob adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using oob...
```

```
OOB device access already set: oa_service_en<enclosure #>
Device named <switch_hostname> successfully added
```

The image is being unpacked and validated. This will take approximately 4 minutes. Once the unpacking, validation, and rebooting have completed, you will be returned to the normal prompt. Proceed with the next step.

To verify that you entered the information correctly, use the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
```

and check the output, which will be similar to the one shown:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
Device: <switch_hostname>
  Vendor:   HP
  Model:    6120
  FW Ver:   0
  FW Filename: <FW_image>
  FW Service: ssh_service
  Initialization Management Options
    mgmtIP: <enclosure_switch_IP>
  Access:   Network: <enclosure_switch_IP>
  Access:   OOB:
              Service: oa_service
              Console: <console_name>
  Init Protocol Configured
  Live Protocol Configured
```

Repeat this step for each 6120, using appropriate values for those 6120s.

Note: If you receive the WARNING below, it means the <FW_image> is not found in the directory named in the FW Service. For the ssh_service, it is the user's home directory. For tftp_service, it is normally /var/TKLC/smac/image:

WARNING: Could not find firmware file on local host. If using a local service, please update the device entry using the editDevice command or copy the file to the correct location.

15. netConfig Server: Set up netConfig repository with HP 6125G switch information.

Note: If there are no 6125Gs to be configured, stop and continue with the appropriate switch configuration procedure.

Use netConfig to create a repository entry for each 6125G. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user MUST modify. Other prompts that don't have a <variable> as an answer must be entered EXACTLY as they are shown here.

- If you do not know any of the required answers, stop now and contact [My Oracle Support \(MOS\)](#).
- The device name must be 20 characters or less.

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo addDevice name=<switch_hostname>
--reuseCredentials
Device Vendor? HP
Device Model? 6125
What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for
management? <switch_mgmt_ip_address>
Enter the name of the firmware file [6125-CMW520-R2105.bin]: <FW_image>
Firmware file to be used in upgrade: <FW_image>
```

```

Enter the name of the upgrade file transfer service: ssh_service
Should the init oob adapter be added (y/n)? y
Adding consoleInit protocol for <switch_hostname> using oob...
What is the name of the service used for OOB access? oa_service_en<enclosure #>
What is the name of the console for OOB access? <io_bay>
What is the platform access username? <switch_platform_username>
What is the device console password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the platform user password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the device privileged mode password? <switch_platform_password>
Verify password: <switch_platform_password>
Should the live network adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using network...
Network device access already set: <switch_mgmt_ip_address>
Should the live oob adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using oob...
OOB device access already set: oa_service_en<enclosure #>
Device named <switch_hostname> successfully added.

```

Note: If you receive the WARNING below, it means the <FW_image> is not found in the directory named in the FW Service. For the ssh_service, it is the user's home directory. For tftp_service, it is normally /var/TKLC/smac/image:

WARNING: Could not find firmware file on local host. If using a local service, please update the device entry using the editDevice command or copy the file to the correct location.

To check that you entered the information correctly, use the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
```

and check the output, which will be similar to the one shown:

```

$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
Device: <switch_hostname>
Vendor: HP
Model: 6125
FW Ver: 0
FW Filename: <FW_image>
FW Service: ssh_service
Access: Network: <enclosure_switch_IP>
Access: OOB:
          Service: oa_service
          Console: <io_bay>
Init Protocol Configured
Live Protocol Configured
$

```

16. netConfig Server: Set up netConfig repository with HP 6125XLG switch information.

Note: If there are no 6125XLGs to be configured, stop and continue with the appropriate switch configuration procedure.

Use netConfig to create a repository entry for each 6125XLG. This command will give the user several prompts. The prompts with <variables> as the answers are site specific that the user **MUST** modify. Other prompts that doesn't have a <variable> as an answer must be entered **EXACTLY** as they are shown here.

- If you do not know any of the required answers, stop now and contact [My Oracle Support \(MOS\)](#).

- The device name must be 20 characters or less.

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo addDevice name=<switch_hostname>
--reuseCredentials
Device Vendor? HP
Device Model? 6125XLG
What is the IPv4 (CIDR notation) or IPv6 (address/prefix notation) address for
management?: <switch_mgmt_ip_address>
Enter the name of the firmware file [6125XLG-CMW710-R2403.ipe]: <FW_image>
Firmware file to be used in upgrade: <FW_image>
Enter the name of the upgrade file transfer service: ssh_service
File transfer service to be used in upgrade: ssh_service
Should the init oob adapter be added (y/n)? y
Adding consoleInit protocol for <switch_hostname> using oob...
What is the name of the service used for OOB access? oa_service_en<enclosure #>
What is the name of the console for OOB access? <io_bay>
What is the platform access username? <switch_platform_username>
What is the device console password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the platform user password? <switch_platform_password>
Verify password: <switch_platform_password>
What is the device privileged mode password? <switch_platform_password>
Verify password: <switch_platform_password>
Should the live network adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using network...
Network device access already set: <switch_mgmt_ip_address>
Should the live oob adapter be added (y/n)? y
Adding cli protocol for <switch_hostname> using oob...
OOB device access already set: oa_service_en<enclosure #>
Device named <switch_hostname> successfully added
```

Note: If you receive the WARNING below, it means the <FW_image> is not found in the directory named in the FW Service. For the ssh_service, it is the user's home directory. For tftp_service, it is normally /var/TKLC/smac/image:

WARNING: Could not find firmware file on local host. If using a local service, please update the device entry using the editDevice command or copy the file to the correct location.

To check that you entered the information correctly, use the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
```

and check the output, which will be similar to the one shown:

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showDevice name=<switch_hostname>
Device: <switch_hostname>
Vendor: HP
Model: 6125XLG
FW Ver: 0
FW Filename: <FW_image>
FW Service: ssh_service
Access: Network: <enclosure_switch_IP>
Access: OOB:
    Service: oa_service
    Console: <io_bay>
Init Protocol Configured
```

Configure Cisco 4948/4948E/4948E-F Aggregation Switches (PM&C Installed) (netConfig)

This procedure will configure 4948/4948E/4948E-F switches with an appropriate IOS and configuration from a single management server and virtual PM&C for use with the c-Class or RMS platform.

Procedure Reference Tables:

Steps within this procedure may refer to variable data indicated by text within "<>". Refer to this table for the proper value to insert depending on your system type.

Fill in the appropriate value from [2].

Variable	Cisco 4948	Cisco 4948E	Cisco 4948E-F
<IOS_image_file>			

Fill in the appropriate value for this site:

Variable	Value
<switch_platform_username>	See referring application documentation
<switch_platform_password>	
<switch_console_password>	
<switch_enable_password>	
<management_server_mgmt_ip_address>	
<pmac_mgmt_ip_address>	
<switch_mgmtVLAN_id>	
<switch1A_mgmtVLAN_ip_address>	
<mgmt_Vlan_subnet_id>	
<netmask>	
<switch1B_mgmtVLAN_ip_address>	
<switch_Internal_VLANS_list>	
<management_server_mgmtInterface>	
<management_server_iLO_ip>	
<customer_supplied_ntp_server_address>	

Variable	Value
<platcfg_password>	Initial password as provided by Oracle
<management_server_mgmtInterface>	Value gathered from NAPD
<switch_backup_user>	admusr
<switch_backup_user_password>	Check application documentation

Note: The onboard administrators are not available during the configuration of Cisco 4948/4948E/4948E-F switches.

Note: Uplinks must be disconnected from the customer network prior to executing this procedure. One of the steps in this procedure will instruct when to reconnect these uplink cables. Refer to the application appropriate schematic or procedure for determining which cables are used for customer uplink.

Needed Material:

- HP MISC firmware ISO image
- Release Notes of the *HP Solutions Firmware Upgrade Pack* [2]
- Template xml files on the application media.

Note: Filenames and sample command line input/output throughout this section do not specifically reference the 4948E-F. Template settings are identical between the 4948E and 4948E-F. The original 4948 switch -- as opposed to the 4948E or the 4948E-F is referred to simply by the model number 4948. Where all three switches are referred to, this will be made clear by reference to '4948 / 4948E / 4948 E-F' switches.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. Virtual PM&C: Verify the IOS image is on the system. If the appropriate image does not exist, copy the image to the PM&C.

Determine if the IOS image for the 4948/4948E/4948E-F is on the PM&C.

```
$ /bin/ls -i /var/TKLC/smac/image/<IOS_image_file>
```

If the file exists, skip the remainder of this step and continue with the next step. If the file does not exist, copy the file from the firmware media and ensure the file is specified by the Release Notes of the *HP Solutions Firmware Upgrade Pack* [2]

2. Virtual PM&C: Modify PM&C Feature to allow TFTP.

Enable the DEVICE.NETWORK.NETBOOT feature with the management role to allow tftp traffic:

```
$ sudo /usr/TKLC/smac/bin/pmacadm editFeature --featureName=DEVICE.NETWORK.NETBOOT
--enable=1
$ sudo /usr/TKLC/smac/bin/pmacadm resetFeatures
```

Note: Ignore the sentry restart instructions.

Note: This may take up to 60 seconds to complete.

3. Virtual PM&C -> Management Server: Manipulate host server physical interfaces.

Exit from the virtual PM&C console, by entering `< ctrl-] >` and you will be returned to the server prompt.

Ensure that the interface of the server connected to switch1A is the only interface up and obtain the IP address of the management server management interface by performing the following commands:

```
$ sudo /sbin/ifup <ethernet_interface_1>
$ sudo /sbin/ifdown <ethernet_interface_2>
$ sudo /sbin/ip addr show <management_server_mgmtInterface> | grep inet
```

The command output should contain the IP address of the variable,
<management_server_mgmt_ip_address>

```
$ sudo /usr/bin/virsh console vm-pmac1A
```

Note: On a TVOE host, If you launch the virsh console, i.e., "\$ **sudo virsh console X**" or from the virsh utility "virsh # **console X**" command and you get garbage characters or output is not correct, then more than likely there is a stuck "virsh console" command already being run on the TVOE host. Exit out of the "virsh console", then run "**ps -ef | grep virsh**", then kill the existing process "**\$ sudo kill -9 <PID>**". Then execute the "**\$ sudo virsh console X**" command again. Your console session should now run as expected.

4. Virtual PM&C: Determine if switch1A PROM upgrade is required.

Note: ROM & PROM are intended to have the same meaning for this procedure

Connect to switch1A, check the PROM version.

Connect serially to switch1A by issuing the following command.

```
$ sudo /usr/bin/console -M <management_server_mgmt_ip_address> -l platcfg
switch1A_console
Enter platcfg@pmac5000101's password: <platcfg_password>
[Enter ^Ec? for help]
Press Enter
Switch> show version | include ROM
ROM: 12.2(31r)SGA1
System returned to ROM by reload
```

Note: If the console command fails, contact [My Oracle Support \(MOS\)](#).

Note the IOS image & ROM version for comparison in a following step. Exit from the console by entering <ctrl-e><c><. > and you will be returned to the server prompt.

Check the version from the previous command against the version from the release notes referenced. If the versions are different, perform the procedure in [Upgrade Cisco 4948 PROM](#) to upgrade the PROM for switch1A.

5. Virtual PM&C:

Extract the configuration files from the ZIP file copied in [Step 10](#) of [Setup PM&C](#).

```
$ cd /usr/TKLC/smac/etc
$ sudo unzip DSR_NetConfig_Templates.zip
$ sudo chown -R admusr.admgrp DSR_NetConfig_Templates
```

This will create a directory called "DSR_NetConfig_Templates" which contains the configuration files for all the supported deployments. Copy the necessary init file from "init/Aggregation" and the necessary config files from "config/TopoX" (where X refers to the appropriate topology) using the following commands. Make sure to replace "X" with the appropriate Topology number.

Note: A workaround is needed:

Remove the double right brackets for:

```
DSR_NetConfig_Templates/Topo1_L2/4948E-F_L2_configure.xml:
<option name="type">access</option>>
```

```
DSR_NetConfig_Templates/Topo4/6125XLG_Pair-2_template_configure.xml:
<!-- Multiple VLANs can be entered by stringing the VLANs in the
setAllowedVlans option Ex. 1-5 or 1,2,3,4,5 -->>
```

```
DSR_NetConfig_Templates/Topo1_L3/3020_template_configure.xml:
<!-- 'mode' is required on Cisco when adding interfaces -->>
```

Replace <configure> with <configure apiVersion="1.1"> within:
DSR_NetConfig_Templates/utility/addQOS_trafficeTemplate_6120XG.xml

```
# sudo cp DSR_NetConfig_Templates/init/Aggregation/*
/usr/TKLC/smac/etc/switch/xml/
# sudo cp DSR_NetConfig_Templates/config/TopoX/* /usr/TKLC/smac/etc/switch/xml/
```

6. Virtual PM&C: Modify switch1A_4948_4948E_init.xml and switch1B_4948_4948E_init.xml files for information needed to initialize the switch.

Update the init.xml files for all values preceded by a dollar sign. For example, if a value has \$some_variable_name, that value will be modified and the dollar sign must be removed during the modification.

When done editing the file, save and exit to return to the command prompt.

7. Virtual PM&C: Modify 4948E-F_configure.xml for information needed to configure the switches. Update the configure.xml file for all values preceded by a dollar sign. For example, if a value has \$some_variable_name, that value will be modified and the dollar sign must be removed during the modification.

When done editing the file, save and exit to return to the command prompt.

Note: For IPv6 Configurations, IPv6 over NTP is NOT currently supported on the Cisco 4948E-F aggregation switches. This function must be configured for IPv4.

8. Virtual PM&C: Initialize switch1A

Initialize switch1A by issuing the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/switch1A_4948_4948E_init.xml
Processing file: /usr/TKLC/smac/etc/switch/xml/switch1A_4948_4948E_init.xml
$
```

Note: This step takes about 5-10 minutes to complete.

Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact [My Oracle Support \(MOS\)](#).

A successful completion of netConfig will return the user to the prompt.

Use netConfig to get the hostname of the switch, to verify that the switch was initialized properly, and to verify that netConfig can connect to the switch.

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=switch1A getHostname
Hostname: switch1A
$
```

Note: If this command fails, stop this procedure and contact [My Oracle Support \(MOS\)](#).

9. Virtual PM&C: Verify the switch is using the proper IOS image per Platform version.

Issue the following commands to verify the IOS release on each switch:

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=switch1A getFirmware
Version: 122-54.XO
License: entservicesk9
Flash: cat4500e-entservicesk9-mz.122-54.XO.bin
```

10. Virtual PM&C -> Management Server: Manipulate host server physical interfaces for switch1B.

Exit from the virtual PM&C console, by entering `< ctrl-] >` and you will be returned to the server prompt.

Ensure that the interface of the server connected to switch1B is the only interface up and obtain the IP address of the management server management interface by performing the following commands:

```
$ sudo /sbin/ifup <ethernet_interface_2>
$ sudo /sbin/ifdown <ethernet_interface_1>
$ sudo /sbin/ip addr show <management_server_mgmtInterface> | grep inet
```

The command output should contain the IP address of the variable

`<management_server_mgmt_ip_address>`

Connect to the Virtual PM&C by logging into the console of the virtual PM&C instance found in [Step 2 of Configure netConfig Repository](#).

```
$ sudo /usr/bin/virsh console vm-pmac1A
```

Note: On a TVOE host, If you launch the virsh console, i.e "# virsh console X" or from the virsh utility "virsh # console X" command and you get garbage characters or output is not quite right, then more than likely there is a stuck "virsh console" command already being run on the TVOE host. Exit out of the "virsh console", then run "ps -ef | grep virsh", then kill the existing process "kill -9 <PID>". Then execute the "virsh console X" command. Your console session should now run as expected.

11. Virtual PM&C: Determine if switch1B PROM upgrade is required.

Note: ROM & PROM are intended to have the same meaning for this procedure

Connect to switch1A, check the PROM version.

Connect serially to switch1A by issuing the following command.

```
$ sudo /usr/bin/console -M <management_server_mgmt_ip_address> -l platcfg
switch1A_console
Enter platcfg@pmac5000101's password: <platcfg_password>
[Enter ^Ec? for help]
Press Enter
Switch> show version | include ROM
ROM: 12.2(31r)SGA1
System returned to ROM by reload
```

Check the version from the previous command against the version from the release notes referenced. If the versions are different, perform the procedure in [Upgrade Cisco 4948 PROM](#) to upgrade the PROM for switch1B.

Note: If the console command fails, contact [My Oracle Support \(MOS\)](#).

Note the IOS image & ROM version for comparison in a following step. Exit from the console by entering <ctrl-e><c><. > and you will be returned to the server prompt.

12. Virtual PM&C: Initialize switch1B

Initialize switch1B by issuing the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/switch1B_4948_4948E_init.xml
Processing file: /usr/TKLC/smac/etc/switch/xml/switch1B_4948_4948E_init.xml
$
```

Note: This step takes about 5-10 minutes to complete.

Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact [My Oracle Support \(MOS\)](#).

A successful completion of netConfig will return the user to the prompt.

Use netConfig to get the hostname of the switch, to verify that the switch was initialized properly, and to verify that netConfig can connect to the switch.

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=switch1B getHostname
Hostname: switch1B
$
```

Note: If this command fails, stop this procedure and contact [My Oracle Support \(MOS\)](#).

13. Virtual PM&C: Verify the switch is using the proper IOS image per Platform version.

Issue the following commands to verify the IOS release on each switch:

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=switch1B getFirmware

Version: 122-54.X0

License: entservicesk9

Flash: cat4500e-entservicesk9-mz.122-54.X0.bin
```

14. Virtual PM&C: Modify PM&C Feature to disable TFTP.

Disable the DEVICE.NETWORK.NETBOOT feature.

```
$ sudo /usr/TKLC/smac/bin/pmacadm editFeature --featureName=DEVICE.NETWORK.NETBOOT
--enable=0
$ sudo /usr/TKLC/smac/bin/pmacadm resetFeatures
```

Note: This may take up to 60 seconds to complete.

15. Virtual PM&C: Configure both switches

Configure both switches by issuing the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/4948_4948E_configure.xml
Processing file: /usr/TKLC/smac/etc/switch/xml/4948_4948E_configure.xml
$
```

Note: This may take about 2-3 minutes to complete.

Check the output of this command for any errors. If this fails for any reason, stop this procedure and contact [My Oracle Support \(MOS\)](#).

A successful completion of netConfig will return the user to the prompt.

16. Management Server: Ensure both interfaces are enabled on the TVOE host.

Press **Ctrl-]** to exit the virtual PM&C console. This will return the terminal to the server prompt.

Ensure that the interfaces of the server connected to switch1A and switch1B are up by performing the following commands:

```
$ sudo /sbin/ifup <ethernet_interface_1>
$ sudo /sbin/ifup <ethernet_interface_2>
```

17. Cabinet: Connect network cables from customer network

Attach switch1A customer uplink cables. Refer to application documentation for which ports are uplink ports.

Note: If the customer is using standard 802.1D spanning-tree, the links may take up to 50 seconds to become active

18. Virtual PM&C: Verify access to customer network

Verify connectivity to the customer network by issuing the following command:

```
$ /bin/ping <customer_supplied_ntp_server_address>
PING ntpserver1 (10.250.32.51) 56(84) bytes of data.
64 bytes from ntpserver1 (10.250.32.51): icmp_seq=0 ttl=62 time=0.150 ms
64 bytes from ntpserver1 (10.250.32.51): icmp_seq=1 ttl=62 time=0.223 ms
64 bytes from ntpserver1 (10.250.32.51): icmp_seq=2 ttl=62 time=0.152 ms
```

19. Cabinet: Connect network cables from customer network

Attach switch1B customer uplink cables and detach switch1A customer uplink cables. Refer to application documentation for which ports are uplink ports.

Note: If the customer is using standard 802.1D spanning-tree, the links may take up to 50 seconds to become active.

20. Virtual PM&C: Verify access to customer network

Verify connectivity to the customer network by issuing the following command:

```
$ /bin/ping <customer_supplied_ntp_server_address>
PING ntpserver1 (10.250.32.51) 56(84) bytes of data.
64 bytes from ntpserver1 (10.250.32.51): icmp_seq=0 ttl=62 time=0.150 ms
64 bytes from ntpserver1 (10.250.32.51): icmp_seq=1 ttl=62 time=0.223 ms
64 bytes from ntpserver1 (10.250.32.51): icmp_seq=2 ttl=62 time=0.152 ms
```

21. Cabinet: Connect network cables from customer network

Re-attach switch1A customer uplink cables. Refer to application documentation for which ports are uplink ports.

Note: If the customer is using standard 802.1D spanning-tree, the links may take up to 50 seconds to become active

22. Management Server: Restore the TVOE host back to its original state.

Press **Ctrl-]** to exit the virtual PM&C console. This will return the terminal to the server prompt.

Restore the server networking back to original state:

```
$ sudo /sbin/service network restart
```

23. Perform [Backup Cisco 4948/4948E/4948E-F Aggregation Switch and/or Cisco 3020 Enclosure Switch \(netConfig\)](#) for each switch configured in this procedure.

Configure PM&C for Netbackup (Optional)

Configure NetBackup Feature

If the PM&C application will be configured with the optional NetBackup feature and the NetBackup client will be installed on this server execute the following procedure with the appropriate NetBackup feature data, otherwise continue with next procedure.

Configure PM&C Application

Configuration of the PM&C application is typically performed using the PM&C GUI. This procedure defines application and network resources. At a minimum, you should define network routes and DHCP pools. Unlike initialization, configuration is incremental, so you may execute this procedure to modify the PM&C configuration.

Note: The installer must be knowledgeable of the network and application requirements. The final step will configure and restart the network and the PM&C application; network access will be briefly interrupted.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. PM&C GUI: Load GUI and navigate to the Configuration view

Open web browser and enter:

```
https://<pmac_management_network_ip>
```

Login as pmacadmin user.



Oracle System Login

Tue Sep 1 20:26:21 2015 UTC

Log In

Enter your username and password to log in

Session was logged out at 8:26:21 pm.

Username:

Password:

☐ Change password

Unauthorized access is prohibited. This Oracle system requires the use of Microsoft Internet Explorer 9.0, 10.0, or 11.0 with support for JavaScript and cookies.

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Navigate to **Main Menu > Administration > PM&C Configuration**.

2. PM&C GUI: Select a profile

Click on **Feature Configuration** in the navigation pane.

3. PM&C GUI: Configure optional features

If NetBackup is to be used, enable the NetBackup feature. Otherwise use the selected features as is. This image is for reference only:

Feature	Description	Role	Enabled
DEVICE.NETWORK.NETBOOT	Network device PXE initialization	Management	<input type="checkbox"/>
DEVICE.NTP	PM&C as a time server	Management	<input checked="" type="checkbox"/>
PMAC.MANAGED	Remote management of PM&C server	Management	<input type="checkbox"/>
PMAC.REMOTE.BACKUP	Remote server for backup	Management	<input checked="" type="checkbox"/>
PMAC.NETBACKUP	NetBackup client	Management	<input type="checkbox"/>
PMAC.IPV6.NOAUTOCONFIG	PMAC IPv6 interface disable autoconfiguration	NULL	<input type="checkbox"/>

The **"Enabled"** checkbox selects the desired features. The **"Role"** field provides a drop-down list of known network roles that the feature may be associated with. The **"Description"** may be edited if desired.

If the feature should be applied to a new network role (e.g. **"NetBackup"**), click on the **"Add Role"** button. Enter the name of the new role and click on **"Add"**. (Note: role names are not significant, they are only used to associate features with networks). The new role name will appear in the **"Role"** drop-down field for features.

When done, click on the **"Apply"** button. This foreground task will take a few moments, and then refresh the view with an Info or Error notice to verify the action. To discard changes, just navigate away from the view.

4. PM&C GUI: Reconfigure PM&C networks

Note: The Network reconfiguration enters a tracked state. After you click on **"Reconfigure"**, you should use a **"Cancel"** button to abort.

Click on **"Network Configuration"** in the navigation pane, and follow the wizard through the configuration task.

- a) Click on **"Reconfigure"** to display the **"Network"** view. The default **"management"** and **"control"** networks should be configured correctly. Networks may be added, deleted or modified from this view. They are defined with IPv4 dotted-quad addresses and netmasks, or with IPv6 colon hex addresses and a prefix. When complete, click on **"Next"**.
- b) On the **"Network Roles"** view, you may change the role of a network. Network associations can be added (e.g. **"NetBackup"**) or deleted. You cannot add a new role since roles are driven from features. When complete, click on **"Next"**.
- c) On the **"Network Interfaces"** view, you may add or delete interfaces, and change the IP address within the defined network space. If you add a network (again, for example, **"NetBackup"**), the **"Add Interface"** view is displayed when clicking on **"Add"**. This view provides an editable drop-down field of known interfaces. You may add a new device here if necessary. The Address must be an IPv4 or IPv6 host address in the network. When complete, click on **"Next"**.
- d) On the **"Routes"** view, you may add or delete route destinations. The initial PM&C deployment does not define routes. Most likely you will want to add a default route - the route already exists, but this action defines it to PM&C so it may be displayed by PM&C. Click on **"Add"**. The Add Route view provides an editable drop-down field of known devices. Select the egress

device for the route. Enter an IPv4 dotted-quad address and netmask or an IPv6 colon hex address and prefix for the route destination and next-hop gateway. Then click on **"Add Route"**. When complete, click on **"Next"**.

- e) On the **"DHCP Ranges"** view, you will need to define DHCP pools used by servers that PM&C manages. Click on the **"Add"** button. Enter the starting and ending IPv4 address for the range on the network used to control servers (by default, the **"control"** network). Click on **"Add DHCP Range"**. Only one range per network may be defined. When all pools are defined, click on **"Next"**.
 - f) The **"Configuration Summary"** provides a view of your reconfigured PM&C. Click **"Finish"** to launch the background task that will reconfigure the PM&C application. A Task and Info or Error notice is displayed to verify your action.
 - g) Verify your reconfiguration task completes. Navigate to: **Main Menu > Task Monitoring**. As the network is reconfigured, you will have a brief network interruption. From the Background Task Monitoring view, verify the **"Reconfigure PM&C"** task succeeds.
5. PM&C GUI: Set the PM&C Application GUI Site Settings
 Navigate to **Main Menu > Administration > GUI Site Settings**
 Set the **"Site name"** to a descriptive name, and set the **"Welcome Message"** that is displayed upon login.
 6. PM&C: Perform PM&C application backup.

```
$ sudo /usr/TKLC/smac/bin/pmacadm backup
PM&C backup been successfully initiated as task ID 7
$
```

Note: The backup runs as a background task. To check the status of the background task use the PM&C GUI Task Monitor page, or issue the command **"pmaccli getBgTasks"**. The result should eventually be **"PM&C Backup successful"** and the background task should indicate **"COMPLETE"**.

Note: The **"pmacadm backup"** command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.

7. PM&C: Verify the Backup was successful

Note: If the background task shows that the backup failed, then the backup did not complete successfully. STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

The output of **pmaccli getBgTasks** should look similar to the example below:

```
$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks
2: Backup PM&C COMPLETE - PM&C Backup successful
Step 2: of 2 Started: 2012-07-05 16:53:10 running: 4 sinceUpdate: 2 taskRecordNum:
2 Server Identity:
Physical Blade Location:
Blade Enclosure:
Blade Enclosure Bay:
Guest VM Location:
Host IP:
Guest Name:
TPD IP:
Rack Mount Server:
IP:
```

Name :
: :

8. PM&C: Save the PM&C backup

The PM&C backup must be moved to a remote server. Transfer (sftp, scp, rsync, or preferred utility), the PM&C backup to an appropriate remote server. The PM&C backup files are saved in the following directory: "/var/TKLC/smac/backup".

Install and Configure NetBackup Client on PM&C

If the PM&C application will be configured with the optional NetBackup feature and the NetBackup client will be installed on this server execute the following procedure with the appropriate NetBackup feature data, otherwise continue with next procedure.

PM&C NetBackup Client Installation and Configuration

This procedure provides instructions for installing and configuring the Netbackup client software on a PM&C application.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. PM&C GUI: Verify the PM&C application guest has been configured with "NetBackup" virtual disk.

Execute [Configure PM&C Application Guest NetBackup Virtual Disk](#).

2. TVOE Management Server iLO: Log in with PM&C admusr credentials

Log into iLo using application provided passwords via [How to Access a Server Console Remotely](#)

Log into iLO in IE using password provided by application:

```
http://<management_server_iLO_ip>
```

Click in the **Remote Console** tab and launch the Integrated Remote Console on the server.

Click **Yes** if the Security Alert pops up.

3. TVOE Management Server iLO: Log in with PM&C admusr credentials

Note: On a TVOE host, If you launch the virsh console, i.e., "\$ **sudo /usr/bin/virsh console X**" or from the virsh utility "virsh # **console X**" command and you get garbage characters or the output is incorrect, then there is likely a stuck "virsh console" command already being run on the TVOE host. Exit out of the "virsh console", then run "**ps -ef |grep virsh**", then kill the existing process "**kill -9 <PID>**". Then execute the "virsh console X" command. Your console session should now run as expected.

Log into PM&C console using virsh, and wait until you see the login prompt:

```
$ sudo /usr/bin/virsh
virsh # list
  Id      Name                                State
  -----
  4       pmacU17-1                          running
virsh # console pmacU17-1
```

```
[Output Removed]
```

```
pmacU17-1 login:
```

4. PM&C: Perform [Application NetBackup Client Install/Upgrade Procedures](#).

Note: The following data is required to perform the [Application NetBackup Client Install/Upgrade Procedures](#):

- Netbackup support:
 - PM&C 5.7.0 supports Netbackup client software versions 7.1 and 7.5.
 - PM&C 5.7.1 supports Netbackup client software versions 7.1, 7.5, and 7.6.
- The PM&C is a 64 bit application; the appropriate Netbackup client software versions are 7.1 and 7.5.
- The PM&C application NetBackup user is "NetBackup". See appropriate documentation for the password.
- The paths to the PM&C application software NetBackup notify scripts are:
 - /usr/TKLC/smac/sbin/bpstart_notify
 - /usr/TKLC/smac/sbin/bpend_notify
- For the PM&C application the following is the NetBackup server policy files list:
 - /var/TKLC/smac/image/repository/*.iso
 - /var/TKLC/smac/backup/backupPmac*.pef

After executing the [Application NetBackup Client Install/Upgrade Procedures](#), the NetBackup installation and configuration on the PM&C application server is complete.

Note: At the NetBackup Server the NetBackup policy(ies) can now be created to perform the NetBackup backups of the PM&C application.

HP C-7000 Enclosure Configuration

Note: This section will apply if the installation includes one or more HP C-7000 Enclosures. It will use the HP Onboard Administrator user interfaces (insight display, and OA GUI) to configure the enclosure settings.

Configure Initial OA IP

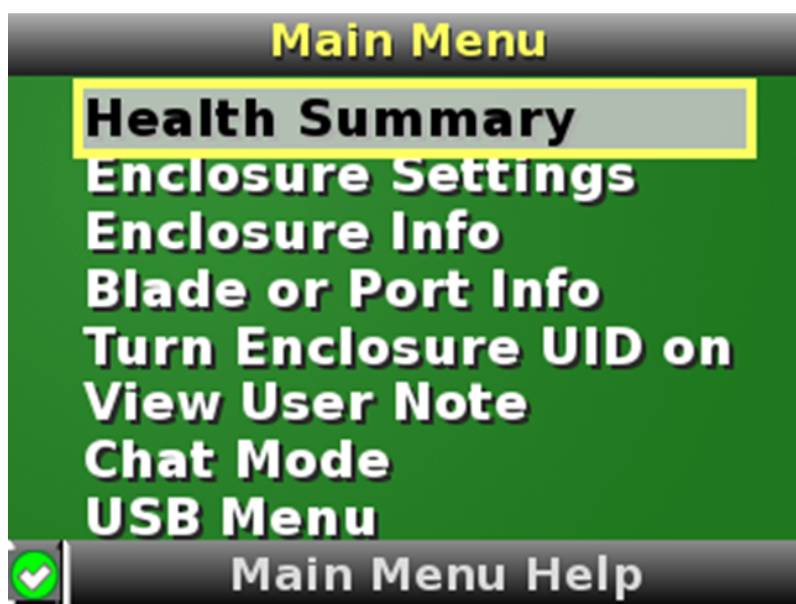
This procedure will set initial IP address for Onboard Administrator in location OA Bay 1 (left as viewed from rear) and Bay 2, using the front panel display.

Note: The enclosure should be provisioned with two Onboard Administrators. This procedure needs to be executed only for OABay 1, regardless of the number of OA's installed in the enclosure.

Note: If a procedural step fails to execute successfully, stop and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Configure OA Bay1 IP address using insight display on the front side of the enclosure.

You will see the following:



2. Navigate to **Enclosure Settings** and press **OK**.



Note: The OA1 IP and OA2 IP menu settings in this procedure may indicate "OA1 IPv4" or "OA1 IPv6". In either case, select this menu setting to set the OA IP address

3. Navigate to the **OA1 IP menu setting** and press **OK**.
4. If setting the IPv4 address:
 - a) Navigate to the **OA1 IPv4** and press **OK**.
 - b) On the **OA1 Network Mode** screen, choose **static** and press **OK**.
 - c) Select **Accept** and press **OK**.
 - d) On the **Change:OA1 IP address** screen, fill in data below and press **OK**.
 1. IP
 2. MASK

3. gateway
 - e) Select **Accept** and press **OK**.
 - f) Navigate to **OA2 IP menu setting** on the Insight display and repeat the above steps to assign the IP parameters of OA2.
5. If setting the IPv6 address:
 - a) Navigate to the **OA1 IPv6** and press **OK**.
 - b) On the **Change: OA1 IPv6 Status** menu, select the **Enabled** option and press **OK**.
 - c) Select **Accept** and press **OK**.
 - d) On the **Change:OA1 IPv6 Settings** screen, fill in appropriate data below and press **OK**.
 1. Set the **Static IPv6** address to the globally scoped address and prefix, and press **OK**.
 2. Leave the DHCPv6 option as **Disabled**.
 3. Leave the SLAAC option as **Disabled**.
 4. If a static Gateway address is to be configured, navigate to **Static Gateway** and press **OK**.
 - a. Select the Static Gateway IPv6 Address and press **OK**.
 - b. Select **Set** and press **OK**.
 5. Navigate to **OA2 IP menu setting** on the Insight display and repeat the above steps to assign the IP parameters of OA2.
 6. Select **Accept All** and press **OK**.

The **Main Menu** is displayed.

Configure Initial OA Settings Using the Configuration Wizard

This procedure will configure initial OA settings using a configuration wizard. This procedure should be used for initial configuration only and should be executed when the Onboard Administrator in OA Bay 1 (left as viewed from rear) is installed and active.

Note: The enclosure should be provisioned with two Onboard Administrators. Note that the OA in Bay 2 will automatically acquire its configuration from the OA in Bay 1 after the configuration is complete.

Note: This procedure should be used for initial configuration only. Follow [Determining Which Onboard Administrator Is Active](#) to learn how to correctly replace one of the Onboard Administrators.

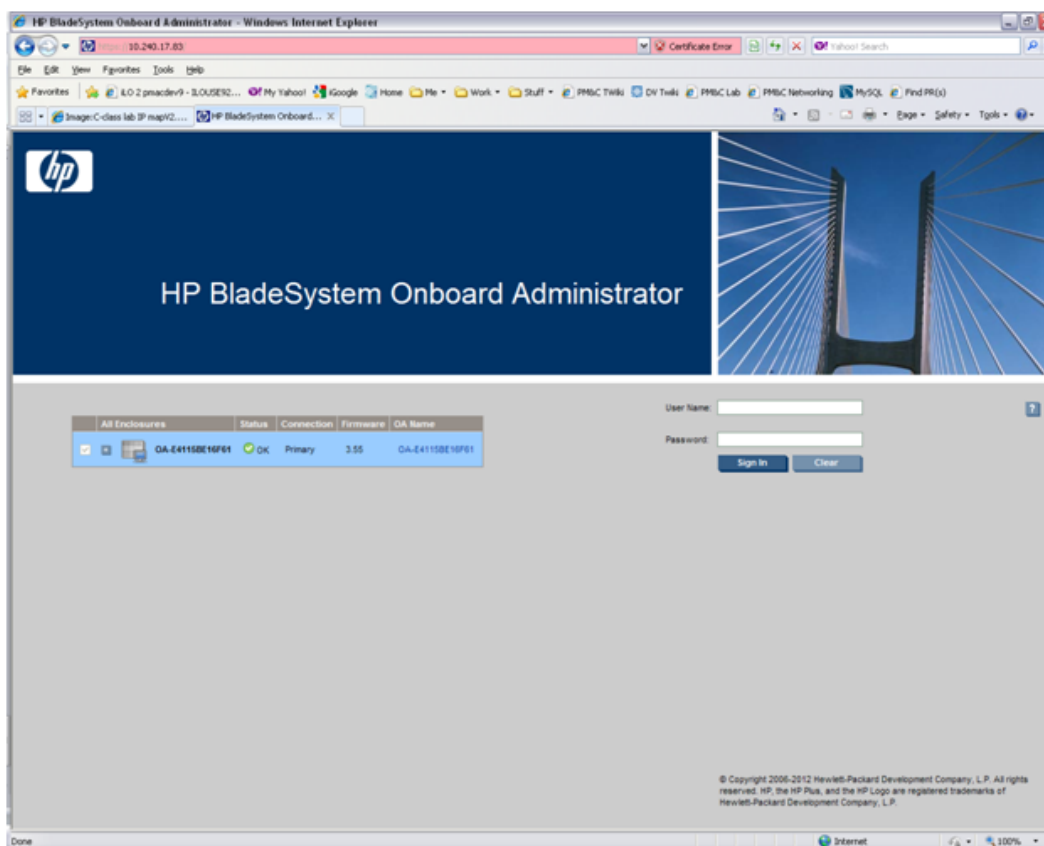
Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. OAGUI: Login

Open your web browser and navigate to the OA Bay1 IP address assigned in [Configure Initial OA IP](#).

```
http://<OA1_ip>
```

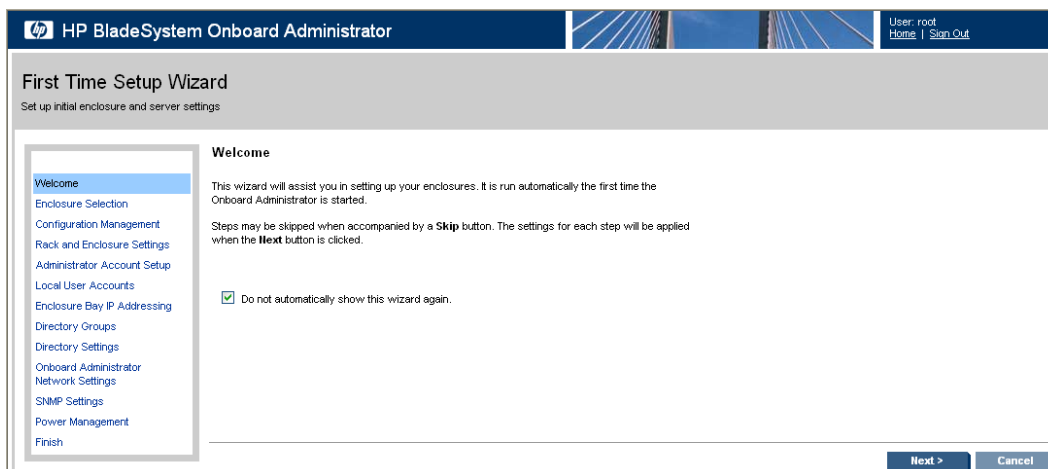
You will see the following:



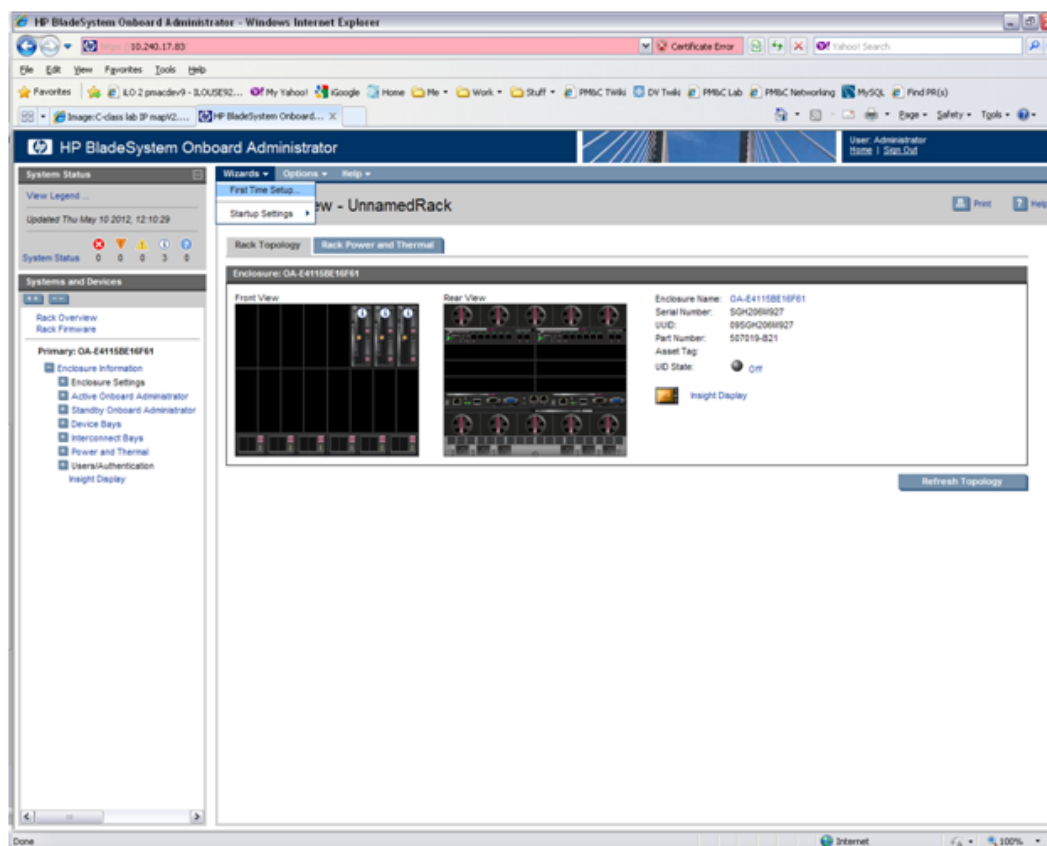
Log in as an administrative user. The original password is on a paper card attached to each OA.

2. Run First Time Setup wizard

You will see the main wizard window:



Note: If needed, navigate to **Wizards > First Time Setup** to get to the screen above.

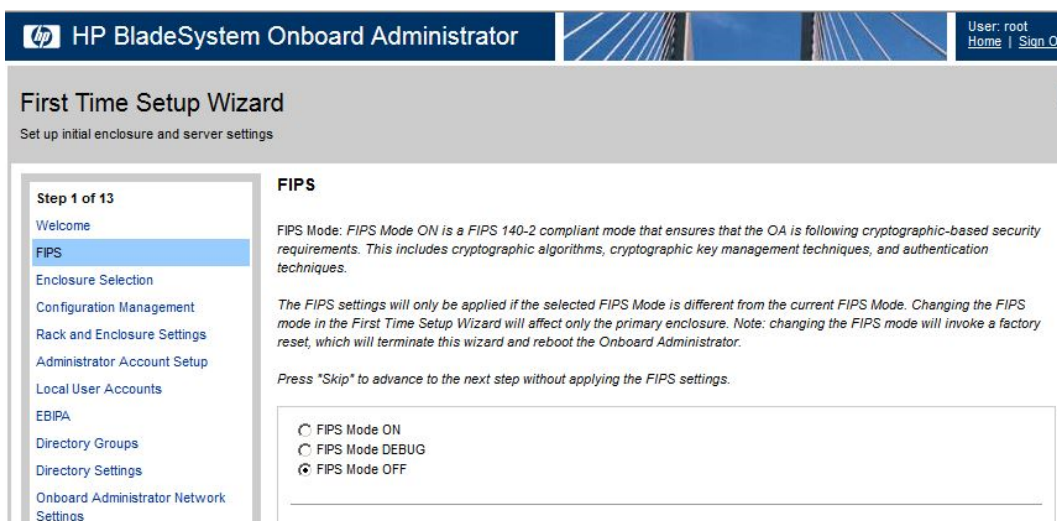


Click on **Next** to choose the enclosure you want to configure.

You will see **Rack and Enclosure Settings**:

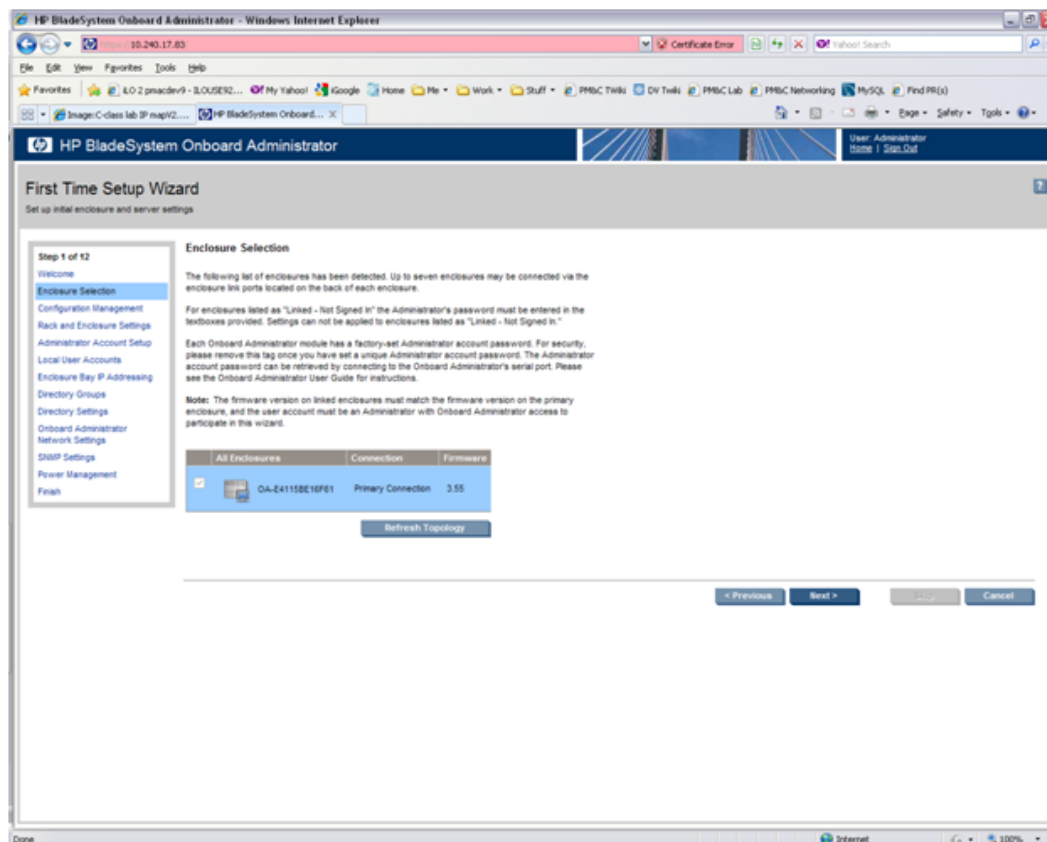
3. OAGUI: FIPS

Click on **Next**. FIPS mode is not currently supported.



4. OAGUI: Select enclosure

Choose enclosure:



Click on **Next**.

5. OAGUI: Skip Configuration Management

You will see **Configuration Management**. Skip this step. Click **Next**.

6. OAGUI: Rack and Enclosure Settings

You should see this screen:

Fill in **Rack Name** in format **xxxx_xxx**.

Fill in **Enclosure name** in format **<rack name>_<position>**

Example:

Rack Name: 500_03
Enclosure Name: 500_03_03

Note: Enclosure positions are numbered from 1 at the bottom of the rack to 4 at the top.

Check **Set time using an NTP server** item and fill in **Primary NTP server** (which is recommended to be set to the <customer_supplied_ntp_server_address>).

Set **Poll interval** to 720.

Set **Time Zone** to UTC if the customer does not have any specific requirements.

Click on **Next**.

7. OAGUI: Change administrator password

You can see Administrator Account Setup:

HP BladeSystem Onboard Administrator | User: root | Home | Sign Out

First Time Setup Wizard

Set up initial enclosure and server settings

Step 4 of 12

- Welcome
- Enclosure Selection
- Configuration Management
- Rack and Enclosure Settings
- Administrator Account Setup**
- Local User Accounts
- Enclosure Bay IP Addressing
- Directory Groups
- Directory Settings
- Onboard Administrator
- Network Settings
- SNMP Settings
- Power Management
- Finish

Administrator Account Setup

The Administrator account is the master administrator account for the enclosure. This account has all possible privileges for all devices in the enclosure. These account settings will be applied to the built-in Administrator account for each enclosure you have selected.

Note: If this is your first time logging in, there is a physical tag attached to the Onboard Administrator module which contains the factory-set password.

Required Field *

User Name:* Administrator

Password:*

Password Confirm:*

Full Name: System Administrator

Contact:

Enabling PIN protection will require a PIN code to be entered before using the enclosure's Insight Display. The PIN is alpha-numeric and must have a length from one to six characters.

☐ Enable PIN Protection

PIN Code:

PIN Code Confirm:

< Previous Next > Skip Cancel

Change Administrator's password (refer to application documentation) and click **Next**.

8. OAGUI: Create pmacadmin and admusr user.

On the **Local User Accounts** screen click on **New** to add **pmacadmin** user.

You will see **User Settings** screen. Fill in **User Name** and **Password**. **Privilege Level** set to **Administrator**. Refer to the application documentation for the password.

Verify that all of the blades have been checked before proceeding to check the checkbox for **Onboard Administrator Bays** under the **User Permissions** section.

Then click on **Add User**.

In the same way, create the **admusr** user.

HP BladeSystem Onboard Administrator User: root Home | Sign Out

First Time Setup Wizard

Set up initial enclosure and server settings

Step 6 of 13

- Welcome
- FIPS
- Enclosure Selection
- Configuration Management
- Rack and Enclosure Settings
- Administrator Account Setup
- Local User Accounts**
- EBIPA
- Directory Groups
- Directory Settings
- Onboard Administrator Network Settings
- SNMP Settings
- Power Management
- Finish

Local User Accounts

Local user accounts (up to 30) may be established for individual devices (server blades, network modules, and storage modules). Users can be granted or denied access to specific device bays in the enclosure.

The list below displays the currently configured users in the enclosure you are signed in to. You may add, edit, and delete users from this screen. Click **Next** to continue when you are finished configuring users.

900_12_16 Users

	Username	Privilege Level	Full Name	Contact	Account Status
<input type="checkbox"/>	Administrator	ADMINISTRATOR	System Administrator		Enabled
<input type="checkbox"/>	admusr	ADMINISTRATOR			Enabled
<input type="checkbox"/>	pmacadmin	ADMINISTRATOR			Enabled

New Edit Delete

< Previous Next > Skip Cancel

Then click **Next**.

9. OAGUI: EBIPA settings

- On the **EBIPA Settings** (Enclosure Bay IP Addressing) screen, click **Next** to continue or **Skip** if the EBIPA has been configured.

Note: Setting up the EBIPA addresses is required.

HP BladeSystem Onboard Administrator User: root Home | Sign Out

First Time Setup Wizard

Set up initial enclosure and server settings

Step 7 of 13

- Welcome
- FIPS
- Enclosure Selection
- Configuration Management
- Rack and Enclosure Settings
- Administrator Account Setup
- Local User Accounts
- EBIPA**
- Directory Groups
- Directory Settings
- Onboard Administrator Network Settings
- SNMP Settings
- Power Management
- Finish

EBIPA

Enclosure Bay IP Addressing (EBIPA) allows you to assign a range of fixed IP addresses to the device bays and/or interconnect bays in the enclosure. These IP addresses will be used by the server blade iLO ports once inserted into a bay. In addition, an interconnect module (switch) management port will use the pre-assigned IP address once inserted into the interconnect bay.

Note: Skip this step if your network has an external DHCP service, or if you wish to manually assign static IP addresses one by one to the server blades and interconnect modules.

For more information on EBIPA, click on the Help icon "?" at the top right of this screen.

Click **Next** to continue or **Skip** if you do not wish to use Enclosure Bay IP Addressing.

< Previous Next > Skip Cancel

- If configuring the OA with IPv4 addresses, select the First Time Setup Wizard **EBIPA: IPv4** and enter the appropriate data. Otherwise, if configuring the OA with IPv6 addresses, skip to the next step.

HP BladeSystem Onboard Administrator

User: root | Home | Sign Out

First Time Setup Wizard

Set up initial enclosure and server settings

Step 7.1 of 13

- Welcome
- FIPS
- Enclosure Selection
- Configuration Management
- Rack and Enclosure Settings
- Administrator Account Setup
- Local User Accounts
- EBIPA**
 - IPv4**
 - IPv6
- Directory Groups
- Directory Settings
- Onboard Administrator Network Settings
- SNMP Settings
- Power Management
- Finish

IPv4

Device Bay iLO Processor Address Range: The form below provides fixed IP address assignment to the device bays in the enclosure. If there is an IP address in the Current Address column, the device (iLO) has previously been configured or has received a DHCP address.

Note: All of the selected iLO Processors will be reset if the protocol is enabled. If each iLO has been previously given a static IP address, these EBIPA settings will not change the static IP address. If the iLO IP address has been configured via an external DHCP service, the EBIPA settings will override the existing DHCP address.

When EBIPA is configured the network is checked for duplicate IP addresses. This process may take several minutes, especially if multiple enclosures have been selected.

Device List: This list displays the IP addresses that will be assigned to each of the device bays if EBIPA is enabled. **Note:** Clicking the autofill "down arrow" button will fill in consecutive IP addresses for all of the device bays below the arrow. The subnet mask, gateway, domain, and DNS servers will also be copied to each of the consecutive bays in the list.

Bay	Enabled	EBIPA Address	Subnet Mask	Gateway	Domain	DNS Servers	Autofill	Current Address
1	<input checked="" type="checkbox"/>	10.240.72.11	255.255.255.0	10.240.72.1				10.240.72.11
2	<input checked="" type="checkbox"/>	10.240.72.12	255.255.255.0	10.240.72.1				N/A
3	<input checked="" type="checkbox"/>	10.240.72.13	255.255.255.0	10.240.72.1				10.240.72.13
4	<input checked="" type="checkbox"/>	10.240.72.14	255.255.255.0	10.240.72.1				10.240.72.14
5	<input checked="" type="checkbox"/>	10.240.72.15	255.255.255.0	10.240.72.1				10.240.72.15
6	<input checked="" type="checkbox"/>	10.240.72.16	255.255.255.0	10.240.72.1				N/A

- Go to the Device List section of the EBIPA Settings Screen (at the top).
- Fill in the iLO IP, Subnet Mask, and Gateway fields for Device Bays 1-16.
- Do not fill in the iLO IP, subnet Mask, or Gateway fields for Device Bays 1A-16A and 1B-16B.
Note: Bays 1A-16A and 1B-16B are used for double-density blades (i.e., BL2x220c) which are not supported in this release.
- Click Enabled on each Device Bay 1 through 16 that is in use.
Note: Any unused slots should have an ip address assigned, but should be disabled.
Note: Do not use autofill as this will fill the entries for the Device Bays 1A through 16B.
- Scroll down to the InterconnectList (below Device Bay 16B).

HP BladeSystem Onboard Administrator

User: root Home | Sign Out

First Time Setup Wizard

Set up initial enclosure and server settings

Step 7.1 of 13

- Welcome
- FIPS
- Enclosure Selection
- Configuration Management
- Rack and Enclosure Settings
- Administrator Account Setup
- Local User Accounts
- EBIPA
- IPv4**
- IPv6
- Directory Groups
- Directory Settings
- Onboard Administrator Network Settings
- SNMP Settings
- Power Management
- Finish

IPv4

Device Bay iLO Processor Address Range: The form below provides fixed IP address assignment to the device bays in the enclosure. If there is an IP address in the Current Address column, the device (iLO) has previously been configured or has received a DHCP address.

Note: All of the selected iLO Processors will be reset if the protocol is enabled. If each iLO has been previously given a static IP address, these EBIPA settings will not change the static IP address. If the iLO IP address has been configured via an external DHCP service, the EBIPA settings will override the existing DHCP address.

When EBIPA is configured the network is checked for duplicate IP addresses. This process may take several minutes, especially if multiple enclosures have been selected.

Device List: This list displays the IP addresses that will be assigned to each of the device bays if EBIPA is enabled. Note: Clicking the autofill "down arrow" button will fill in consecutive IP addresses for all of the device bays below the arrow. The subnet mask, gateway, domain, and DNS servers will also be copied to each of the consecutive bays in the list.

Bay	Enabled	EBIPA Address	Subnet Mask	Gateway	Domain	DNS Servers	Autofill	Current Address
1	<input checked="" type="checkbox"/>	10.240.72.11	255.255.255.0	10.240.72.1				10.240.72.11
2	<input checked="" type="checkbox"/>	10.240.72.12	255.255.255.0	10.240.72.1				N/A
3	<input checked="" type="checkbox"/>	10.240.72.13	255.255.255.0	10.240.72.1				10.240.72.13
4	<input checked="" type="checkbox"/>	10.240.72.14	255.255.255.0	10.240.72.1				10.240.72.14
5	<input checked="" type="checkbox"/>	10.240.72.15	255.255.255.0	10.240.72.1				10.240.72.15
6	<input checked="" type="checkbox"/>	10.240.72.16	255.255.255.0	10.240.72.1				N/A

- Fill in the EBIPA Address, Subnet Mask, and Gateway fields for each Interconnect Bay in use. Click Enable on each Interconnect Bay in use.
 - By clicking **Next**, you will apply those settings. System may restart devices such as interconnect devices or iLOs to apply new addresses. After finishing, check the IP addresses to ensure that apply was successful.
- c) If configuring the OA with IPv6 addresses, select the First Time Setup Wizard **EBIPA: IPv6** and enter the appropriate data.

HP BladeSystem Onboard Administrator

User: root Home | Sign Out

First Time Setup Wizard

Set up initial enclosure and server settings

Step 7.2 of 13

- Welcome
- FIPS
- Enclosure Selection
- Configuration Management
- Rack and Enclosure Settings
- Administrator Account Setup
- Local User Accounts
- EBIPA
- IPv4
- IPv6**
- Directory Groups
- Directory Settings
- Onboard Administrator Network Settings
- SNMP Settings
- Power Management
- Finish

IPv6

Device Bay iLO Processor Address Range: The form below provides fixed IPv6 address assignment to the device bays in the enclosure. If there is an IPv6 address in the EBIPA Address field, the device (iLO) has previously been configured or has received a DHCPv6 address.

Note: All of the selected iLO Processors will be reset if the protocol is enabled. If each iLO has been previously given a static IPv6 address, these EBIPA settings will not change the static IPv6 address. If the iLO IPv6 address has been configured via an external DHCPv6 service, the EBIPA settings will override the existing DHCPv6 address.

When EBIPA is configured the network is checked for duplicate IPv6 addresses. This process may take several minutes, especially if multiple enclosures have been selected.

Device List: This list displays the IPv6 addresses that will be assigned to each of the device bays if EBIPA is enabled. Note: Clicking the autofill "down arrow" button will fill in consecutive IPv6 addresses for all of the device bays below the arrow. The domain and DNS servers will also be copied to each of the consecutive bays in the list.

Bay	Enabled	EBIPA Address	Gateway	Domain	DNS Servers	Autofill	Current Address
1	<input type="checkbox"/>						fe80::9a4b:e1ff:fe06:9b4c
2	<input type="checkbox"/>	fd0d:deba:d97c:ee3::2:5:64					N/A
3	<input type="checkbox"/>						N/A
4	<input type="checkbox"/>						N/A
5	<input checked="" type="checkbox"/>	fd0d:deba:d97c:ee3::2:5:64					fd0d:deba:d97c:ee3::2:5
6	<input type="checkbox"/>						N/A

1. Go to the Device List section of the EBIPA Settings Screen (at the top).
2. Fill in the iLO IP/prefix and Gateway fields for Device Bays 1-16.
3. Do not fill in the iLO IP/prefix or Gateway fields for Device Bays 1A-16A and 1B-16B.

Note: Bays 1A-16A and 1B-16B are used for double-density blades (i.e. BL2x220c) which are not supported in this release.

4. Click Enabled on each Device Bay 1 through 16 that is in use.

Note: Any unused slots should have an IP address assigned, but should be disabled.

Note: Do not use autofill as this will fill the entries for the Device Bays 1A through 16B.

5. Scroll down to the Interconnect List (below Device Bay 16B).

HP BladeSystem Onboard Administrator

User: root
Home | Sign Out

First Time Setup Wizard

Set up initial enclosure and server settings

Interconnect Bay Management Port Address Range: The form below provides fixed IPv6 address assignment to the interconnect bays in the rear of the enclosure. If there is an IPv6 address in the EBIPA Address field, the interconnect device has previously been configured or has received a DHCPv6 address.

Note: If each interconnect has been previously given a static IPv6 address, these EBPAV6 settings will not change the static IPv6 address. If the interconnect management IPv6 address has been configured via an external DHCPv6 service, the EBPAV6 settings will override the existing DHCPv6 address only after lease expiration.

Interconnect List: This list displays the IPv6 addresses that will be assigned to each of the interconnect bays if EBPAV6 is enabled. Note: Clicking the autofill "down arrow" button will fill in consecutive IPv6 addresses for all of the interconnect bays below the arrow. The domain and DNS servers will also be copied to each of the consecutive bays in the list.

Bay	Enabled	EBIPA Address	Gateway	Domain	DNS Servers	Autofill	Current Address
1	<input type="checkbox"/>					<input type="button" value="Autofill"/>	N/A
2	<input checked="" type="checkbox"/>	fd0d:deba:d97:cee3::1:2/64				<input type="button" value="Autofill"/>	N/A
3	<input type="checkbox"/>					<input type="button" value="Autofill"/>	N/A
4	<input type="checkbox"/>					<input type="button" value="Autofill"/>	N/A
5	<input type="checkbox"/>					<input type="button" value="Autofill"/>	N/A
6	<input checked="" type="checkbox"/>	fd0d:deba:d97:cee3::1:6/64				<input type="button" value="Autofill"/>	N/A
7	<input type="checkbox"/>					<input type="button" value="Autofill"/>	N/A

6. Fill in the EBIPA Address/prefix and Gateway fields for each Interconnect Bay in use. Click Enable on each Interconnect Bay in use.
7. By clicking Next, you will apply those settings. The system may restart devices such as interconnect devices or iLOs to apply new addresses. After finishing, check the IP addresses to ensure that apply was successful.

10. OAGUI: Skip Directory Groups step

To skip Directory Groups step, click **Next**.

11. OAGUI: Skip Directory Settings step

To skip Directory Settings step, click **Next**.

12. OAGUI:OA network settings

On the **Onboard Administrator Network Settings** tab you can assign or modify the IP address and the other network settings for the Onboard Administrator(s).

The **Active Administrator Network Settings** pertain to the active OA (OA Bay 1 location during initial configuration). If the second Onboard Administrator is present, the **Standby Onboard Administrator Network Settings** will be displayed as well. Click on "Use static IP settings for each Standby Onboard Administrator". Fill in the IP Address, Subnet mask and Gateway for the Standard OA.

HP BladeSystem Onboard Administrator - Windows Internet Explorer

Address: 10.240.17.83

HP BladeSystem Onboard Administrator

User: Administrator

First Time Setup Wizard

Set up initial enclosure and server settings

Directory Settings

Onboard Administrator Network Settings

SNMP Settings

Power Management

Finish

certificate. You may have to update the certificate information on any Onboard Administrator whose DNS Name is changed.

Active Onboard Administrator Network Settings

☐ Use DHCP for all Active Onboard Administrators

☐ Enable Dynamic DNS

☒ Use static IP settings for each Active Onboard Administrator

Required Field *

Enclosure: 500_03_01

DNS Host Name: * OA-E41150E16F81

IP Address: * 10.240.17.83

Subnet Mask: * 255.255.255.0

Gateway: 10.240.17.1

DNS Server 1:

DNS Server 2:

Standby Onboard Administrator Network Settings

☒ Use DHCP for all Standby Onboard Administrators

☒ Enable Dynamic DNS

☐ Use static IP settings for each Standby Onboard Administrator

Required Field *

Enclosure: 500_03_01

DNS Host Name: * OA-80C16E6A2F81

IP Address: *

Subnet Mask: *

Gateway: *

DNS Server 1: *

DNS Server 2: *

< Previous Next > Skip Cancel

Click on **Next**.

Note: If you change the IP address of the active OA, you will be disconnected. Then, you must close your browser and sign in again using the new IP address.

13. OAGUI: SNMP Default Settings

By default, the **Enable SNMP** check box should be checked. If the customer does not want to have SNMP enabled, see Appendix [Disabling SNMP on the OA](#).

HP BladeSystem Onboard Administrator

User: pmacadmin
Home | Sign Out

First Time Setup Wizard
Set up initial enclosure and server settings

Step 10 of 12

- Welcome
- Enclosure Selection
- Configuration Management
- Rack and Enclosure Settings
- Administrator Account Setup
- Local User Accounts
- Enclosure Bay IP Addressing
- Directory Groups
- Directory Settings
- Onboard Administrator
- Network Settings
- SNMP Settings**
- Power Management
- Finish

SNMP Settings

This function forwards alerts from the enclosure (power supplies, fans, the Onboard Administrator, enclosure thermals, etc.) to the specified alert destinations.

Note: Individual server blades must be configured separately using iLO and Server Agents. Alert destinations will be added to and removed from all selected linked enclosures.

Enclosure: 500_05_01

☐ Enable SNMP

System Location: 500_05_01

System Contact:

Read Community:

Write Community:

SNMP Alert Destinations

Host:
(ex. 61.206.115.3, 2002::1 or host.example.com)

Community String: **Add** **Remove**

< Previous Next > Skip Cancel

Fill in a **System Location** that is equal to the **Enclosure name** that you have filled in Step 5.

Do not set **Read Community** and **Write Community**.

Note: This step does not set an SNMP Trap Destination. To set an SNMP Trap Destination, see [Add SNMP Trap Destination on OA](#).

Click on **Next**.

14. OA GUI: Power Management

The Power Mode setting on the Power Management screen must be configured for power supply redundancy. The first available setting on the Power Management screen will be either "AC Redundant" or "Redundant", depending on whether the Enclosure is powered by AC or DC. In either case, select the **Power Supply Redundant** radio button.

AC-powered Enclosures:

Power Management

Power Mode: Select the power subsystem's redundant operation mode.

☐ **AC Redundant:** In this configuration N power supplies are used to provide power and N are used to provide redundancy, where N can equal 1, 2 or 3. When correctly wired with redundant AC line feeds this will ensure that an AC line feed failure will not cause the enclosure to power off.

☐ **Power Supply Redundant:** Up to 6 power supplies can be installed with one power supply always reserved to provide redundancy. In the event of a single power supply failure the redundant power supply will take over the load. A power line feed failure or failure of more than one power supply will cause the system to power off.

☒ **Not Redundant:** No power redundancy rules are enforced and power redundancy warnings will not be given. If all of the power supplies are needed to supply Present Power, the failure of a power supply or power feed to the enclosure may cause the enclosure to brown-out.

(2 plus 2 configuration shown)


(3 plus 1 configuration shown)

DC-powered Enclosures:

Power Management


Power Mode: Select the power subsystem's redundant operation mode.

☐ Redundant: In this configuration N power supplies are used to provide power and N are used to provide redundancy, where N can equal 1, 2 or 3. When correctly wired with redundant AC line feeds this will ensure that an AC line feed failure will not cause the enclosure to power off.



(2 plus 2 configuration shown)

☒ Power Supply Redundant: Up to 6 power supplies can be installed with one power supply always reserved to provide redundancy. In the event of a single power supply failure the redundant power supply will take over the load. A power line feed failure or failure of more than one power supply will cause the system to power off.



(3 plus 1 configuration shown)

☐ Not Redundant: No power redundancy rules are enforced and power redundancy warnings will not be given. If all of the power supplies are needed to supply Present Power, the failure of a power supply or power feed to the enclosure may cause the enclosure to brown-out.

For all other settings on the Power Management screen, leave the default settings unchanged.

Click on **Next**.

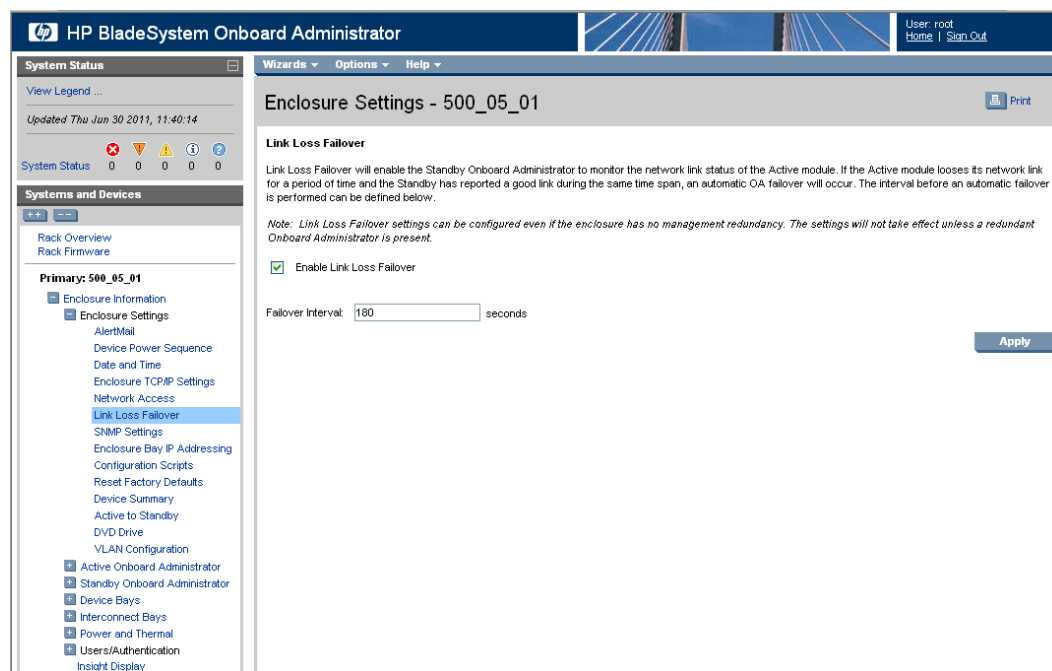
15. OAGUI: Finish First Time Setup Wizard

Click on **Finish**.

Note: If only one OA has been configured, skip the following step.

16. OAGUI: Set Link Loss Failover

Navigate to **Enclosure Information > Enclosure Settings > Link Loss Failover**



HP BladeSystem Onboard Administrator

System Status

View Legend ...

Updated Thu Jun 30 2011, 11:40:14

System Status 0 0 0 0 0

Systems and Devices

Rack Overview
Rack Firmware

Primary: 500_05_01

- Enclosure Information
 - Enclosure Settings
 - AlertMail
 - Device Power Sequence
 - Date and Time
 - Enclosure TCP/IP Settings
 - Network Access
 - Link Loss Failover
 - SNMP Settings
 - Enclosure Bay IP Addressing
 - Configuration Scripts
 - Reset Factory Defaults
 - Device Summary
 - Active to Standby
 - DVD Drive
 - VLAN Configuration
 - Active Onboard Administrator
 - Standby Onboard Administrator
 - Device Bays
 - Interconnect Bays
 - Power and Thermal
 - Users/Authentication
 - Insight Display

Enclosure Settings - 500_05_01

Link Loss Failover

Link Loss Failover will enable the Standby Onboard Administrator to monitor the network link status of the Active module. If the Active module loses its network link for a period of time and the Standby has reported a good link during the same time span, an automatic OA failover will occur. The interval before an automatic failover is performed can be defined below.

Note: Link Loss Failover settings can be configured even if the enclosure has no management redundancy. The settings will not take effect unless a redundant Onboard Administrator is present.

☒ Enable Link Loss Failover

Failover Interval: 180 seconds

Apply

Check the **Enable Link Loss Failover** box and specify **Failover Interval** to be 180 seconds.
Click **Apply**.

Configure OA Security

This procedure will disable telnet access to OA.

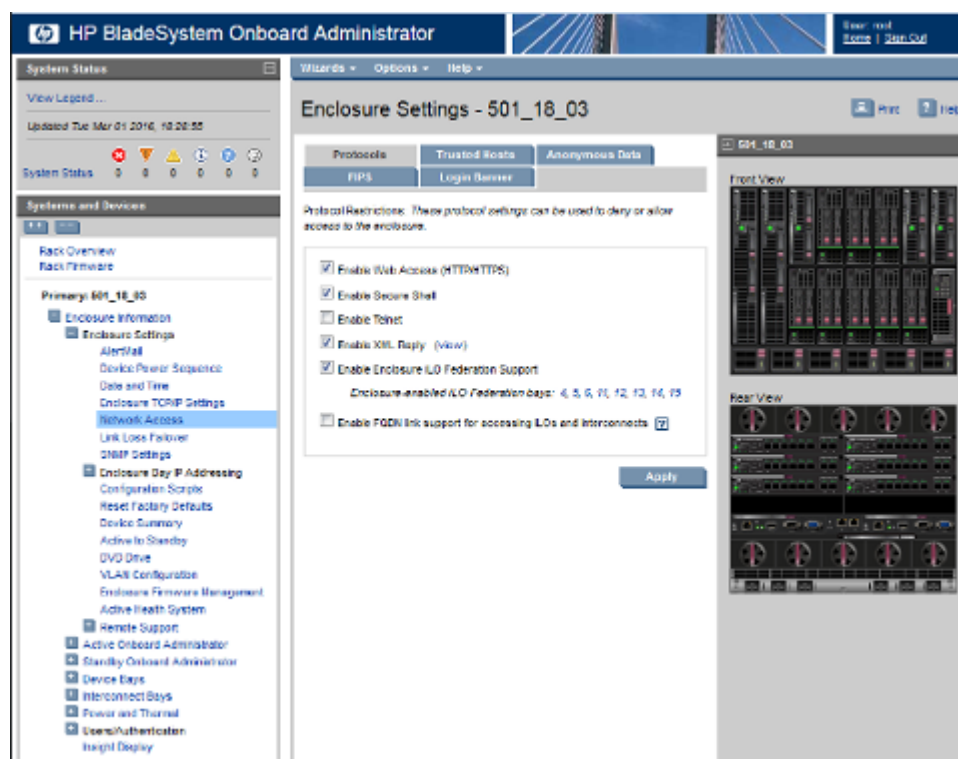
Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Active OAGUI: Login

Navigate to the IP address of the active OA, using [Determining Which Onboard Administrator Is Active](#). Log in as an administrative user.

2. OA GUI: Disable telnet

Navigate to **Enclosure Information > Enclosure Settings > Network Access**. Uncheck the **Enable Telnet** checkbox.



3. OA GUI: Apply changes by clicking **Apply**.

Upgrade or Downgrade OA Firmware

Software Centric Customers: If Oracle Consulting Services or any other Oracle Partner is providing services to a customer that includes installation and/or upgrade then, as long as the terms of the scope of those services include that Oracle Consulting Services is employed as an agent of the customer

(including update of Firmware on customer provided services), then Oracle consulting services can install FW they obtain from the customer who is licensed for support from HP.

This procedure will update the firmware on the OAs.

Needed material:

- HP MISC firmware ISO image
- Release Notes of the *HP Solutions Firmware Upgrade Pack* [2]

Note: The enclosure should be provisioned with two Onboard Administrators. This procedure will install the same firmware version on both Onboard Administrators.

Note: This procedure should be used to upgrade or downgrade firmware or to ensure both OA's have the same firmware version. When the firmware update is initiated, the standby OA is automatically updated first.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Execute section [Adding ISO Images to the PM&C Image Repository](#) to add the HP MISC firmware ISO image.
2. OAGUI: Log in

Navigate to the IP address of the active OA, using [Determining Which Onboard Administrator Is Active](#). Log in as an administrative user.

3. OA GUI: Check OA firmware versions.

In the left navigation area, navigate to **Enclosure Information > Active Onboard Administrator > Firmware Update**.

Examine the firmware version shown in the *Firmware Information* table. Verify the version meets the minimum requirement specified by the Release Notes of the *HP Solutions Firmware Upgrade Pack* [2] and that the firmware versions match for both OA's. If the versions match, then the firmware does not need to be changed. Skip the rest of this procedure.

4. Save All OA Configuration

If one of the two OAs has a later version of firmware than the version provided by the *HP Solutions Firmware Upgrade Pack* [2], this procedure will downgrade it to that version. A firmware downgrade can result in the loss of OA configuration. Before proceeding, ensure that you have a record of the initial OA configuration necessary to execute the following OA configuration procedures, as required by the customer and application:

- a) [Configure Initial OA IP](#)
- b) [Configure Initial OA Settings Using the Configuration Wizard](#)
- c) [Configure OA Security](#)
- d) [Store OA Configuration on Management Server](#)

5. OA GUI: Initiate OA firmware upgrade

Note: Firmware obtained from a Software Centric Customer should be located at:

```
https://<PM&C_Management_Network_IP>/TPD/<OA_firmware_version>
```

If the firmware needs to be upgraded, click on **Firmware Update** in the left navigation area.

Enter the appropriate URL in the bottom text box labeled "Image URL". The syntax is:

```
https://<PM&C_Management_Network_IP>/TPD/<HPFW_mount_point>/files/<OA_firmware_version>.bin
```

For example:

```
https://10.240.4.198/TPD/HPFW--872-2488-XXX--HPFW/files/hpoa300.bin
```

Check the **Force Downgrade** box if present.

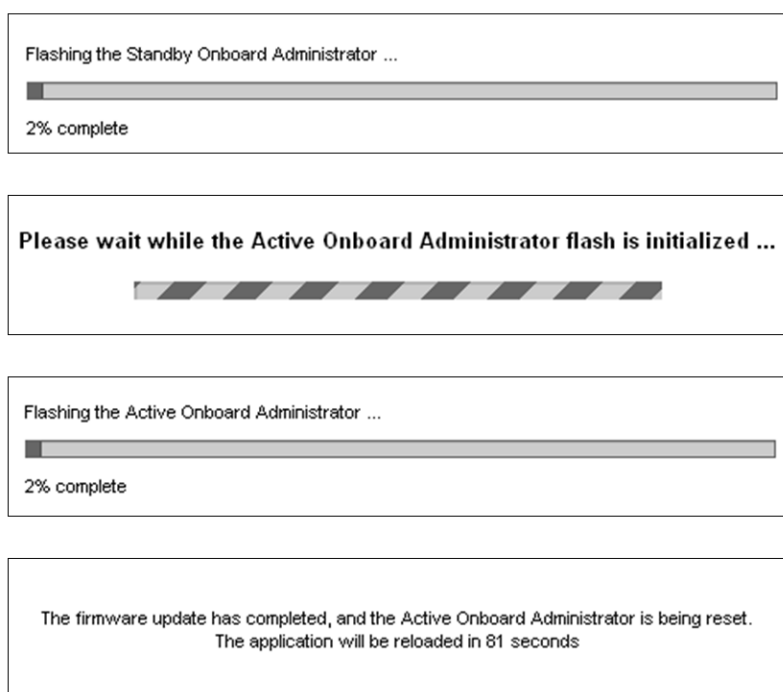
Click **Apply**

If a confirmation dialog is displayed, click "OK".

Note: The upgrade may take up to 25 minutes.

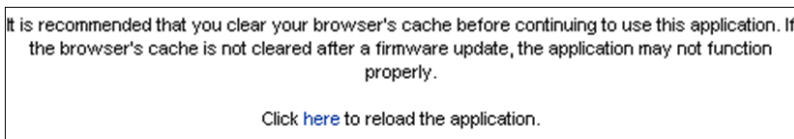
6. OA GUI: Observe OA firmware upgrade progress

These updates should appear during the upgrade:



7. OAGUI: Reload the HP OA application

The upgrade is complete when the following is displayed:



Clear your browser's cache and click to reload the application. The login page should appear momentarily.

8. OA GUI: Verify the firmware upgrade

Log into the OA again. It may take few minutes before the OA is fully functional and accepts the credentials.

In the left navigation area, navigate to **Enclosure Information > Active Onboard Administrator > Firmware Update**

Examine the firmware version shown in the *Firmware Information* table. Verify the firmware version information is correct.

9. OA GUI: Check/re-establish OA configuration

Ensure that all OA configuration established by the following procedures is still intact after the firmware update. Re-establish any settings by performing the procedure(s):

- a) [Configure Initial OA IP](#)
- b) [Configure Initial OA Settings Using the Configuration Wizard](#)
- c) [Configure OA Security](#)
- d) [Store OA Configuration on Management Server](#)

Add SNMP Trap Destination on OA

An SNMP trap destination must be added and configured using the Onboard Administrator (OA), or the SNMP must be disabled. One of these actions must be completed as described in this procedure.

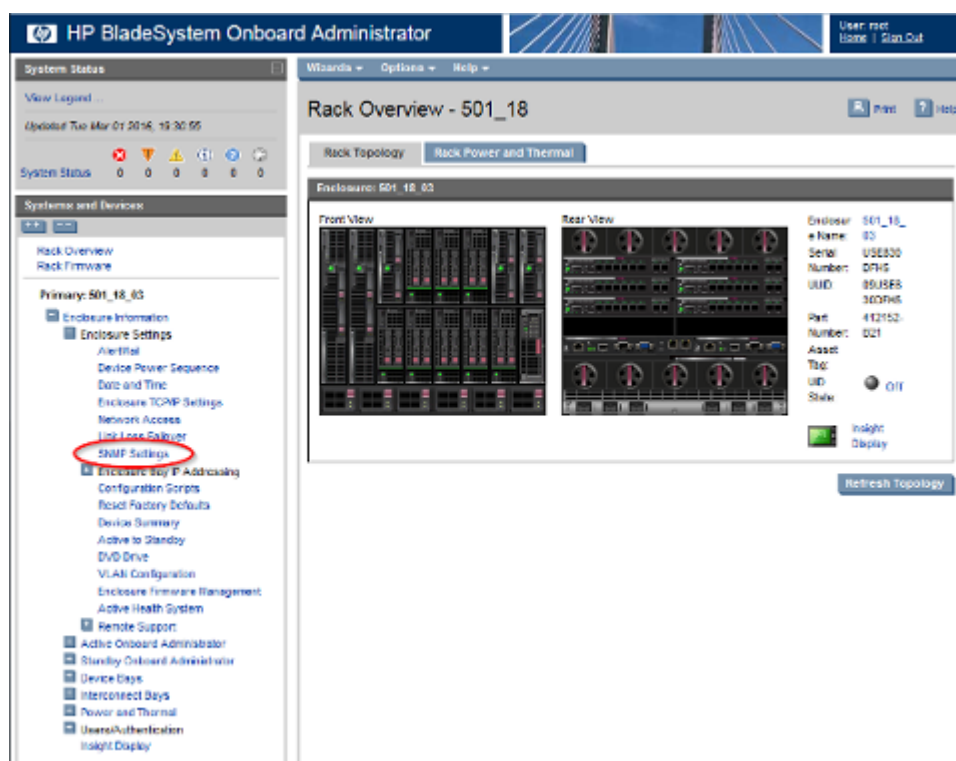
1. Either add an SNMP trap destination as follows, or proceed to [Step 2](#) to disable the SNMP.

a) Active OA GUI: Login

Navigate to the IP address of the active OA. Use [Determining Which Onboard Administrator Is Active](#) to determine the active OA. Log in as an administrative user.

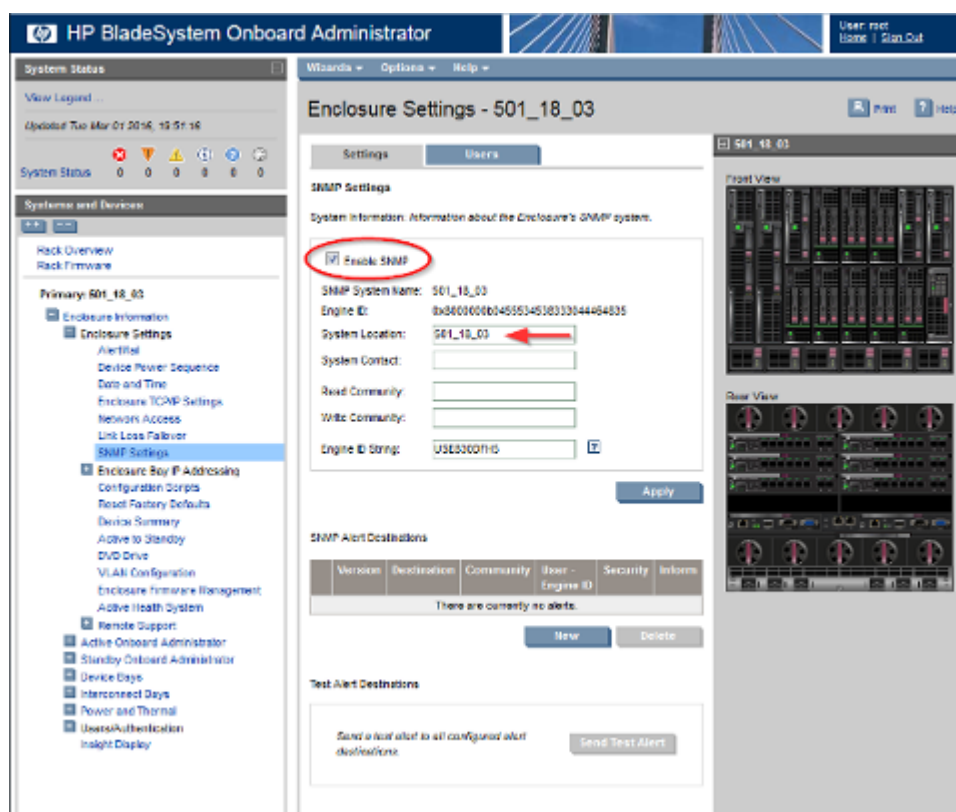
b) OA GUI: Navigate to SNMP Settings page

Navigate to **Enclosure Information > Enclosure Settings > SNMP Settings**.



c) OA GUI: Enable SNMP and populate System Information

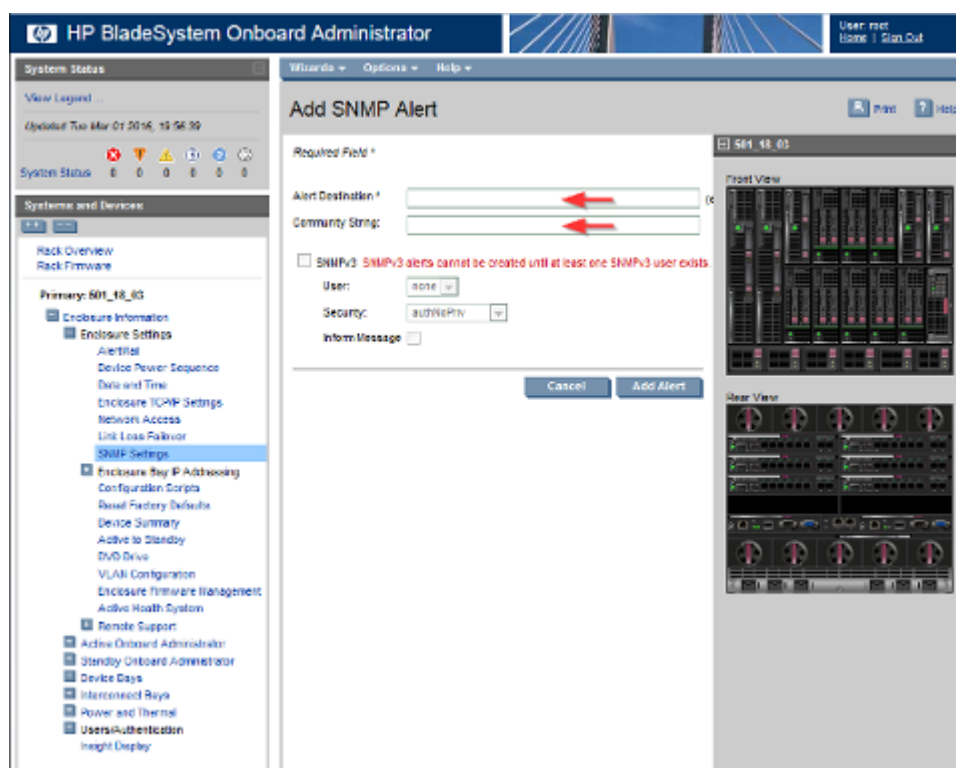
If SNMP is not already enabled, check the **Enable SNMP** checkbox. Enter the **Enclosure Name** (shown in the title bar) or your preferred name into the **System Location** box.



Do not set **Read Community** and **Write Community**. Click **Apply** to save the System Information.

d) OA GUI: Add SNMP Alert Destinations

Click **New**. The **Add SNMP Alert** page appears. Type the destination information into the **Alert Destination** box (ex. 61.206.115.3, 2002::1 or host.example.com) and type the community string into the **Community String** box.



Click **Add Alert** to add the destination to the system.

Upon successfully adding a new SNMP Alert Destination you will be returned to the SNMP Settings page.

2. To disable SNMP, follow these steps:
 - a) If necessary, log in to the Active OA as instructed in Step 1a *Substep a*.
 - b) Navigate to SNMP Settings page as instructed in Step 1b *Substep c*.
 - c) Uncheck the Enable SNMP checkbox. Click **Apply** to save the changes.

Store OA Configuration on Management Server

This procedure will back up OA settings on the management server.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

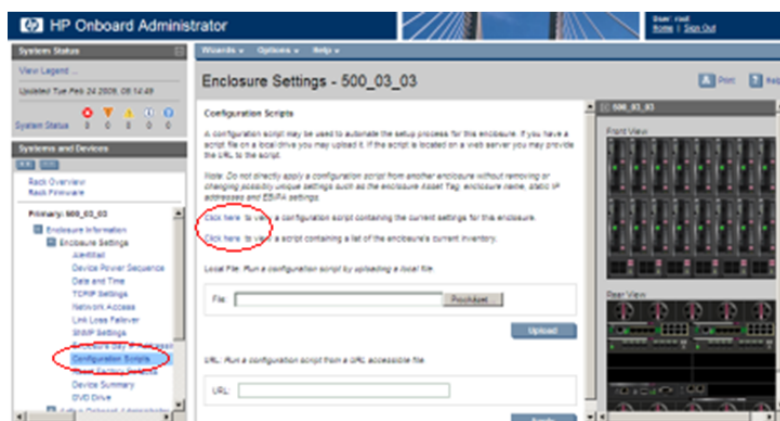
1. OAGUI: Login

Navigate to the IP address of the active OA, using [Determining Which Onboard Administrator Is Active](#). Login as root.

2. OAGUI: Store configuration file

Navigate to the **Enclosure Information > Enclosure Settings > Configuration scripts**

On the **Configuration script**, open the first configuration file (current settings for enclosure):



Store this file on local disk.

For example:

Click **Show Config**.

Copy all the text on the page and save in a text file. Or select **File > Save As**, choose a file name and path, and choose **Text file** for the type.

For example, you may choose the following syntax for the configuration file name:

<enclosure ID>_<timetag>.conf

3. PM&C: Backup configuration file

Do the following to backup the file on the PM&C:

Under directory **/usr/TKLC/smac/etc** you can create your own subdirectory structure. Log into management server via ssh as **admusr** and create the target directory:

```
$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/OA_backups/OABackup
```

Change the directory permissions:

```
$ sudo /bin/chmod go+x /usr/TKLC/smac/etc/OA_backups/OABackup
```

Next, copy the configuration file to the created directory.

For UNIX users:

```
# scp ./<cabinet_enclosure_backup file>.conf \
admusr@<pmac_management_network_ip>:/home/admusr
```

Windows users: Refer to [Using WinSCP](#) to copy the file to the management server.

Now, on the PM&C, move the configuration file to the OA Backup folder that you created under **/usr/TKLC/smac/etc**:

```
$ sudo /bin/mv /home/admusr/<cabinet_enclosure_backup file>.conf
/usr/TKLC/smac/etc/OA_backups/OABackup
```

4. PM&C: Perform PM&C application backup to capture the OA backup

```
$ sudo /usr/TKLC/smac/bin/pmacadm backup
PM&C backup been successfully initiated as task ID 7
$
```

Note: The backup runs as a background task. To check that status of the background task use the PM&C GUI Task Monitor page, or issue the command "**\$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks**". The result should eventually be "PM&C Backup successful" and the background task should indicate "COMPLETE".

Note: The "pmacadm backup" command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.

5. PM&C: Verify the Backup was successful

Note: If the background task shows that the backup failed, then the backup did not complete successfully. STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

The output of pmaccli getBgTasks should look similar to the example below:

```
$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks
2: Backup PM&C COMPLETE - PM&C Backup successful
Step 2: of 2 Started: 2012-07-05 16:53:10 running: 4 sinceUpdate: 2 taskRecordNum:
  2 Server Identity:
Physical Blade Location:
Blade Enclosure:
Blade Enclosure Bay:
Guest VM Location:
Host IP:
Guest Name:
TPD IP:
Rack Mount Server:
IP:
Name:
::
```

6. PM&C: Save the PM&C backup

If the NetBackup feature has not been configured for this PM&C, or the Redundant PM&C is not configured in this system, the PM&C backup must be moved to a remote server. Transfer, (sftp, scp, rsync, or preferred utility), the PM&C backup to an appropriate remote server. The PM&C backup files are saved in the following directory: "/var/TKLC/smac/backup".

7. OAGUI: Log out

Log out from the OA by pressing **Sign Out** at the top-right corner.

Enclosure and Blades Setup

Add Cabinet and Enclosure to the PM&C System Inventory

This procedure provides the instructions for adding a cabinet and an enclosure to the PM&C system inventory.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. PM&C GUI: Login

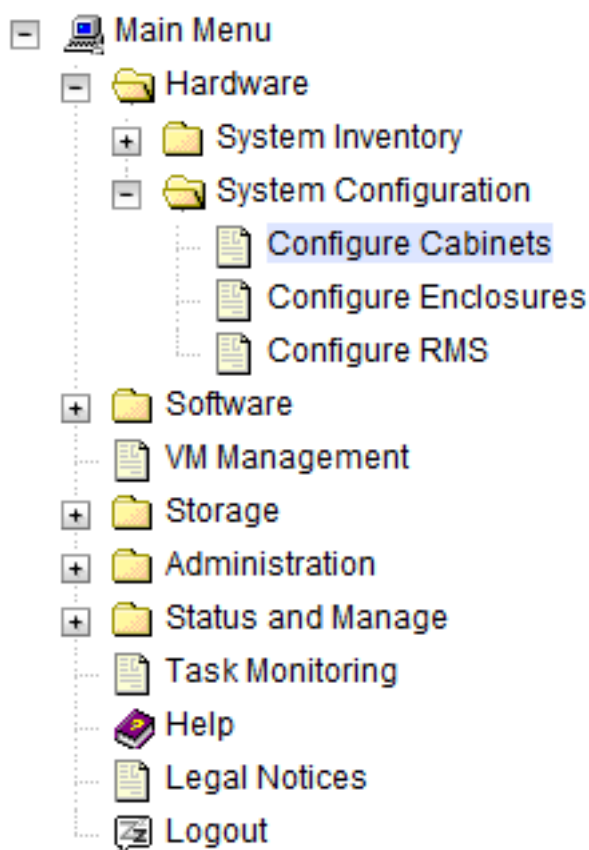
Open your web browser and enter:

```
https://<pmac_management_network_ip>
```

Log in as the pmacadmin user.

2. PM&C GUI: Navigate to Configure Cabinets

Navigate to **Main Menu > Hardware > System Configuration > Configure Cabinets**.



3. PM&C GUI: Add Cabinet

On the **Configure Cabinets** panel, press the **Add Cabinet** button

Main Menu: Hardware -> System Configuration -> Configure Cabinets
 Tue Sep 01 20:37:38 2015 UTC

Provisioned Cabinets
503
505

Add Cabinet **Delete Cabinet**

4. PM&C GUI: Enter Cabinet ID

Enter the **Cabinet ID** and press the **Add Cabinet** button.

Main Menu: Hardware -> System Configuration -> Configure Cabinets [Add Cabinet]
 Tue Sep 01 20:43:12 2015 UTC

Cabinet ID (required): *Cabinet ID must be from 1 to 654.*

Add Cabinet **Cancel**


5. PM&C GUI: Check errors

If no error is reported to the user you will see the following:

Main Menu: Hardware -> System Configuration -> Configure Cabinets [Add Cabinet]
 Tue Sep 01 20:43:58 2015 UTC

Info ▼

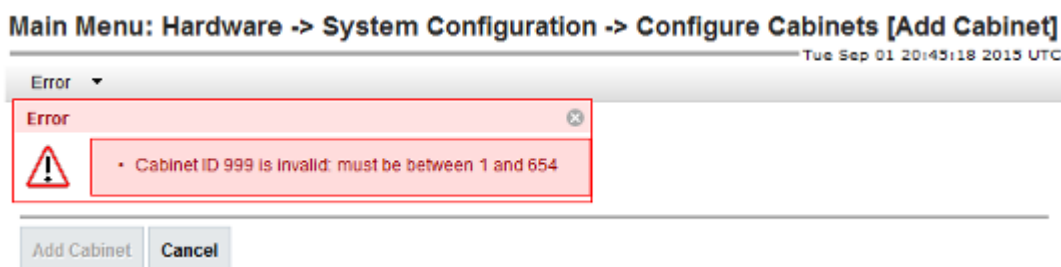
Info [X]

 • Cabinet 501 has been successfully added to the system

503
505

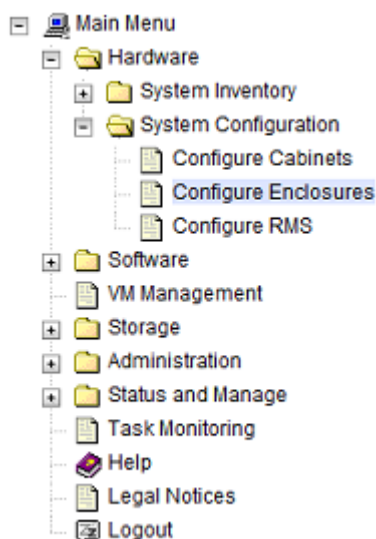
Add Cabinet **Delete Cabinet**

Or you will see an error message:



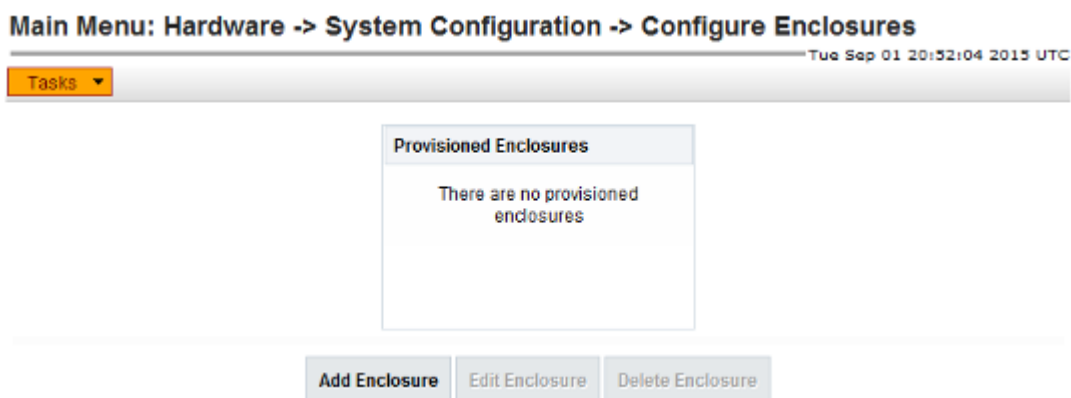
6. PM&C GUI: Navigate to Configure Enclosures

Navigate to **Main Menu > Hardware > System Configuration > Configure Enclosures**.



7. PM&C GUI: Add Enclosure

On the **Configure Enclosures** panel, press the **Add Enclosure** button



8. PM&C GUI: Provide Enclosure Details

On the **Add Enclosure** panel, enter the **Cabinet ID**, **Location ID**, and two **OA IP** addresses (the enclosure's active and standby OA).

Then click on **Add Enclosure**.

Main Menu: Hardware -> System Configuration -> Configure Enclosures [Add Enclosure]
 Tue Sep 01 20:53:29 2015 UTC

CabinetID: 505
 Location ID (required): 1 Location ID must be from 1 to 4.

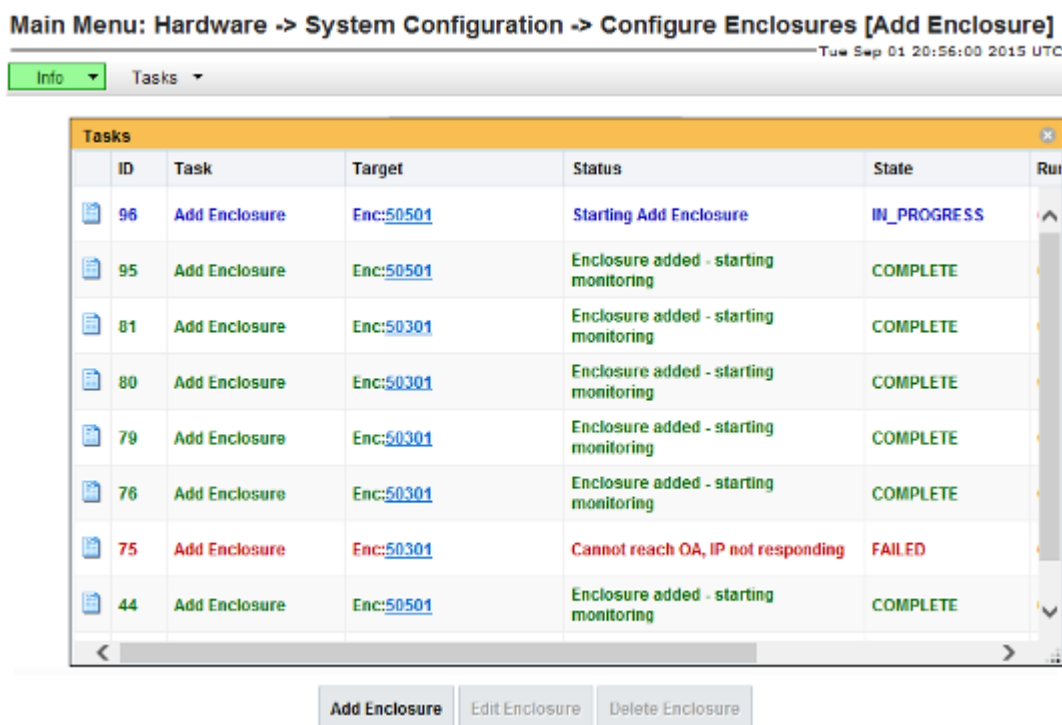
At least one OA IP is required.

OA1 (Bay OAR) IP: 10.240.17.51
 OA2 (Bay OBR) IP: 10.240.17.56

Note: Location ID is used to uniquely identify an enclosure within a cabinet. It can have a value of 1, 2, 3, or 4. The cabinet ID and location ID will be combined to create a globally unique ID for the enclosure (for example, an enclosure in cabinet 502 at location 1, will have an enclosure ID of 50201).

9. PM&C GUI: Monitor Add Enclosure

The Configure Enclosures page is then redisplayed with a new background task entry in the Tasks table. This table can be accessed by pressing the **Tasks** button located on the toolbar under the Configure Enclosures heading.



When the task is complete and successful, its text will change to green, and its Progress column will indicate "100%".

10. PM&C: Perform PM&C application backup.

```
$ sudo /usr/TKLC/smac/bin/pmacadm backup
PM&C backup been successfully initiated as task ID 7
$
```

Note: The backup runs as a background task. To check the status of the background task use the PM&C GUI Task Monitor page, or issue the command "pmaccli getBgTasks". The result should eventually be "PM&C Backup successful" and the background task should indicate "COMPLETE".

Note: The "pmacadm backup" command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.

11. PM&C: Verify the Backup was successful

Note: If the background task shows that the backup failed, then the backup did not complete successfully. STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

The output of pmaccli getBgTasks should look similar to the example below:

```
$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks
2: Backup PM&C COMPLETE - PM&C backup successful
Step 2: of 2 Started: 2012-07-05 16:53:10 running: 4 sinceUpdate: 2 taskRecordNum:
2 Server Identity:
Physical Blade Location:
```

```

Blade Enclosure:
Blade Enclosure Bay:
Guest VM Location:
Host IP:
Guest Name:
TPD IP:
Rack Mount Server:
IP:
Name:
::

```

12. PM&C: Save the PM&C backup

The PM&C backup must be moved to a remote server. Transfer (sftp, scp, rsync, or preferred utility), the PM&C backup to an appropriate remote server. The PM&C backup files are saved in the following directory: `"/var/TKLC/smac/backup"`.

Configure Blade Server iLO Password for Administrator Account

This procedure will change the blade server iLO password for Administrator account for blade Servers in an enclosure.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. PM&C: Log into the PM&C as admusr using ssh.
2. PM&C: Create xml file

In `/usr/TKLC/smac/html/public-configs` create an xml file with information similar to the following example. Change the Administrator password field to a user-defined value.

```

<RIBCL VERSION="2.0">
<LOGIN USER_LOGIN="admusr" PASSWORD="password">
<USER_INFO MODE="write">
<MOD_USER USER_LOGIN="Administrator">
<PASSWORD value="<new Administrator password>" />
</MOD_USER>
</USER_INFO>
</LOGIN>
</RIBCL>

```

Save this file as `change_ilo_admin_passwd.xml`

Change the permission of the file

```
$ sudo chmod 644 change_ilo_admin_passwd.xml
```

3. OA shell: Log into the active OA

Log into OA via ssh as root user.

```
login as: root
```

```

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.

```

```

-----
Firmware Version: 3.00
Built: 03/19/2010 @ 14:13 OA
  Bay
  Number: 1 OA
  Role: Active
admusr@10.240.17.51's password:

```

If the OA Role is not Active, log into the other OA of the enclosure system

4. OA shell: Run `hponcfg`

Run the following command:

```
> hponcfg all https://<pmac_ip>/public-configs/change_ilo_admin_passwd.xml
```

5. OA shell: Check the output

Observe the output for error messages and refer to the *HP Integrated Lights-Out Management Processor Scripting and Command Line Resource Guide* for troubleshooting.

6. OA shell: Log out

Log out from the OA

7. PM&C: Remove temporary file

On the PM&C remove the configuration file you created. This is done for security reasons, so that no one can reuse the file:

```
$ sudo /bin/rm -rf /usr/TKLC/smac/html/public-configs/change_ilo_admin_passwd.xml
```

Configure Enclosure Switches

If the enclosure switches used are Cisco 3020, execute procedure [Configure Cisco 3020 Switch \(netConfig\)](#).

If the switches used are HP 6120XG, execute procedure [Configure HP 6120XG Switch \(netConfig\)](#).

If the enclosure switches used are HP6125G, execute procedure [Configure HP 6125G Switch \(netConfig\)](#).

If the enclosure switches used are HP6125XLG, execute procedure [Configure HP 6125XLG Switch \(netConfig\)](#).

Configure Cisco 3020 Switches

Configure Cisco 3020 Switch (netConfig)

This procedure will configure 3020 switches from the PM&C server using templates included with an application.

If the aggregation switches are supported by Oracle, then the Cisco 4948/4948E/4948E-F switches must be configured using [Configure Cisco 4948/4948E/4948E-F Aggregation Switches \(PM&C Installed\) \(netConfig\)](#). If the aggregation switches are provided by the customer, the user must ensure that the customer aggregation switches are configured as per requirements provided in the NAPD. If there is any doubt as to whether the aggregation switches are provided by Oracle or the customer, contact My Oracle Support and ask for assistance.

This procedure requires that no IPM activity is occurring or will occur during the execution of this procedure.

Note: The Cisco 3020 is not compatible with the IPv6 management configuration.

Needed materials:

- HP MISC firmware ISO image
- Release Notes of the *HP Solutions Firmware Upgrade Pack* [2]
- Application specific documentation (documentation that referred to this procedure)
- Template xml files in an application ISO on an application media.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Virtual PM&C: Prepare for switch configuration

Log in as admusr to the PM&C, then run:

```
$ /bin/ping -w3 <mgmtVLAN_gateway_address>
```

2. Virtual PM&C: Verify network connectivity to 3020 switches

For each 3020 switch, verify network reachability.

```
$ /bin/ping -w3 <enclosure_switch_IP>
```

3. Virtual PM&C: Modify PM&C Feature to allow TFTP.

Enable the DEVICE.NETWORK.NETBOOT feature with the management role to allow tftp traffic:

```
$ sudo /usr/TKLC/smac/bin/pmacadm editFeature --featureName=DEVICE.NETWORK.NETBOOT
--enable=1
$ sudo /usr/TKLC/smac/bin/pmacadm resetFeatures
```

Note: This may take up to 60 seconds to complete.

4. Virtual PM&C: Verify the template xml files are in existence.

Verify that the initialization xml template file and configuration xml template file are present on the system and are the correct version for the system.

Note: The XML files prepared in advance with the NAPD can be used as an alternative.

```
$ /bin/more /usr/TKLC/smac/etc/switch/xml/3020_init.xml
$ /bin/more /usr/TKLC/smac/etc/switch/xml/3020_configure.xml
```

If either file does not exist, copy the files from the application media into the directory shown above.

If 3020_init.xml file exists, page through the contents to verify it is devoid of any site specific configuration information other than the device name. If the template file is appropriate, then skip the remainder of this step and continue with the next step.

If 3020_configure.xml file exists, page through the contents to verify it is the appropriate file for the this site and edited for this site. All network information is necessary for this activity. If the template file is appropriate, then skip the remainder of this step and continue with the next step.

5. Virtual PM&C: Modify 3020 xml files for information needed to configure the switch.

Update the 3020_init.xml file for the values noted in the next sentence. Values to be modified by the user will be notated in this step by a preceding dollar sign. So a value that has \$some_variable_name will need to be modified, removing the dollar sign and the less than, greater than sign. When done editing the file, save and quit.

Update the 3020_configure.xml file for the values noted in the next sentence. Values to be modified by the user will be notated in this step by a preceding dollar sign. So a value that has \$some_variable_name will need to be modified, removing the dollar sign and the less than, greater than sign. When done editing the file, save and quit.

Note: Move the addVlan commands above the configuration of the uplink so all VLANs which should be allowed on the uplink exist at the moment the setLinkAggregation command is executed.

```
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/3020_init.xml
```

```
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/3020_config.xml
```

6. Virtual PM&C/OA GUI: Reset switch to factory defaults

Note: Do not wait for the switch to finish reloading before proceeding to the next step. After completing Step 6 by initiating the reload, proceed to [Step 7](#).

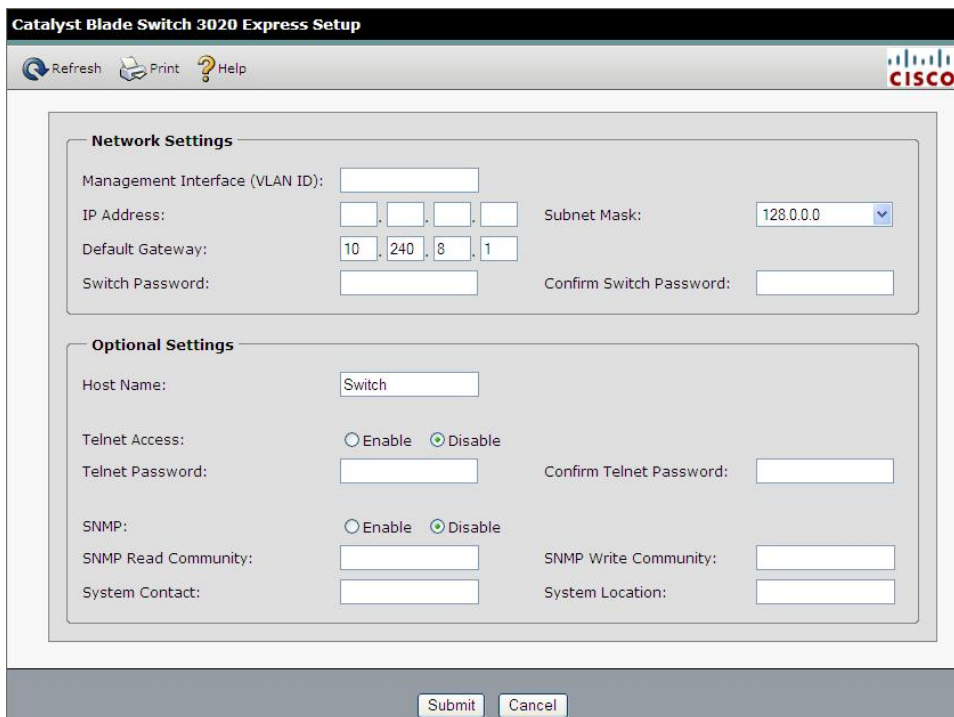
If the switch has been previously configured using netConfig or previous attempts at initialization have failed, use netConfig to reset the switch to factory defaults by executing the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=<switch_name> setFactoryDefault
```

If the above command failed, use Internet Explorer to navigate to <enclosure_switch_ip_address>.

A new page will be opened. If you are asked for a username and password, leave the username blank and use the appropriate password provided by the application documentation. Then click **OK**.

If you are prompted with the "Express Setup" screen, click **Refresh**.



Catalyst Blade Switch 3020 Express Setup

Refresh Print Help

Network Settings

Management Interface (VLAN ID):

IP Address: Subnet Mask:

Default Gateway:

Switch Password: Confirm Switch Password:

Optional Settings

Host Name:

Telnet Access: ☐ Enable ☒ Disable

Telnet Password: Confirm Telnet Password:

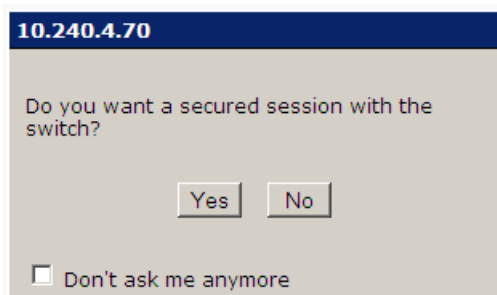
SNMP: ☐ Enable ☒ Disable

SNMP Read Community: SNMP Write Community:

System Contact: System Location:

Submit Cancel

If you are prompted with "Do you want a secured session with the switch?", click on **No**.



10.240.4.70

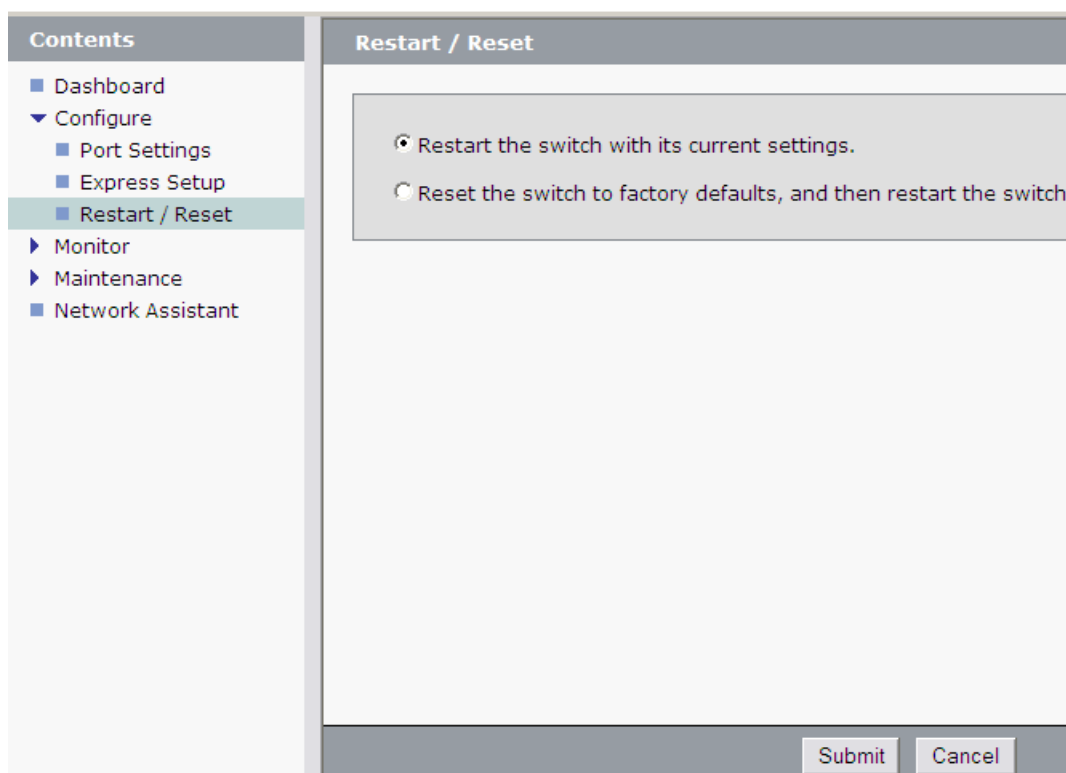
Do you want a secured session with the switch?

Yes No

☐ Don't ask me anymore

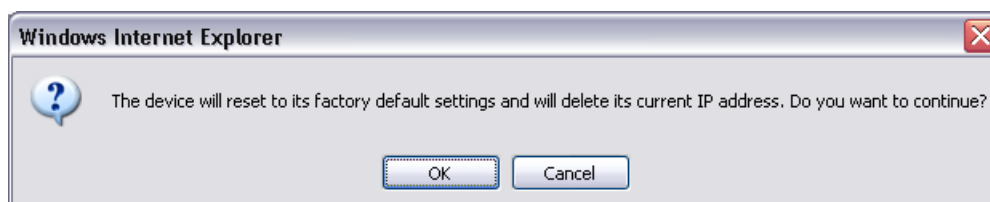
Then a new Catalyst Blade Switch 3020 Device Manager will be opened.

Navigate to **Configure > Restart/Reset**.



Click the circle that says "Reset the switch to factory defaults, and then restart the switch". Then click the "Submit" button.

A pop-up window will appear that looks like this:



Click OK and the switch will be reset to factory defaults and reloaded.

7. Virtual PM&C: Remove the old ssh key and Initialize the switch

Remove the old ssh key:

```
$ sudo /usr/bin/ssh-keygen -R <enclosure_switch_ip>
```

The following command must be entered at least 60 seconds and at most 5 minutes after the previous step is completed.

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/3020_init.xml
Processing file: /usr/TKLC/smac/etc/switch/xml/3020_init.xml
Waiting to load the configuration file...
loaded.
```

```
Attempting to login to device...
Configuring....
```

Note: This step takes about 10-15 minutes to complete, it is imperative that you wait until returned to the command prompt. DO NOT PROCEED UNTIL RETURNED TO THE COMMAND PROMPT.

Check the output of this command for any errors. A successful completion of netConfig will return the user to the prompt. Due to strict host checking and the narrow window of time in which to perform the command, this command is prone to user error. Most issues are corrected by returning to the previous step and continuing. If this step has failed for a second time, stop the procedure and contact My Oracle Support.

8. Virtual PM&C: Reboot the switch using netConfig

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=<switch_name> reboot save=no
```

Wait 2-3 minutes for the switch to reboot. Verify it has completed rebooting and is reachable by pinging it.

```
$ /bin/ping <enclosure_switch_IP>
From 10.240.8.48 icmp_seq=106 Destination Host Unreachable
From 10.240.8.48 icmp_seq=107 Destination Host Unreachable
From 10.240.8.48 icmp_seq=108 Destination Host Unreachable
64 bytes from 10.240.8.13: icmp_seq=115 ttl=255 time=1.13 ms
64 bytes from 10.240.8.13: icmp_seq=116 ttl=255 time=1.20 ms
64 bytes from 10.240.8.13: icmp_seq=117 ttl=255 time=1.17 ms
```

9. Virtual PM&C: Configure the switches

Configure both switches by issuing the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/3020_configure.xml
Processing file: /usr/TKLC/smac/etc/switch/xml/3020_configure.xml
$
```

Note: This step takes about 2-3 minutes to complete

Check the output of this command for any errors. If the file fails to configure the switch, please review/troubleshoot the file first. If troubleshooting is unsuccessful, stop this procedure and contact My Oracle Support.

A successful completion of netConfig will return the user to the prompt.

10. Virtual PM&C: Verify switch configuration

To verify the configuration was completed successfully, execute the following command and review the configuration:

```
# sudo /usr/TKLC/plat/bin/netConfig showConfiguration --device=<switch_name>
Configuration: = (
  Building configuration...

  Current configuration : 3171 bytes
  !
  ! Last configuration change at 23:54:24 UTC Fri Apr 2 1993 by plat
  !
  version 12.2
```

```
<output removed to save space >

monitor session 1 source interface Gi0/2 rx
monitor session 1 destination interface Gi0/1 encapsulation replicate
end

)
```

Return to Step 4 and repeat for each 3020 switch.

11. Virtual PM&C: Modify PM&C Feature to disable TFTP.

Disable the DEVICE.NETWORK.NETBOOT feature:

```
$ sudo /usr/TKLC/smac/bin/pmacadm editFeature --featureName=DEVICE.NETWORK.NETBOOT
--enable=0
$ sudo /usr/TKLC/smac/bin/pmacadm resetFeatures
```

Note: This may take up to 60 seconds to complete.

12. Perform [Backup Cisco 4948/4948E/4948E-F Aggregation Switch and/or Cisco 3020 Enclosure Switch \(netConfig\)](#) for each switch configured in this procedure.

13. Virtual PM&C: Clean up FW file

Remove the FW file from the tftp directory.

```
$ sudo /bin/rm -f /var/TKLC/smac/image/<FW_image>
```

Configure HP 6120XG Switches

Configure HP 6120XG Switch (netConfig)

Note: The HP 6120XG enclosure switch supports configuration of IPv6 addresses but it does not support configuration of a default route for those IPv6 interfaces. Instead, the device relies on router advertisements to obtain default route(s) for those interfaces. For environments where IPv6 routes are needed (NTP, etc.), router advertisements will need to be enabled either on the aggregation switch or customer network.

This procedure will configure the HP 6120XG switches from the PM&C server and the command line interface using templates included with an application.

Needed materials:

- HP MISC firmware ISO image
- Release Notes of the *HP Solutions Firmware Upgrade Pack* [2]
- Application-specific documentation (documentation that referred to this procedure)
- Template xml files in an application ISO on an application media

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Virtual PM&C: Prepare for switch configuration

If the aggregation switches are supported by Oracle, log into the management server, then run:

```
$ /bin/ping -w3 <switch1A_mgmtVLAN_address>
$ /bin/ping -w3 <switch1B_mgmtVLAN_address>
$ /bin/ping -w3 <switch_mgmtVLAN_VIP>
```

If the aggregation switches are provided by the customer, log into the management server, then run:

```
$ /bin/ping -w3 <mgmtVLAN_gateway_address>
```

2. Virtual PM&C: Verify network connectivity to 6120XG switches

For each 6120XG switch, verify network reachability.

```
$ /bin/ping -w3 <enclosure_switch_IP>
```

3. Virtual PM&C: Restore switch to factory defaults

If the 6120XG switch has been configured prior to this procedure, clear out the configuration using the following command:

```
$ /usr/bin/ssh <username>@<enclosure_switch_IP>
Switch# config
Switch(config)# no password all
Password protection for all will be deleted, continue [y/n]? y
Switch(config)# end
Switch# erase startup-config
Configuration will be deleted and device rebooted, continue [y/n]? y
(switch will automatically reboot, reboot takes about 120-180 seconds)
```

Note: You may need to press [ENTER] twice. You may also need to use previously configured credentials.

If the above procedures fails, log in via telnet and reset the switch to manufacturing defaults. If the above ssh procedures fails, log in via telnet and reset the switch to manufacturing defaults

```
$ /usr/bin/telnet <enclosure_switch_IP>
Switch# config
Switch(config)# no password all (answer yes to question)
Password protection for all will be deleted, continue [y/n]? y
Switch(config)# end
Switch# erase startup-config
(switch will automatically reboot, reboot takes about 120-180 seconds)
```

Note: The console connection to the switch must be closed, or the initialization will fail.

4. Virtual PM&C: Copy switch configuration template from the media to the tftp directory.

Copy switch initialization template and configuration template from the media to the tftp directory.

```
$ sudo /bin/cp -i /<path to media>/6120XG_template_init.xml
/usr/TKLC/smac/etc/switch/xml
$ sudo /bin/cp -i /<path to media>/6120XG_[single,LAG]Uplink_configure.xml
/usr/TKLC/smac/etc/switch/xml
$ sudo /bin/cp -i
/usr/TKLC/plat/etc/TKLNetwork-config-templates/templates/utility/addQOS_trafficTemplate_6120XG.xml
/usr/TKLC/smac/etc/switch/xml
```

- Where [single,LAG] are variables for either one of 2 files-see the following:

- 6120XG_SingleUplink_configure.xml is for one uplink per enclosure switch topology
- 6120XG_LAGUplink_configure.xml is for LAG uplink topology

5. Virtual PM&C: Verify the switch configuration file template in the tftp directory

Verify the switch initialization template file and configuration file template are in the correct directory.

```
$ sudo /bin/ls -l /usr/TKLC/smac/etc/switch/xml/
-rw-r--r-- 1 root root 1955 Feb 16 11:36
/usr/TKLC/smac/etc/switch/xml/6120XG_templateinit.xml
-rw-r--r-- 1 root root 1955 Feb 16 11:36
/usr/TKLC/smac/etc/switch/xml/6120XG_[single,LAG]Uplink_configure.xml
-rw-r--r-- 1 root root 702 Sep 10 10:33 addQOS_trafficTemplate_6120XG.xml
```

6. Virtual PM&C: Edit the switch configuration file template for site specific information

Edit the switch initialization file and switch configuration file template for site specific addresses, VLAN IDs, and other site specific content. Values to be modified by the user will be notated in this step by a preceding dollar sign. So a value that has \$<some_variable_name> will need to be modified, removing the dollar sign and the less than, greater than sign.

Note: Note that the files that are created in this step can be prepared ahead of time using the NAPD.

Note: Move the addVlan commands above the configuration of the uplink so all VLANs which should be allowed on the uplink exist at the moment the setLinkAggregation command is executed.

```
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/6120XG_template_init.xml
$ sudo /bin/vi
/usr/TKLC/smac/etc/switch/xml/6120XG_[single,LAG]Uplink_configure.xml
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/addQOS_trafficTemplate_6120XG.xml
```

Note: For IPv6 configurations, IPv6 configuration for remote syslog is not currently supported on the HP6120XG switches. This function must be configured for IPv4.

7. Virtual PM&C: Apply include-credentials command to the switch

Log into the switch using SSH

```
$ /usr/bin/ssh <username>@<enclosure_switch_IP>
Switch# config
Switch(config)# include-credentials
```

If prompted, answer yes to both questions.

Log out of the switch.

```
Switch(config)# logout
Do you want to log out [y/n]? y
Do you want to save current configuration [y/n/^C]? y
```

Continue to the next step.

8. Virtual PM&C: Initialize the switch

Initialize the switch

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/6120XG_template_init.xml
```

This could take up to 5-10 minutes.

Note: Upon successful completion of netConfig, the user will be returned to the PM&C command prompt. If netConfig fails to complete successfully, contact My Oracle Support

9. Virtual PM&C: Configure the switch

Configure the switch

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/6120XG_[single,LAG]Uplink_configure.xml
```

Note: This message is expected and can safely be ignored: INFO: "The vlanID option has been deprecated. Use the interface option."

This could take up to 2-3 minutes.

Note: Upon successful completion of netConfig, the user will be returned to the PM&C command prompt. If netConfig fails to complete successfully, contact My Oracle Support

10. Virtual PM&C: Apply QoS Settings

Apply the QoS traffic template settings.

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/addQoS_trafficTemplate_6120XG.xml
```

Note: The switch will reboot after this command. This step will take 2-5 minutes.

11. Virtual PM&C: Verify proper configuration of HP 6120XG switches

Once each HP 6120XG has finished booting from the previous step, verify network reachability and configuration.

```
$ /bin/ping -w3 <enclosure_switch_IP>
$ /usr/bin/ssh <switch_platform_username>@<enclosure_switch_IP>
<switch_platform_username>@<enclosure_switch_IP>'s password:
<switch_platform_password>
Switch# show run
```

Inspect the output of show run, and ensure that it is configured as per site requirements.

12. Virtual PM&C: Repeat steps for each HP 6120XG

For each HP 6120XG, repeat steps 3-12.

13. Perform *Backup HP (6120XG, 6125G, 6125XLG) Enclosure Switch* for each switch configured in this procedure.

14. Virtual PM&C: Clean up FW file

Remove the FW file from the tftp directory.

```
$ sudo /bin/rm -f ~<switch_backup_user>/<FW_image>
```

Configure HP 6125G Switches

Configure HP 6125G Switch (netConfig)

This procedure will configure the HP 6125G switches from the PM&C server & the command line interface using templates included with an application.

Needed materials:

- Application specific documentation (documentation that referred to this procedure)
- Template xml files in an application ISO on an application media.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Virtual PM&C: Prepare for switch configuration

If the aggregation switches are provided by Oracle, log into the PM&C, then run:

```
$ /bin/ping -w3 <switch1A_mgmtVLAN_address>
$ /bin/ping -w3 <switch1B_mgmtVLAN_address>
$ /bin/ping -w3 <switch_mgmtVLAN_VIP>
```

If the aggregation switches are provided by the customer, log into the PM&C, then run:

```
$ /bin/ping -w3 <mgmtVLAN_gateway_address>
```

2. Virtual PM&C: Verify network connectivity to OAs.

For each OA, verify network reachability.

```
$ /bin/ping -w3 <OA1_IP>
$ /bin/ping -w3 <OA2_IP>
```

3. Virtual PM&C: Determine which OA is currently active.

Log into OA1 to determine if it is active:

```
$ /usr/bin/ssh root@<OA1_IP>
```

The OA is active if you see the following:

```
Using username "root".

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----

Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 2
OA Role: Active
root@10.240.8.6's password:
```

If you see the following, it is standby:

```
Using username "root".

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----

Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 1
OA Role: Standby
root@10.240.8.5's password:
```

Press <ctrl> + C to close the SSH session.

If OA1 has a role of Standby, verify that OA2 is the active by logging into it:

```
$ /usr/bin/ssh root@<OA2_IP>
Using username "root".

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----

Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 2
OA Role: Active
root@10.240.8.6's password:
```

In the following steps, OA will mean the 'active OA' and <active_OA_IP> will be the IP address of the active OA.

Note: If neither OA reports Active, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of the document.

Exit the SSH session.

4. Virtual PM&C: Restore switch to factory defaults

If the 6125G switch has been configured prior to this procedure, clear out the configuration using the following command:

```
$/usr/bin/ssh root@<active_OA_IP>
Using username "root".

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----

Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 2
OA Role: Active
root@10.240.8.6's password: <OA_password>
> connect interconnect <switch_IOBAY_#>
Press [Enter] to display the switch console:
```

Note: You may need to press [ENTER] twice. You may also need to use previously configured credentials.

```
<switch>reset saved-configuration
The saved configuration file will be erased. Are you sure? [Y/N]:y
Configuration file in flash is being cleared.
Please wait ...

MainBoard:
Configuration file is cleared.
<switch>reboot
Start to check configuration with next startup configuration file, please
wait.....DONE!
This command will reboot the device. Current configuration will be lost, save
current configuration? [Y/N]:n
This command will reboot the device. Continue? [Y/N]: y
```

The switch will automatically reboot; this takes about 120-180 seconds. The switch reboot is complete when you see the following text:

```
[...Output omitted...]
User interface aux0 is available.

Press ENTER to get started.
```

When the reboot is complete, disconnect from the console by entering <ctrl> + <shift> + <->, then 'd'.

Note: If connecting to the Virtual PM&C through the management server iLO then [How to Access a Server Console Remotely](#) applies. Disconnect from the console by entering <ctrl> + <v>

Exit from the OA terminal:

```
>exit
```

Note: The console connection to the switch must be closed, or the initialization will fail.

5. Virtual PM&C: Copy switch configuration template from media to the tftp directory.
Copy switch initialization template and configuration template from the media to the tftp directory.

```
$ sudo /bin/cp -i /<path to media>/6125G_template_init.xml
/usr/TKLC/smac/etc/switch/xml
$ sudo /bin/cp -i /<path to media>/6125G_Pair-<#>_configure.xml
/usr/TKLC/smac/etc/switch/xml
```

6. Virtual PM&C: Verify the switch configuration file template in the tftp directory
Verify the switch initialization template file and configuration file template are in the correct directory.

```
$ sudo /bin/ls -i -l /usr/TKLC/smac/etc/switch/xml/
-rw-r--r-- 1 root root 1955 Feb 16 11:36
/usr/TKLC/smac/etc/switch/xml/6125G_template_init.xml
-rw-r--r-- 1 root root 1955 Feb 16 11:36
/usr/TKLC/smac/etc/switch/xml/6125G_Pair-<#>_configure.xml
```

7. Virtual PM&C: Edit the switch configuration file template for site specific information

Edit the switch initialization file and switch configuration file template for site specific addresses, VLAN IDs, and other site specific content. Values to be modified by the user will be notated in this step by a preceding dollar sign. So a value that has `$<some_variable_name>` must be modified, removing the dollar sign and the less than, greater than sign.

Note: Move the addVlan commands above the configuration of the uplink so all VLANs which should be allowed on the uplink exist at the moment the setLinkAggregation command is executed.

```
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/6125G_template_init.xml
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/6125G_Pair-<#>_configure.xml
```

Note: For IPv6 Configurations, IPv6 over NTP is NOT currently supported on the HP6125G switches. This function must be configured for IPv4.

Note: Within the 6125G xml netConfig file, change this stanza to the value that represents your xmi VLAN ID:

```
<option name="access">access</option>
```

Example input:

```
<option name="access">$xmi_vlan_ID</option>
```

8. Virtual PM&C: Initialize the switch

Note: The console connection to the switch must be closed before performing this step.

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/6125G_template_init.xml
```

This could take up to 5-10 minutes.

9. Virtual PM&C: Verify the switch was initialized

Verify the initialization succeeded with the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig getHostname --device=<switch_hostname>
Hostname: <switch_hostname>
```

This could take up to 2-3 minutes.

Note: Upon successful completion of netConfig, the user will be returned to the PM&C command prompt. If netConfig fails to complete successfully, contact My Oracle Support

10. Virtual PM&C: Execute the procedure in [Downgrade 6125G Switch Firmware](#) to verify the existing firmware version and downgrade if required.

11. Virtual PM&C: Configure the switch

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/6125G_Pair-<#>_configure.xml
```

Note: This message is expected and can safely be ignored: INFO: "The vlanID option has been deprecated. Use the interface option."

This could take up to 2-3 minutes.

Note: Upon successful completion of netConfig, the user will be returned to the PM&C command prompt. If netConfig fails to complete successfully, contact My Oracle Support.

12. Virtual PM&C: Add the IPv6 default route (IPv6 network only)

For IPv6 management networks, the enclosure switch requires an IPv6 default route to be configured. Apply the following command using netConfig:

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=<switch_name> addRoute network=::/0
nexthop=<mgmtVLAN_gateway_address>
```

13. Virtual PM&C: Verify proper configuration of HP 6125G switch

Once the HP 6125G has finished booting from the previous step, verify network reachability and configuration.

```
$ /bin/ping -w3 <enclosure_switch_IP>
PING 10.240.8.10 (10.240.8.10) 56(84) bytes of data: 64 bytes from 10.240.8.10:
icmp_seq=1 ttl=255 time=0.637 ms 64 bytes from 10.240.8.10: icmp_seq=2 ttl=255
time=0.661 ms 64 bytes from 10.240.8.10: icmp_seq=3 ttl=255 time=0.732 m
$ /usr/bin/ssh <switch_platform_username>@<enclosure_switch_IP>
<switch_platform_username>@<enclosure_switch_IP>'s password:
<switch_platform_password>
Switch_hostname> display current-configuration
Inspect the output, and ensure that it is configured as per site requirements.
```

14. Virtual PM&C: Repeat steps for each HP 6125G

For each HP 6125G, repeat [Step 4-Step 13](#).

15. Perform [Backup HP \(6120XG, 6125G, 6125XLG\) Enclosure Switch](#) for each switch configured in this procedure.

16. Virtual PM&C: Clean up FW file

Remove the FW file from the tftp directory.

```
$ sudo /bin/rm -f ~<switch_backup_user>/<FW_image>
```

Configure HP 6125XLG Switches

Configure HP 6125XLG Switch (netConfig)

This procedure will configure the HP 6125XLG switches from the PM&C server & the command line interface using templates included with an application.

Needed materials:

- Application specific documentation (documentation that referred to this procedure)
- Template xml files in an application ISO on an application media.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Virtual PM&C: Prepare for switch configuration

If the aggregation switches are provided by Oracle, log into the PM&C, then run:

```
$ /bin/ping -w3 <switch1A_mgmtVLAN_address>
$ /bin/ping -w3 <switch1B_mgmtVLAN_address>
$ /bin/ping -w3 <switch_mgmtVLAN_VIP>
```

If the aggregation switches are provided by the customer, log into the PM&C, then run:

```
$ /bin/ping -w3 <mgmtVLAN_gateway_address>
```

2. Virtual PM&C: Verify network connectivity to OAs.

For each OA, verify network reachability.

```
$ /bin/ping -w3 <OA1_IP>
$ /bin/ping -w3 <OA2_IP>
```

3. Virtual PM&C: Determine which OA is currently active.

Log into OA1 to determine if it is active:

```
$ /usr/bin/ssh root@<OA1_IP>
```

The OA is active if you see the following:

```
Using username "root".

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----
Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 2
OA Role: Active
root@10.240.8.6's password:
```

If you see the following, it is standby:

```
Using username "root".

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----
Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 1
OA Role: Standby
root@10.240.8.5's password:
```

Press <ctrl> + C to close the SSH session.

If OA1 has a role of Standby, verify that OA2 is the active by logging into it:

```
$ /usr/bin/ssh root@<OA2_IP>
Using username "root".
```

```

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----
Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 2
OA Role: Active
root@10.240.8.6's password:

```

In the following steps, OA will mean the 'active OA' and <active_OA_IP> will be the IP address of the active OA.

Note: If neither OA reports Active, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of the document.

Exit the SSH session.

4. Virtual PM&C: Restore switch to factory defaults

If the 6125XLG switch has been configured prior to this procedure, clear out the configuration using the following command:

```

$/usr/bin/ssh root@<active_OA_IP>
Using username "root".

-----
WARNING: This is a private system. Do not attempt to login unless you are an
authorized user. Any authorized or unauthorized access and use may be moni-
tored and can result in criminal or civil prosecution under applicable law.
-----
Firmware Version: 3.70
Built: 10/01/2012 @ 17:53
OA Bay Number: 2
OA Role: Active
root@10.240.8.6's password: <OA_password>
> connect interconnect <switch_IOBAY_#>
Press [Enter] to display the switch console:

```

Note: You may need to press [ENTER] twice. You may also need to use previously configured credentials.

```

<switch>reset saved-configuration
The saved configuration file will be erased. Are you sure? [Y/N]:y
Configuration file in flash is being cleared.
Please wait ...

MainBoard:
Configuration file is cleared.
<switch>reboot
Start to check configuration with next startup configuration file, please
wait.....DONE!
This command will reboot the device. Current configuration will be lost, save
current configuration? [Y/N]:n
This command will reboot the device. Continue? [Y/N]: y

```

The switch will automatically reboot; this takes about 120-180 seconds. The switch reboot is complete when the switch begins the auto configuration sequence.

When the reboot is complete, disconnect from the console by entering <ctrl> + <shift> + <->, then 'd'.

Note: If connecting to the Virtual PM&C through the management server iLO then [How to Access a Server Console Remotely](#) applies. Disconnect from the console by entering <ctrl> + <v>

Exit from the OA terminal:

```
>exit
```

Note: The console connection to the switch must be closed, or the initialization will fail.

5. Virtual PM&C: Copy switch configuration template from media to the switch backup directory.
Copy switch initialization template and configuration template from the media to the switch backup directory.

```
$ sudo /bin/cp -i /<path to media>/6125XLG_init.xml /usr/TKLC/smac/etc/switch/xml
$ sudo /bin/cp -i /<path to media>/6125XLG_configure.xml
/usr/TKLC/smac/etc/switch/xml
```

6. Virtual PM&C: Verify the switch configuration file template in the switch backup directory
Verify the switch initialization template file and configuration file template are in the correct directory.

```
$ sudo /bin/ls -i -l /usr/TKLC/smac/etc/switch/xml/
131195 -rw----- 1 root root 248 May 5 11:01 6125XLG_IOBAY3_template_init.xml
131187 -rw----- 1 root root 248 May 5 10:54 6125XLG_IOBAY5_template_init.xml
131190 -rw----- 1 root root 6194 Mar 24 15:04 6125XLG_IOBAY8-config.xml
131189 -rw----- 1 root root 248 Mar 25 09:43 6125XLG_IOBAY8_template_init.xml
```

7. Virtual PM&C: Edit the switch configuration file template for site specific information
Edit the switch initialization file and switch configuration file template for site specific addresses, VLAN IDs, and other site specific content. Values to be modified by the user will be notated in this step by a preceding dollar sign. So a value that has \$<some_variable_name> will need to be modified, removing the dollar sign and the less than, greater than sign.

Note: Move the addVlan commands above the configuration of the uplink so all VLANs which should be allowed on the uplink exist at the moment the setLinkAggregation command is executed.

```
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/6125XLG_init.xml
$ sudo /bin/vi /usr/TKLC/smac/etc/switch/xml/6125XLG_configure.xml
```

8. Virtual PM&C: Initialize the switch

Note: The console connection to the switch must be closed before performing this step.

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/6125XLG_init.xml
```

This could take up to 5-10 minutes.

9. Virtual PM&C: Verify the switch was initialized

Verify the initialization succeeded with the following command:

```
$ sudo /usr/TKLC/plat/bin/netConfig getHostname --device=<switch_hostname>
Hostname: <switch_hostname>
```

This could take up to 2-3 minutes.

Note: Upon successful completion of netConfig, the user will be returned to the PM&C command prompt. If netConfig fails to complete successfully, contact My Oracle Support

10. Virtual PM&C: Configure the switch

```
$ sudo /usr/TKLC/plat/bin/netConfig
--file=/usr/TKLC/smac/etc/switch/xml/6125XLG_configure.xml
```

Note: This message is expected and can safely be ignored: INFO: "The vlanID option has been deprecated. Use the interface option."

Note: This message is expected and can safely be ignored: INFO: "Cannot set vlanSTP on this device. Currently unsupported."

This could take up to 2-3 minutes.

Note: Upon successful completion of netConfig, the user will be returned to the PM&C command prompt. If netConfig fails to complete successfully, contact My Oracle Support.

11. Virtual PM&C: Add the IPv6 default route (IPv6 network only)

For IPv6 management networks, the enclosure switch requires an IPv6 default route to be configured. Apply the following command using netConfig:

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=<switch_name> addRoute network=:::/0
nexthop=<mgmtVLAN_gateway_address>
```

12. Virtual PM&C: Verify proper configuration of HP 6125XLG switch

Once the HP 6125XLG has finished booting from the previous step, verify network reachability and configuration.

```
$ /bin/ping -w3 <enclosure_switch_IP>
PING 10.240.8.10 (10.240.8.10) 56(84) bytes of data.64 bytes from 10.240.8.10:
icmp_seq=1 ttl=255 time=0.637 ms64 bytes from 10.240.8.10: icmp_seq=2 ttl=255
time=0.661 ms64 bytes from 10.240.8.10: icmp_seq=3 ttl=255 time=0.732 m
$ /usr/bin/ssh <switch_platform_username>@<enclosure_switch_IP>
<switch_platform_username>@<enclosure_switch_IP>'s password:
<switch_platform_password>
Switch_hostname> display current-configuration
Inspect the output, and ensure that it is configured as per site requirements.
```

13. For HP 6125XLG switches connected by 4x1GE LAG uplink perform Utility procedure [Configure Speed and Duplex for 6125XLG LAG Ports \(netConfig\)](#). Otherwise, for deployments with 10GE uplink, continue to the next step.

14. Virtual PM&C: Repeat steps for each HP 6125XLG

For each HP 6125XLG, repeat Steps [Step 4-Step 13](#).

15. For HP 6125XLG switches uplinking with 4x1GE uplink to customer switches, field personnel are expected to work with the customer to set their downlinks to the HP 6125XLG 4x1GE LAG to match speed and duplex set in [Step 13](#)

For HP 6125XLG switches uplinking with 4x1GE LAG to product Cisco 4948/E/E-F aggregation switches, perform Utility Procedure [Configure Speed and Duplex for 6125XLG LAG Ports \(netConfig\)](#) to match speed and duplex settings from [Step 13](#).

Otherwise, for deployments with 10GE uplink, continue to the next step.

16. Perform [Backup HP \(6120XG, 6125G, 6125XLG\) Enclosure Switch](#) for each switch configured in this procedure.

17. Virtual PM&C: Clean up FW file

Remove the FW file from the tftp directory.

```
$ sudo /bin/rm -f ~<switch_backup_user>/<FW_image>
```

Server Blades Installation Preparation

Upgrade Blade Server Firmware

Software Centric Customers: If Oracle Consulting Services or any other Oracle Partner is providing services to a customer that includes installation and/or upgrade then, as long as the terms of the scope of those services include that Oracle Consulting Services is employed as an agent of the customer (including update of Firmware on customer provided services), then Oracle consulting services can install FW they obtain from the customer who is licensed for support from HP.

Note: This procedure uses a custom SPP version that cannot be obtained from the customer and therefore cannot be used for a Software Centric Customer. Software Centric Customers must ensure their firmware versions match those detailed in the *HP Solutions Firmware Upgrade Pack, Software Centric Release Notes* document.

This procedure will provide the steps to upgrade the firmware on the Blade servers.

The HP Support Pack for ProLiant installer automatically detects the firmware components available on the target server and will only upgrade those components with firmware older than what is on the current ISO.

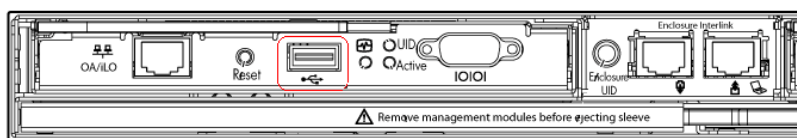
Needed Materials:

- HP Service Pack for ProLiant (SPP) firmware ISO image
- HP MISC firmware ISO image (for errata updates if applicable)
- Release Notes of the *HP Solutions Firmware Upgrade Pack* [2]
- USB Flash Drive (4GB or larger and formatted as FAT32)

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Local Workstation: Copy the HP Support Pack for ProLiant (SPP) ISO image to the USB Flash Drive.
2. Insert USB Flash Drive

Insert the USB Flash Drive with the HP Support Pack for ProLiant ISO into the USB port of the Active OA Module.



3. Active OA GUI: Log in

Navigate to the IP address of the active OA, using [Determining Which Onboard Administrator Is Active](#). Log in as an administrative user.

4. OA Web GUI: Access the Device Summary page

On the left pane, expand the **Device Bays** node to display the **Device Bay Summary** window.

Select the individual blades to be upgraded by clicking and enabling the corresponding checkbox next to the bay number of the blades.

Note: A maximum of 8 blades should be upgraded concurrently at one time. If the c7000 enclosure has more than 8 blades they will need to be upgraded in multiple sessions.

HP BladeSystem Onboard Administrator

System Status: Updated Thu Jul 8 2010, 12:51:53

System Status: 0 0 0 0 0

Systems and Devices

- Rack Overview
- Rack Firmware
- Primary: 500_05_01
 - Enclosure Information
 - Enclosure Settings
 - Active Onboard Administrator
 - Standby Onboard Administrator
 - Device Bays
 - 1. ESXi-host-joslin
 - 2. ESXi-en501bay2.localdomain
 - 3. hostname1278553083
 - 4. en50501bay4F
 - 5. en50501bay5F
 - 6. ESXi-50106.localdomain
 - 7. hostname1269427367
 - 8. hostname1277757464
 - 12. hostname1277758366
 - 13. BLADE15F
 - Interconnect Bays
 - Power and Thermal
 - Users/Authentication
 - Insight Display

Device Bay Summary

Device List

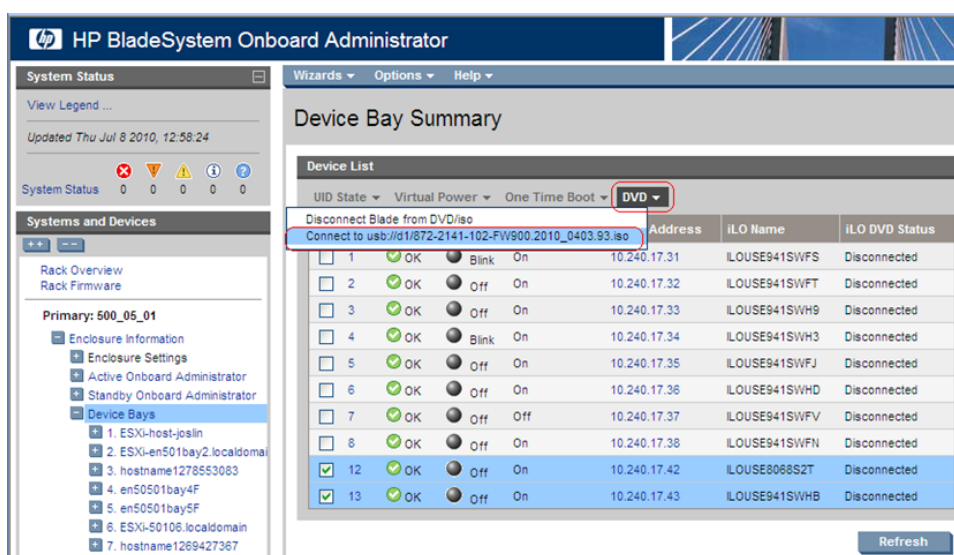
UID State Virtual Power One Time Boot DVD

Bay	Status	UID	Power State	iLO IP Address	iLO Name	iLO DVD Status
1	OK	Blink	On	10.240.17.31	ILOUSE941SWFS	Disconnected
2	OK	Off	On	10.240.17.32	ILOUSE941SWFT	Disconnected
3	OK	Off	On	10.240.17.33	ILOUSE941SWH9	Disconnected
4	OK	Blink	On	10.240.17.34	ILOUSE941SWH3	Disconnected
5	OK	Off	On	10.240.17.35	ILOUSE941SWFJ	Disconnected
6	OK	Off	On	10.240.17.36	ILOUSE941SWHD	Disconnected
7	OK	Off	Off	10.240.17.37	ILOUSE941SWFV	Disconnected
8	OK	Off	On	10.240.17.38	ILOUSE941SWFN	Disconnected
12	OK	Off	On	10.240.17.42	ILOUSE8068S2T	Disconnected
13	OK	Off	On	10.240.17.43	ILOUSE941SWHB	Disconnected

Refresh

5. OA Web GUI: Connect to USB Drive

Once the blades are selected, connect them to the ISO on the USB Drive, by selecting the **Connect to usb...** item from the **DVD** menu.



6. OA Web GUI: Verify Drive Connection

Once each blade has mounted the ISO media the *Device List* table should indicate an iLO DVD Status as "Connected" for each blade that was previously selected.

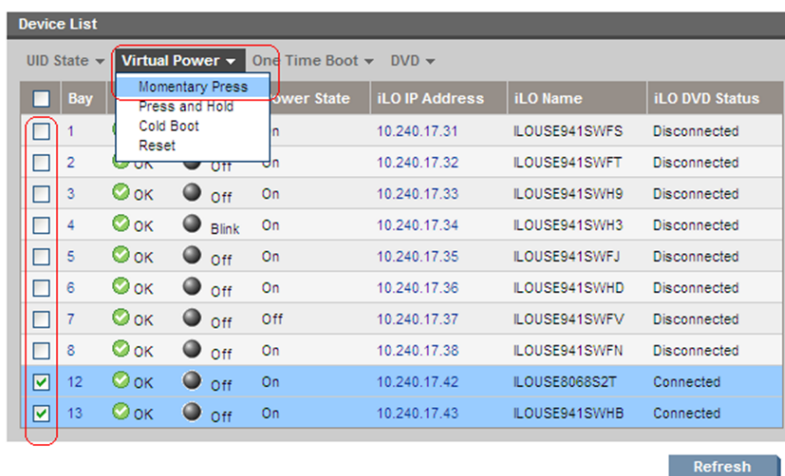
Device List							
UID State Virtual Power One Time Boot DVD							
<input type="checkbox"/>	Bay	Status	UID	Power State	iLO IP Address	iLO Name	iLO DVD Status
<input type="checkbox"/>	1	OK	Blink	On	10.240.17.31	ILOUSE941SWFS	Disconnected
<input type="checkbox"/>	2	OK	Off	On	10.240.17.32	ILOUSE941SWFT	Disconnected
<input type="checkbox"/>	3	OK	Off	On	10.240.17.33	ILOUSE941SWH9	Disconnected
<input type="checkbox"/>	4	OK	Blink	On	10.240.17.34	ILOUSE941SWH3	Disconnected
<input type="checkbox"/>	5	OK	Off	On	10.240.17.35	ILOUSE941SWFJ	Disconnected
<input type="checkbox"/>	6	OK	Off	On	10.240.17.36	ILOUSE941SWHD	Disconnected
<input type="checkbox"/>	7	OK	Off	Off	10.240.17.37	ILOUSE941SWFV	Disconnected
<input type="checkbox"/>	8	OK	Off	On	10.240.17.38	ILOUSE941SWFN	Disconnected
<input type="checkbox"/>	12	OK	Off	On	10.240.17.42	ILOUSE8068S2T	Connected
<input type="checkbox"/>	13	OK	Off	On	10.240.17.43	ILOUSE941SWHB	Connected

Refresh

Note: The **Refresh** button may need to be clicked in order to see the current status of all blades.

7. OA Web GUI: Power Down Blades

If needed, reselect the UID checkbox for each blade to be upgraded and then select the **Momentary Press** option under the **Virtual Power** menu.



When prompted, click the **OK** button to confirm the action.

8. OA Web GUI: Verify Power Down

The power down sequence can take several minutes to complete. When it completes, the *Device List* table will indicate the Power State of each selected blade to be "Off."

UID State	Virtual Power	One Time Boot	DVD				
Bay	Status	UID	Power State	iLO IP Address	iLO Name	iLO DVD Status	
1	OK	Blink	On	10.240.17.31	ILOUSE941SWFS	Disconnected	
2	OK	Off	On	10.240.17.32	ILOUSE941SWFT	Disconnected	
3	OK	Off	On	10.240.17.33	ILOUSE941SWH9	Disconnected	
4	OK	Blink	On	10.240.17.34	ILOUSE941SWH3	Disconnected	
5	OK	Off	On	10.240.17.35	ILOUSE941SWFJ	Disconnected	
6	OK	Off	On	10.240.17.36	ILOUSE941SWHD	Disconnected	
7	OK	Off	Off	10.240.17.37	ILOUSE941SWFV	Disconnected	
8	OK	Off	On	10.240.17.38	ILOUSE941SWFN	Disconnected	
12	OK	Off	Off	10.240.17.42	ILOUSE8068S2T	Connected	
13	OK	Off	Off	10.240.17.43	ILOUSE941SWHB	Connected	

Note: The **Refresh** button may need to be clicked in order to see the current status of all blades.

9. OA Web GUI: Initiate Firmware Upgrade

To power the blades back on and begin the automated firmware upgrade process, repeat Steps 7 and 8 this time being sure the Power State indicates "On" for each selected blade.

10. OA Web GUI: Monitor Firmware Upgrade

From this point on each blade will boot into an automated firmware upgrade process that will last approximately 30 minutes. During this time all feedback is provided through the UID lights. The UID light on a server blinks when firmware is actively being applied.

The UID lights will not blink until the server fully boots and the firmware upgrades have started to be applied. If no upgrades are needed the UID lights will not blink, but the server will still reboot and the iLO DVD will disconnect after completion.

	Bay	Status	UID	Power State	iLO IP Address	iLO Name	iLO DVD Status
<input type="checkbox"/>	1	OK	Blink	On	10.240.17.31	ILOUSE941SWFS	Disconnected
<input type="checkbox"/>	2	OK	Off	On	10.240.17.32	ILOUSE941SWFT	Disconnected
<input type="checkbox"/>	3	OK	Off	On	10.240.17.33	ILOUSE941SWH9	Disconnected
<input type="checkbox"/>	4	OK	Blink	On	10.240.17.34	ILOUSE941SWH3	Disconnected
<input type="checkbox"/>	5	OK	Off	On	10.240.17.35	ILOUSE941SWFJ	Disconnected
<input type="checkbox"/>	6	OK	Off	On	10.240.17.36	ILOUSE941SWHD	Disconnected
<input type="checkbox"/>	7	OK	Off	Off	10.240.17.37	ILOUSE941SWFV	Disconnected
<input type="checkbox"/>	8	OK	Off	On	10.240.17.38	ILOUSE941SWFN	Disconnected
<input type="checkbox"/>	12	OK	Off	On	10.240.17.42	ILOUSE8068S2T	Disconnected
<input type="checkbox"/>	13	OK	Off	On	10.240.17.43	ILOUSE941SWHB	Disconnected

Refresh

Upon a successful firmware upgrade, the *Device List* table will list each blade with a **Status** of "OK", UID of "Off" and the iLO DVD Status as "Disconnected". At this time the blades will automatically be rebooted.

Note: Make sure all blades have disconnected before continuing. If any blades are still connected after their UIDs have stopped blinking and Status=OK, disconnect them manually by selecting **Disconnect Blade from DVD/ISO** from the DVD menu. If the UID led is solid, a failure has occurred during the firmware upgrade. Use the iLO's integrated remote console or a kvm connection to view the error.

If necessary, repeat Steps 4 through 10 for the remaining blades in the enclosure to be upgraded. Proceed to the next step.

11. Remove USB Flash Drive

The USB flash drive may now safely be removed from the Active OA module.

12. Update Firmware Errata

Check the Release Notes of the *HP Solutions Firmware Upgrade Pack* [2] to see if there are any firmware errata items that apply to the server being upgraded.

If there are firmware errata items that apply to the server being upgraded, there will be a directory matching the errata's ID in the /errata directory of the HP MISC firmware ISO image. The errata directories contain the errata firmware and a README file detailing the installation steps.

Confirm/Upgrade Blade Server BIOS Settings

This procedure will provide the steps to confirm and update the BIOS boot order on the blade servers. All servers should have SNMP disabled. Refer to [Changing SNMP Configuration Settings for iLO](#).

For instructions on BIOS configuration for a Gen9 blade or RMS, refer to Appendix [Configuring HP Gen9 RMS and Blade Servers](#).

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to [My Oracle Support \(MOS\)](#).

1. Active OAGUI: Login

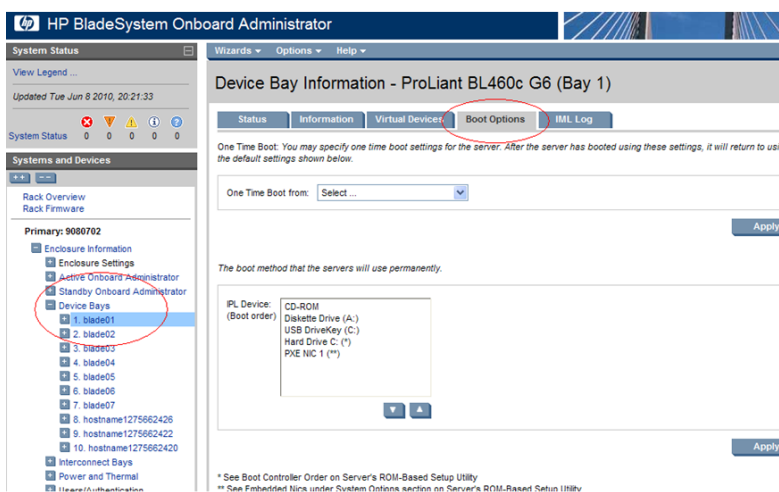
Navigate to the IP address of the active OA, using [Determining Which Onboard Administrator Is Active](#). Login as an administrative user.



2. Active OAGUI: Navigate to device Bay Settings

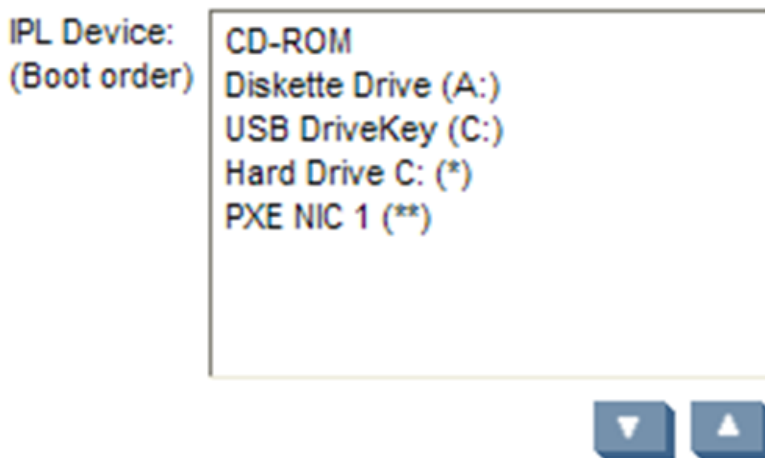
Navigate to **Enclosure Information > Device Bays > <Blade 1>**

Click on the **Boot Options** tab.



3. Active OAGUI: Verify/update Boot device Order

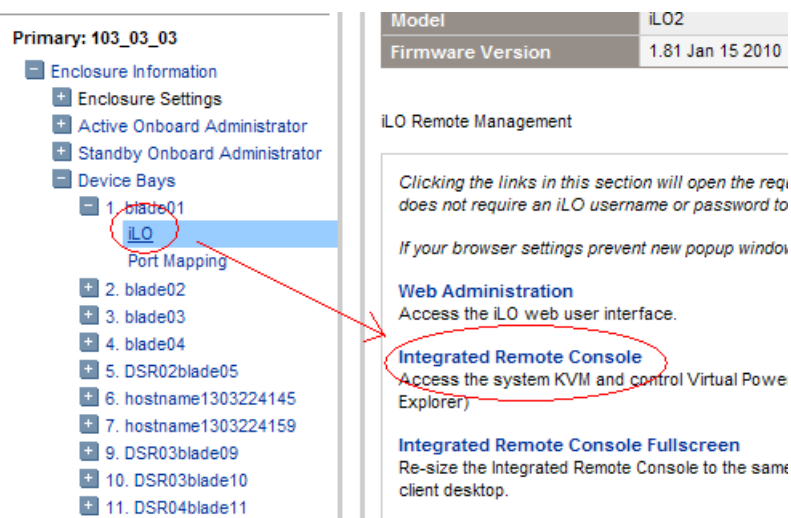
Verify that the Boot order is as follows. If it is not, use the up and down arrows to adjust the order to match the picture below, then click **Apply**



4. OA: Access the Blade iLO

Navigate to **Enclosure Information > Device Bays > <Blade 1> > iLO**

Click **Integrated Remote Console**



This will launch the iLO interface for that blade. If this is the first time the iLO is being accessed, you will be prompted to install an addon to your web browser, follow the on screen instructions to do so.

5. OA: Restart the blade and access the BIOS

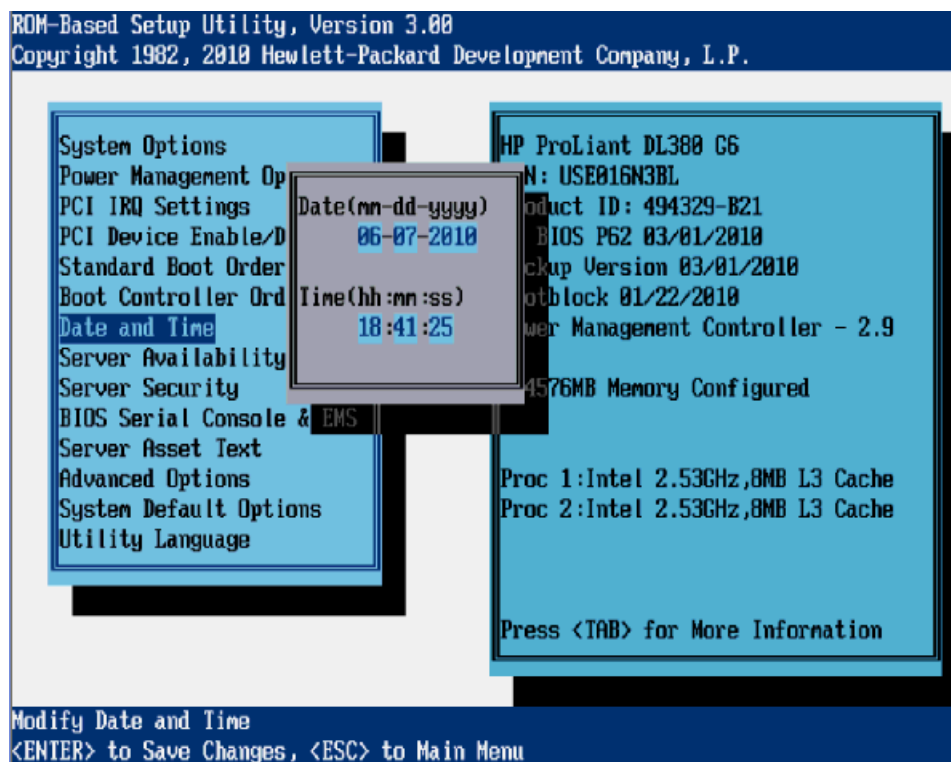
You might be prompted with a certificate security warning, just press continue.

Once a prompt is displayed, log into the blade using the "admusr" username.

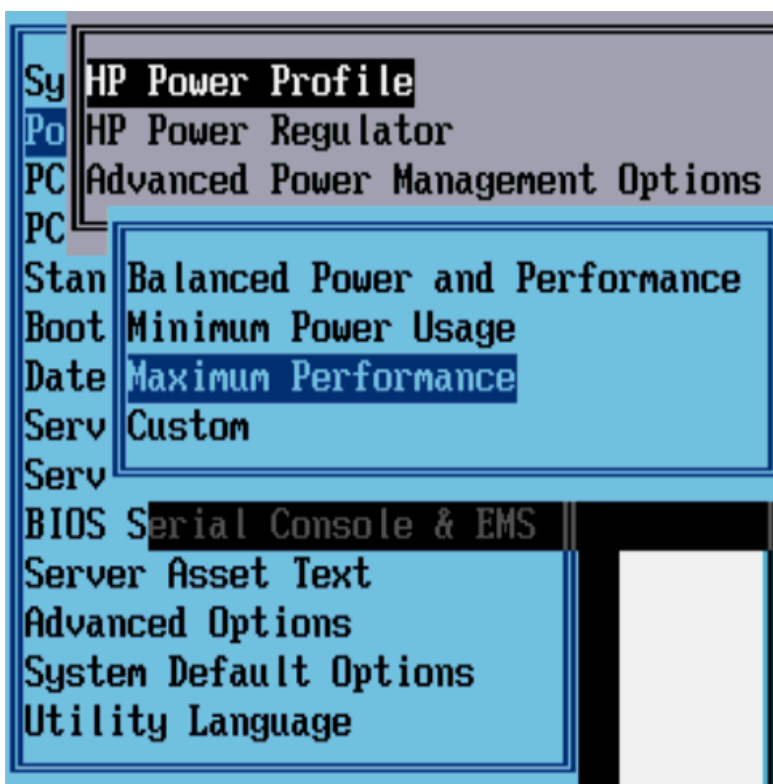
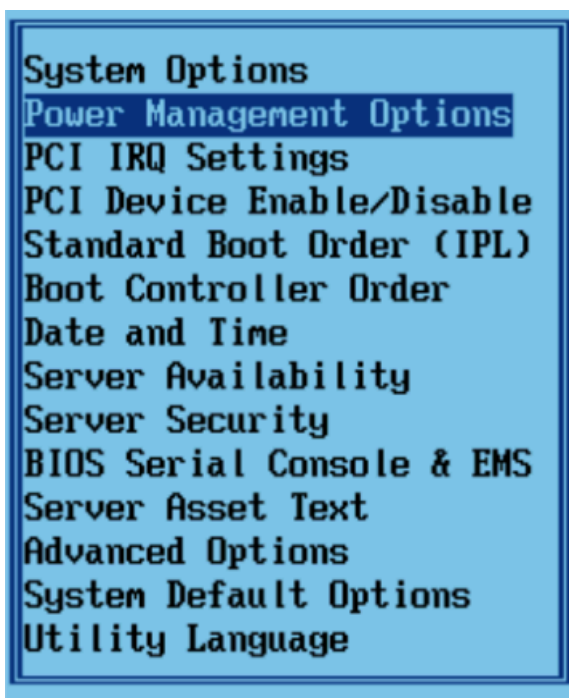
Once logged in, Reboot the server (using the "reboot" command) and after the server is powered on, as soon as you see <F9=Setup> in the lower left corner of the screen, press **F9** to access the BIOS setup screen.

6. OA: Updated BIOS settings

1. Scroll to **Date and Time** and press **Enter**
2. Set current date, set current UTC time and press **Enter**



3. Go back to the main menu by pressing **<ESC>** and scroll down to **Power Management Options** and press **Enter**
4. Select **HP Power Profile** and press **Enter**
5. Scroll down to **Maximum Performance** and press **Enter**



6. Press <ESC> twice to return to exit the BIOS setup screen and **F10** to confirm, exiting the utility
7. The blade will reboot afterwards
7. Active OAGUI: Repeat for the remaining blades

Repeat Steps 2 through 6 for the remaining blades. Once done, exit out of the OA GUI.

Installing TVOE on Rack Mount Server(s)

Note: This procedure is specific to RMS servers that will be managed by PM&C, and do not yet have a TVOE environment configured. It requires that the RMS server is on the PM&C control network (i.e., it is able to receive a DHCP IP address from PM&C on the 192.168.1.0 network).

This is an "IPM" activity for a server that will be a Virtual Host.

Add Rack Mount Server to the PM&C System Inventory

This procedure provides instructions for adding a rack mount server to the PM&C system inventory.

Prerequisite:

- The [Configure PM&C Application](#) procedure has been completed.

Note: If a procedural STEP fails to execute successfully, it is recommended to STOP and contact [My Oracle Support \(MOS\)](#).

Note: You cannot edit the RMS iLO IP address. To change this address, delete, and then add, the RMS with the correct address.

1. PM&C GUI: Login

Open web browser and enter:

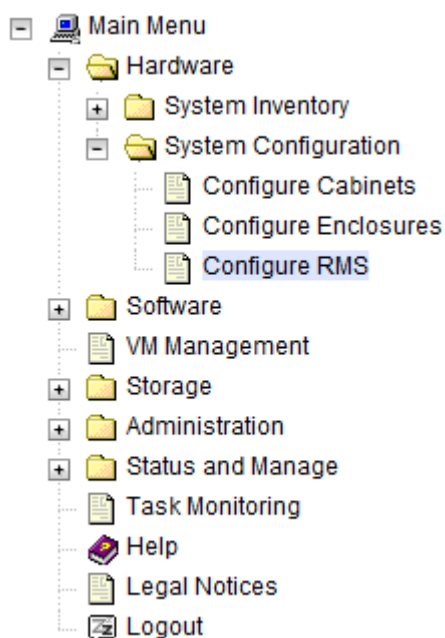
```
https://<pmac_management_network_ip>
```

2. PM&C GUI: Configure Cabinet (optional)

If this is a RMS installation only or a cabinet has not been previously configured, perform steps [Step 2](#) through [Step 5](#) of procedure [Add Cabinet and Enclosure to the PM&C System Inventory](#) to add one or more cabinets.

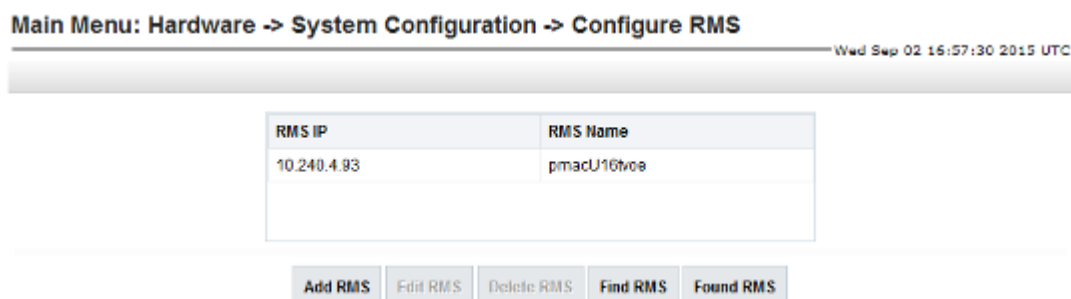
3. PM&C GUI: Configure RMS

Navigate to **Main Menu > Hardware > System Configuration > Configure RMS**



4. PM&C GUI: Add RMS

On the Configure RMS panel, click the Add RMS button.



5. PM&C GUI: Enter information

Enter the IP Address of the rack mount server management port (iLO). All the other fields are optional.

Then click on the **Add RMS** button.

Main Menu: Hardware -> System Configuration -> Configure RMS [Add RMS] Wed Sep 02 16:59:35 2015 UTC

IP (required):

Name:

Cabinet ID:

User:

Password:

Note: If the initial credentials provided by Oracle have been changed, enter valid credentials (not to be confused with OS or Application credentials) for the rack mount server management port.

6. PM&C GUI: Check errors

If no error is reported to the user you will see the following:

Main Menu: Hardware -> System Configuration -> Configure RMS [Add RMS] Wed Sep 02 17:01:59 2015 UTC

Info

Info

- RMS 10.240.32.1 was added to the system.

RMS Name
appserver1
10.240.4.93 pmaCU16tvoe

Or you will see an error message:

Main Menu: Hardware -> System Configuration -> Configure RMS [Add RMS] Wed Sep 02 17:03:23 2015 UTC

Error

Error

- Both the user and the password must be specified or neither.

Name:

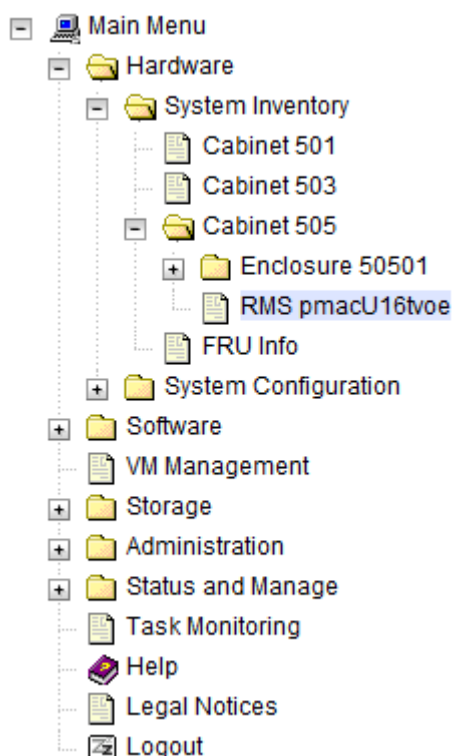
Cabinet ID:

User:

Password:

7. PM&C GUI: Verify RMS discovered

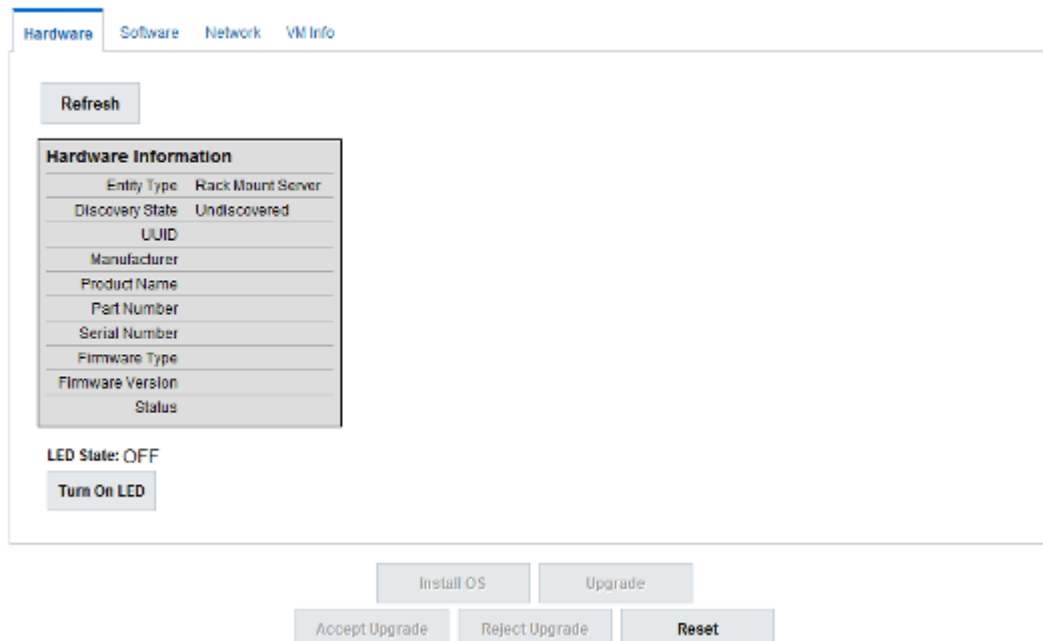
Navigate to **Main Menu > Hardware > System Inventory > Cabinet xxx > RMS yyy** Where "xxx" is the cabinet id selected when adding RMS (or "unspecified") and "yyy" is the name of the RMS.



The RMS inventory page is displayed.

Main Menu: Hardware -> System Inventory -> Cabinet 505 -> RMS pmacU16tvoe with IP 10.240.4.93

Wed Sep 02 17:05:45 2015 UTC



Periodically refresh the hardware information using the double arrow to the right of the title "Hardware Information" until the "Discovery state" changes from "Undiscovered" to "Discovered". If "Status" displays an error, contact My Oracle Support for assistance.

Main Menu: Hardware -> System Inventory -> Cabinet 505 -> RMS pmacU16tvoe with IP 10.240.4.93

Wed Sep 02 17:05:45 2015 UTC

Hardware Software Network VM Info

Refresh

Hardware Information	
Entity Type	Rack Mount Server
Discovery State	Discovered
UUID	30343536-3130-5355-4532-313632333249
Manufacturer	HP
Product Name	ProLiant DL360p Gen8
Part Number	654001
Serial Number	USE216232H
Firmware Type	iLO4
Firmware Version	1.30 Jul 16 2013
Status	

LED State: OFF

Turn On LED

Install OS Upgrade

Accept Upgrade Reject Upgrade Reset

Add ISO Image to the PM&C Repository

If the Rack Mount Server (RMS) is to be configured as a TVOE hosting application guests execute this procedure using the applicable TVOE ISO as the image to add, otherwise continue to next procedure.

Adding ISO Images to the PM&C Image Repository

Note: If the ISO image has already been added to the PM&C Software Inventory in a previous procedure, skip this procedure.

This procedure provides the steps for adding ISO images to the PM&C repository.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. Make the image available to PM&C

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

- Attach the USB device containing the ISO image to a USB port of the Management Server.
- 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:
 - cd into the directory where your ISO image is located (not on the PM&C server)

- Using sftp, connect to the PM&C management server as the pmacftpusr user. If using IPv6, shell escapes around the IPv6 address may be required.

```
> sftp pmacftpusr@<pmac_management_network_ip>  
> put <image>.iso
```

- 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: Log in

Open web browser and enter:

```
https://<pmac_management_network_ip>
```

Log in as pmacadmin user.

3. PM&C GUI: Attach the software image to the PM&C guest

If in Step 1 the ISO image was transferred directly to the PM&C guest via sftp, skip the rest of this step and continue with step 4. If the image is on a USB device, continue with this step.

In the PM&C GUI, navigate to **Main Menu > VM Management**. In the "VM Entities" list, select the PM&C guest. On the resulting "View VM Guest" page, select the "Media" tab.

Under the **Media** tab, find the ISO image in the "Available Media" list, and click its "Attach" button. After a pause, the image will appear in the "Attached Media" list.

View guest pmacU16-3

VM Info Software Network **Media**

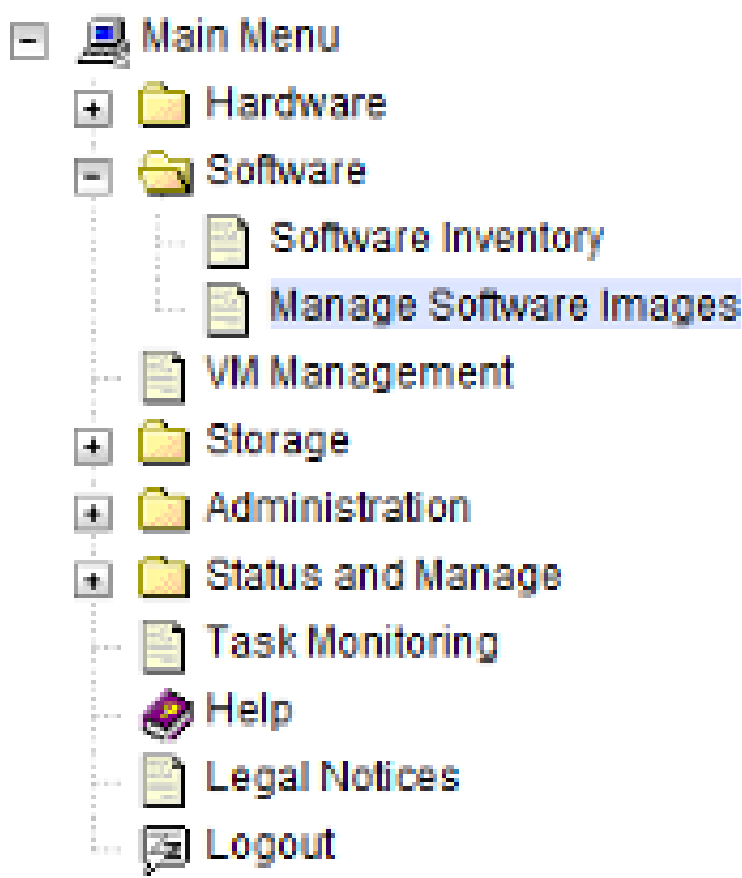
[Attached Media](#) [Available Media](#)

Available Media

Attach	Label	Image Path
<input type="button" value="Attach"/>	3.2.0.0.0_88.8.0	/media/sdc1/TVOE-3.2.0.0.0_88.8.0-x86_64.iso

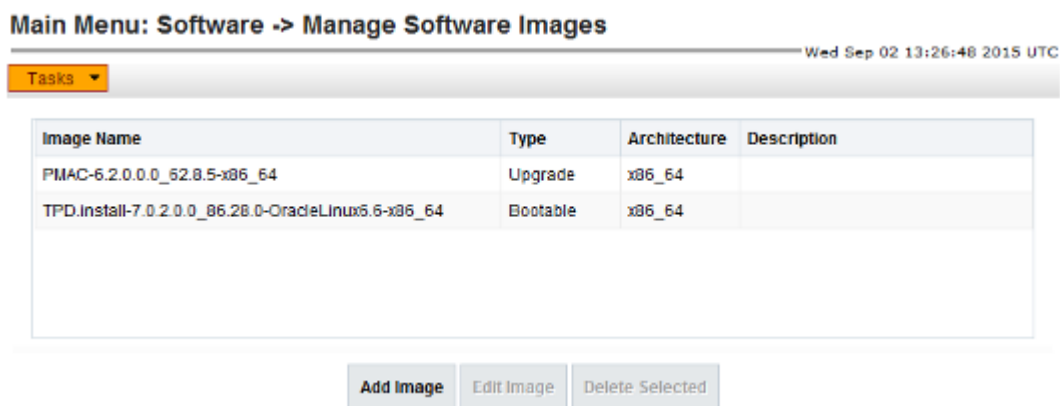
4. PM&C GUI: Navigate to Manage Software Images

Navigate to **Main Menu > Software > Manage Software Images**



5. PM&C GUI: Add image

Press the **Add Image** button.



6. PM&C GUI: Add the ISO image to the PM&C image repository.

Select an image to add:

- If in Step 1 the image was transferred to PM&C via sftp it will appear in the list as a local file `"/var/TKLC/..."`.

- If the image was supplied on a USB drive, it will appear as a virtual device ("device://..."). These devices are assigned in numerical order as USB images become available on the Management Server. The first virtual device is reserved for internal use by TVOE and PM&C; therefore, the iso image of interest is normally present on the second device, "device://dev/sr1". If one or more USB-based images were already present on the Management Server before you started this procedure, choose a correspondingly higher device number.

Enter an appropriate image description and press the **Add New Image** button.

Main Menu: Software -> Manage Software Images [Add Image] Wed Sep 02 13:38:03 2015 UTC

Images may be added from any of these sources:

- Oracle-provided media in the PM&C host's CD/DVD drive (Refer to Note)
- USB media attached to the PM&C's host (Refer to Note)
- External mounts. Prefix the directory with "extfile://".
- These local search paths:
 - /var/TKLC/upgrade/*.iso
 - /var/TKLC/smacl/image/isoimages/home/smaclpusn/*.iso

Note: CD and USB images mounted on PM&C's VM host must first be made accessible to the PM&C VM guest. To do this, go to the Media tab of the PM&C guest's View VM Guest page in [VM Management](#).

Path: x

Description:

7. PM&C GUI Monitor the Add Image status

The Manage Software Images page is then redisplayed with a new background task entry in the table at the bottom of the page:

Main Menu: Software -> Manage Software Images [Add Image] Wed Sep 02 13:39:34 2015 UTC

Info Tasks

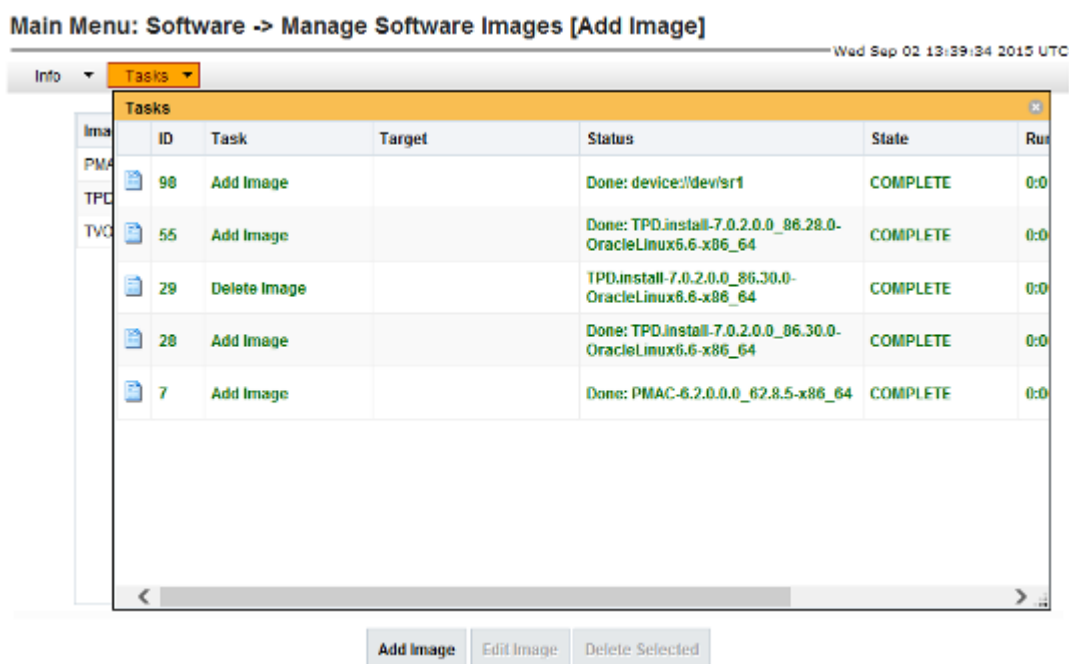
Info

- Software image device://dev/sr1 3.2.0.0.0_88.8.0 will be added in the background.
- The ID number for this task is: 98.

Description	Bootable	Architecture
TPD.install-7.0.2.0.0_86.27.0-OracleLinux5.6-x86_64	Bootable	x86_64

8. PM&C GUI Wait until the Add Image task finishes

When the task is complete, its text changes to green and its Progress column indicates "100%". Check that the correct image name appears in the Status column:



9. PM&C GUI: Detach the image from the PM&C guest

If the image was supplied on USB, return to the PM&C guest's "**Media**" tab used in Step 3, locate the image in the "**Attached Media**" list, and click its "**Detach**" button. After a pause, the image will be removed from the "**Attached Media**" list. This will release the virtual device for future use.

Remove the USB device from the Management Server.

Note: If there are additional ISO images to be provisioned on the PM&C, repeat the procedure with the appropriate ISO image data.

10. PM&C: Perform PM&C application backup.

```
$ sudo /usr/TKLC/smac/bin/pmacadm backup
PM&C backup been successfully initiated as task ID 7
$
```

Note: The backup runs as a background task. To check the status of the background task use the PM&C GUI Task Monitor page, or issue the command "pmaccli getBgTasks". The result should eventually be "PM&C Backup successful" and the background task should indicate "COMPLETE".

Note: The "pmacadm backup" command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.

11. PM&C: Verify the Backup was successful

Note: If the background task shows that the backup failed, then the backup did not complete successfully. STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

The output of `pmaccli getBgTasks` should look similar to the example below:

```
$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks
2: Backup PM&C COMPLETE - PM&C backup successful
Step 2: of 2 Started: 2012-07-05 16:53:10 running: 4 sinceUpdate: 2 taskRecordNum:
2 Server Identity:
Physical Blade Location:
Blade Enclosure:
Blade Enclosure Bay:
Guest VM Location:
Host IP:
Guest Name:
TPD IP:
Rack Mount Server:
IP:
Name:
::
```

12. PM&C: Save the PM&C backup

The PM&C backup must be moved to a remote server. Transfer (sftp, scp, rsync, or preferred utility), the PM&C backup to an appropriate remote server. The PM&C backup files are saved in the following directory: `"/var/TKLC/smac/backup"`.

Initial Product Manufacture of Application Server

IPM Servers Using PM&C Application

This procedure provides the steps for installing TPD or TVOE using an image from the PM&C image repository.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. PM&C GUI: Log in

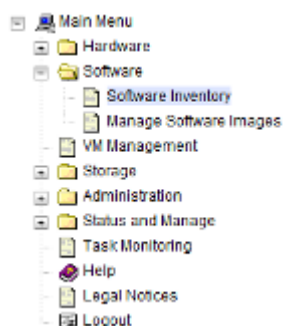
If needed, open web browser and enter:

```
https://<pmac_management_network_ip>
```

Log in as the `pmacadmin` user.

2. PM&C GUI: Navigate to the Software Inventory

Navigate to **Main Menu > Software > Software Inventory**.



3. PM&C GUI: Select Servers

Select the servers you want to IPM. If you want to install the same OS on more than one server, you may select multiple servers by individually clicking multiple rows. Selected rows will be highlighted in green.

Main Menu: Software -> Software Inventory Tue Jul 12 16:42:11 2016 UTC

Filter*

Identity	IP Address	Hostname	Platform Name	Platform Version	Application Name	Application Version	Designation	Function
Enc50301 Bay 2E								
Enc50301 Bay 2E								
Enc50301 Bay 2E								
Enc50301 Bay 2E								
Enc50301 Bay 2E								
Enc50301 Bay 2E	169.254.134.3	hostname1461772817	TPD (x86_64)	6.5.3-02.38.0	TVOE	2.5.3_82.38.0		
Enc50301 Bay 2E	169.254.134.2	hostnameb13235111c85	TPD (x86_64)	6.7.0.0-1-84.20.0				
Guest: bcd40f0d								
Enc50301 Bay 2E	169.254.134.9	hostname5d5c5b1da0fa	TPD (x86_64)	6.7.0.0-1-84.20.0		Pending Upgrade Accfriaj		
Guest: u60rad806af								
Enc50301 Bay 31F								
Enc50301 Bay 31F								
Enc50301 Bay 31F								
Root: gmac4716								
Host								
hostname02be2be44427	169.254.134.1	pmatU154	TPD (x86_64)	7.2.0.0-0-88.20.0	PMAC	6.2.0.0.0_62.18.0		

Selection active - periodic display updates paused

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Press the **Install OS** button.

4. PM&C GUI: Select Image

The left side of the screen displays the servers to be affected by the OS installation. From the list of available bootable images on the right side of the screen, select the OS image to install on the selected servers.

Software Install - Select Image Wed Sep 02 14:45:10 2015 UTC

Tasks

Targets

Entity	Status
Enc50501 Bay 2E	

Select Image

Image Name	Type	Architecture	Description
TPD install-7.0.2.0.0_88.28.0-OracleLinux8.6-x86_64	Bootable	x86_64	
TVOE-3.2.0.0.0_88.8.0-x86_64	Bootable	x86_64	

Supply Software Install Arguments (Optional)

5. PM&C GUI: Supply Install Arguments (Optional)

Install arguments can be supplied by entering them into the text box displayed under the list of bootable images. These arguments will be appended to the kernel line during the IPM process. If no install arguments need to be supplied for the OS being installed, leave the install arguments text box empty.

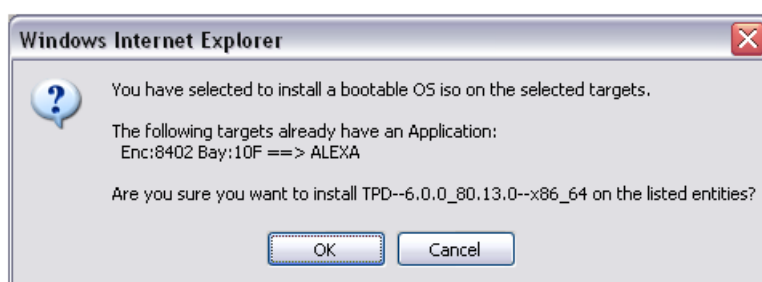
Note: The valid arguments for a TPD IPM are listed in *TPD Initial Product Manufacture Software Installation Procedure*, E53017.

6. PM&C GUI: Start Install

Press the **Start Install** button.

7. PM&C GUI: Confirm OS Install

Press the **OK** button to proceed with the install.



8. PM&C GUI: Monitor Install OS

Navigate to **Main Menu > Task Monitoring** to monitor the progress of the Install OS background task. A separate task will appear for each server affected.

Main Menu: Task Monitoring

Filter ▾ Wed Sep 02 14:53:58 2015 UTC

ID	Task	Target	Status	State	Task Output	Ri
60	Install OS	RMS: pmaCU16tvoe Guest: tpd8628	Starting install of TPD.install. 7.0.2.0.0_86.28.0-OracleLinux6.6- x86_64	IN_PROGRESS	N/A	^
58	Delete Guest	RMS: pmaCU16tvoe Guest: tpd8628	Guest deletion completed (tpd8626)	COMPLETE	N/A	
56	Create Guest	RMS: pmaCU16tvoe Guest: tpd8628	Guest creation completed (tpd8628)	COMPLETE	N/A	v

Delete Completed
Delete Failed
Delete Selected

When the task is complete and successful, its text will change to green and its Progress column will indicate "100%".

Note: Repeat this procedure for additional RMS servers with appropriate data.

TVOE Configuration on RMS Server

The application is responsible for the configuration of the TVOE. This section describes steps necessary to configure TVOE on the RMS server.

Add SNMP trap destination on TPD-based Application

This procedure will add an SNMP trap destination to a server based on TPD. All alarm information will then be sent to the NMS located at the destination.

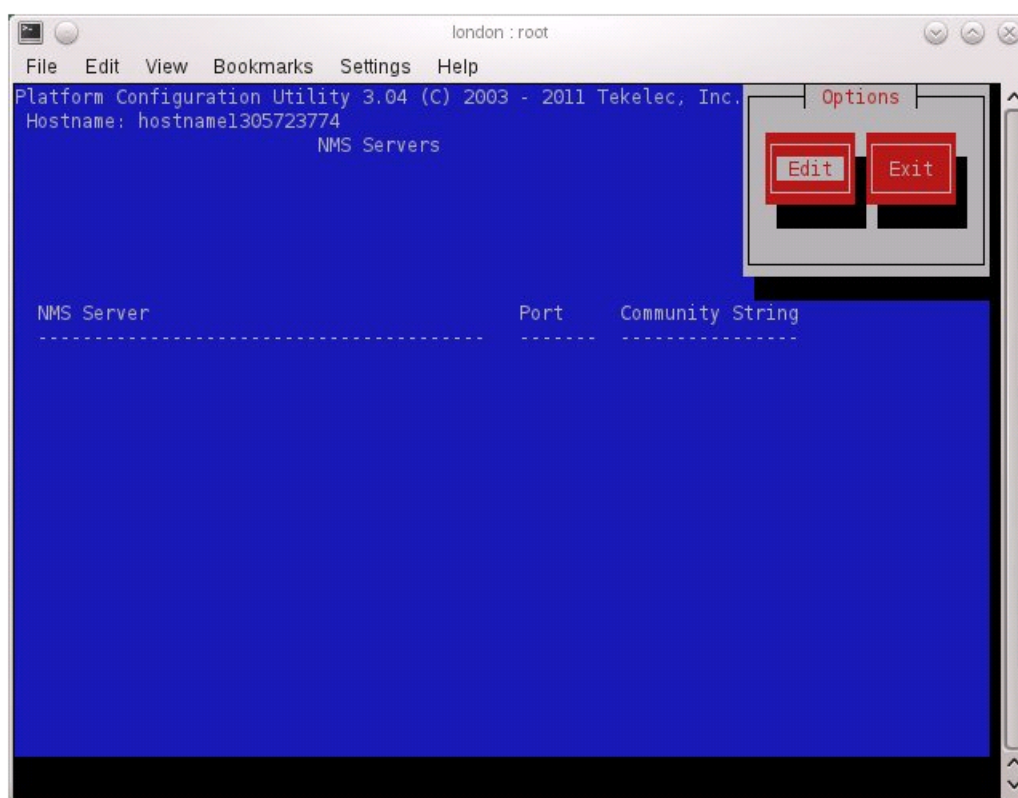
Note: Refer to [SNMP Configuration](#).

1. Server: Log in as platcfg user

Log in as platcfg user on the server. The platcfg main menu will be shown.

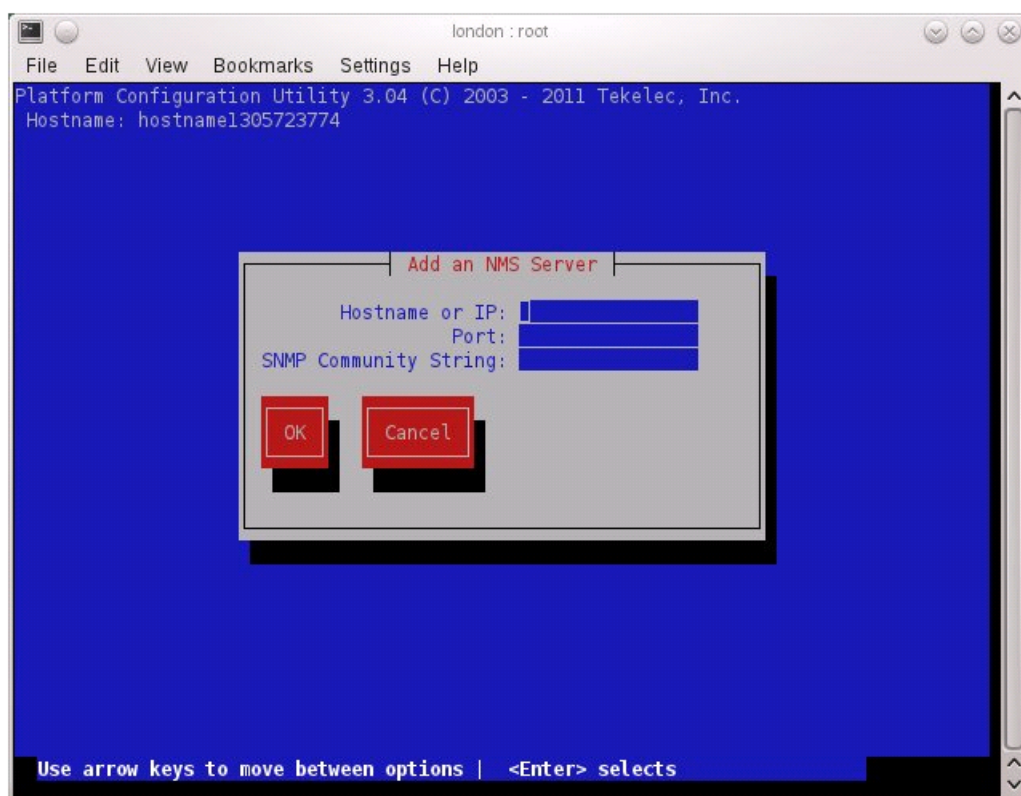
2. Server: Navigate to NMS server configuration page

Select the following menu options sequentially: **Network Configuration > SNMP Configuration > NMS Configuration**. The 'NMS Servers' page will be shown, which displays all configured NMS servers for the server.



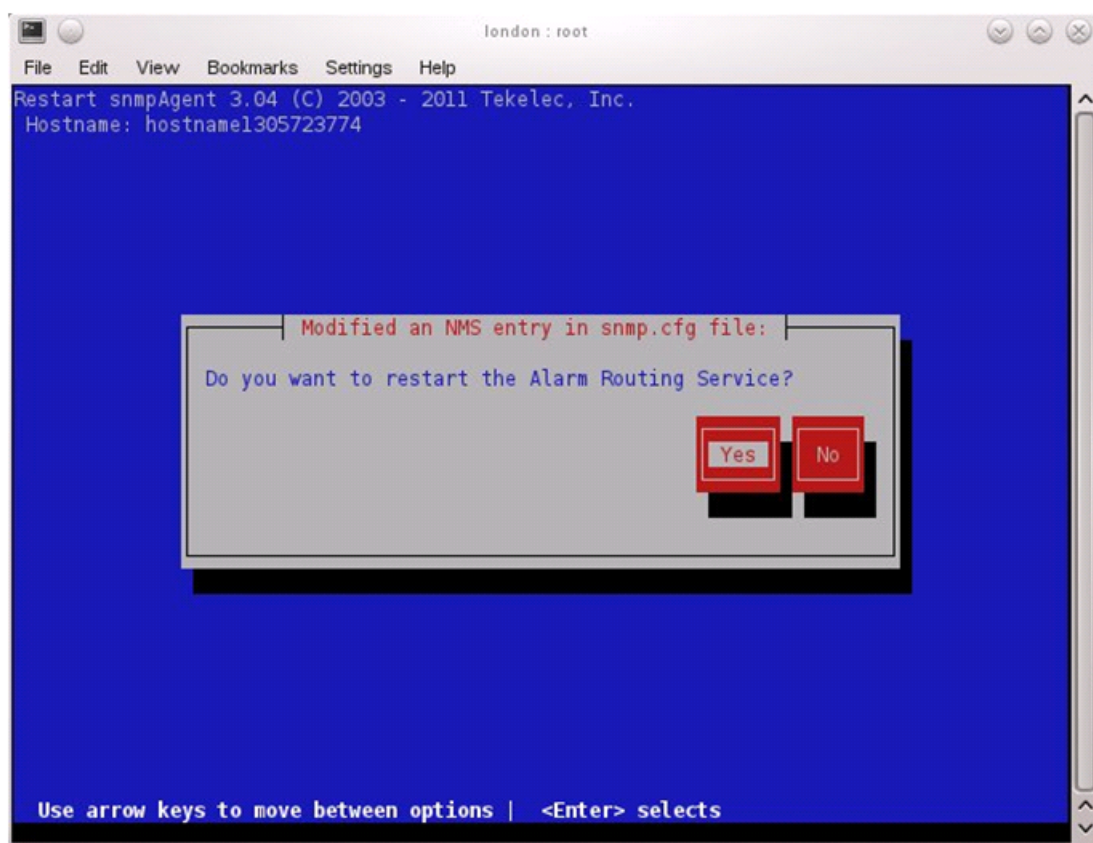
3. Server: Add the SNMP trap destination. Refer to section [SNMP Configuration](#) for SNMP Trap destination recommendations.

Select **Edit** and then choose **Add a New NMS Server**. The 'Add an NMS Server' page will be displayed.



Complete the form by entering in all information about the SNMP trap destination. Select **OK** to finalize the configuration.

The 'NMS Server Action Menu' will now be displayed. Select **Exit**. The following dialog will then be presented.



Select **Yes** and then wait a few seconds while the Alarm Routing Service is restarted. At that time the SNMP Configuration Menu will be presented.

4. Server: Exit platcfg
Select **Exit** on each menu until platcfg has been exited.

Install TVOE on Blade Servers

Install the TVOE Hypervisor platform on blade servers.

Adding ISO Images to the PM&C Image Repository

This procedure provides the steps for adding ISO images to the PM&C repository.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. Make the image available to PM&C

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

- Attach the USB device containing the ISO image to a USB port of the Management Server.

- 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:
 - cd into the directory where your ISO image is located (not on the PM&C server)
 - Using sftp, connect to the PM&C management server

```
> sftp pmacftpusr@<pmac_management_network_ip>
> put <image>.iso
```

- 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: Log in

Open web browser and enter:

```
https://<pmac_management_network_ip>
```

Log in as pmacadmin user.

3. PM&C GUI: Attach the software image to the PM&C guest

If in Step 1 the ISO image was transferred directly to the PM&C guest via sftp, skip the rest of this step and continue with step 4. If the image is on a USB device, continue with this step.

In the PM&C GUI, navigate to **Main Menu > VM Management**. In the "VM Entities" list, select the PM&C guest. On the resulting "View VM Guest" page, select the "Media" tab.

Under the **Media** tab, find the ISO image in the "Available Media" list, and click its "Attach" button. After a pause, the image will appear in the "Attached Media" list.

View guest pmacU16-3

VM Info Software Network **Media**

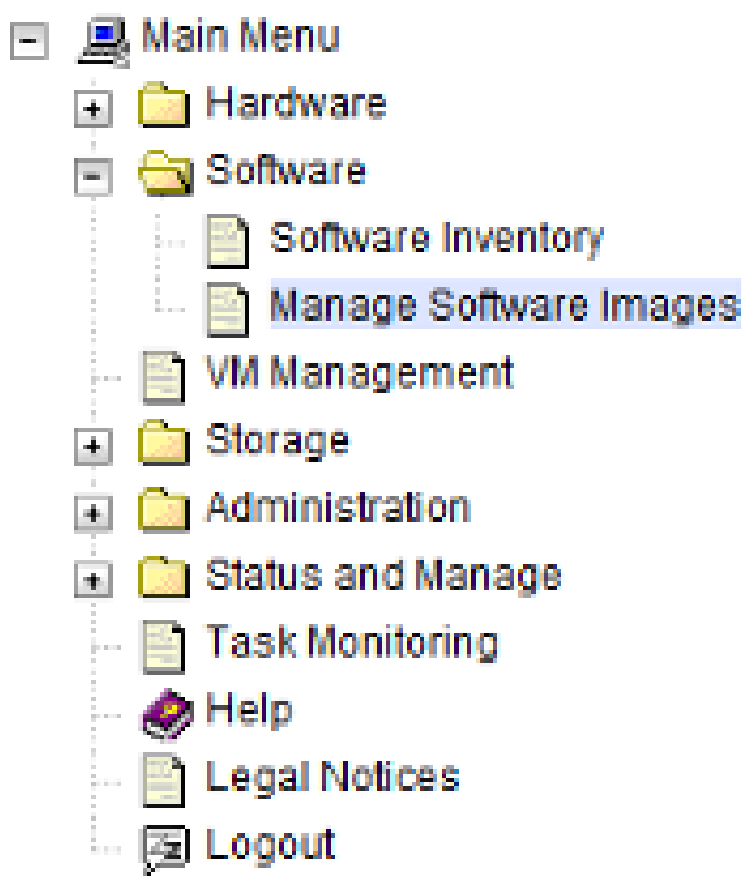
[Attached Media](#) [Available Media](#)

Available Media

Attach	Label	Image Path
<input type="button" value="Attach"/>	3.2.0.0.0_88.8.0	/media/sdc1/TVOE-3.2.0.0.0_88.8.0-x86_64.iso

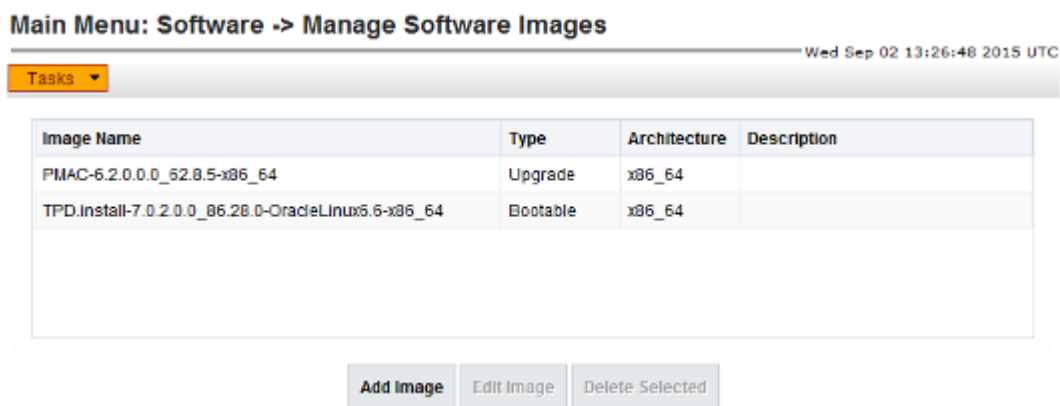
4. PM&C GUI: Navigate to Manage Software Images

Navigate to **Main Menu > Software > Manage Software Images**



5. PM&C GUI: Add image

Press the **Add Image** button .



6. PM&C GUI: Add the ISO image to the PM&C image repository.

Select an image to add:

- If in Step 1 the image was transferred to PM&C via sftp it will appear in the list as a local file `"/var/TKLC/..."`.

- If the image was supplied on a USB drive, it will appear as a virtual device ("device://..."). These devices are assigned in numerical order as USB images become available on the Management Server. The first virtual device is reserved for internal use by TVOE and PM&C; therefore, the iso image of interest is normally present on the second device, "device://dev/sr1". If one or more USB-based images were already present on the Management Server before you started this procedure, choose a correspondingly higher device number.

Enter an appropriate image description and press the **Add New Image** button.

Main Menu: Software -> Manage Software Images [Add Image] Wed Sep 02 13:38:03 2015 UTC

Images may be added from any of these sources:

- Oracle-provided media in the PM&C host's CD/DVD drive (Refer to Note)
- USB media attached to the PM&C's host (Refer to Note)
- External mounts. Prefix the directory with "extfile://".
- These local search paths:
 - /var/TKLC/upgrade/*.iso
 - /var/TKLC/smacl/image/isoimages/home/smaclpusn/*.iso

Note: CD and USB images mounted on PM&C's VM host must first be made accessible to the PM&C VM guest. To do this, go to the Media tab of the PM&C guest's View VM Guest page in [VM Management](#).

Path: x

Description:

7. PM&C GUI Monitor the Add Image status

The Manage Software Images page is then redisplayed with a new background task entry in the table at the bottom of the page:

Main Menu: Software -> Manage Software Images [Add Image] Wed Sep 02 13:39:34 2015 UTC

Info Tasks

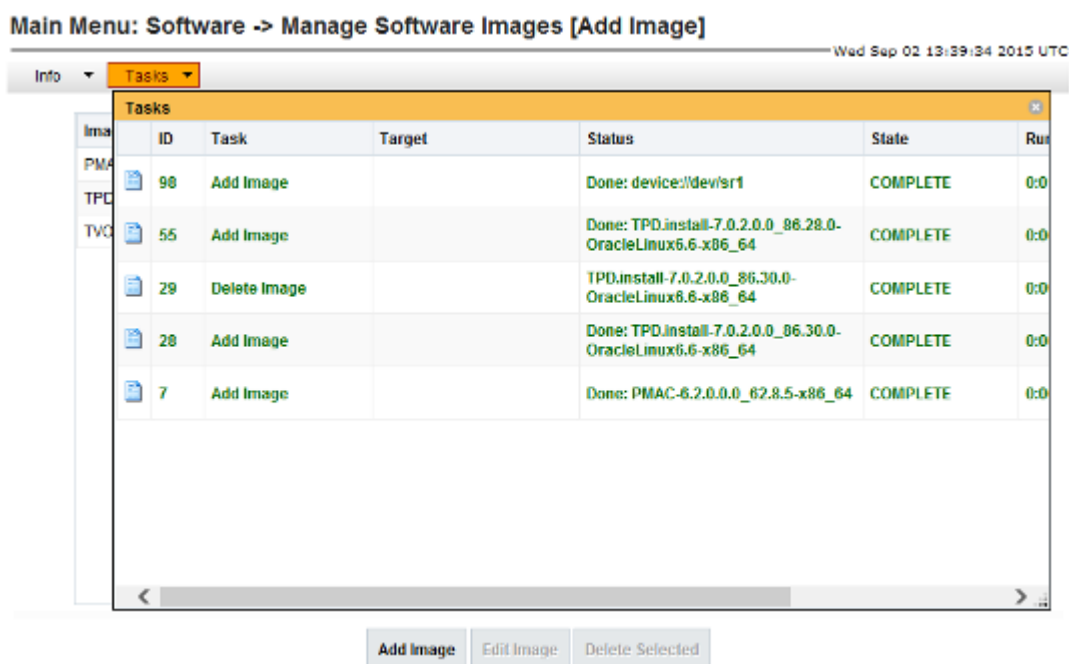
Info

- Software image device://dev/sr1 3.2.0.0.0_88.8.0 will be added in the background.
- The ID number for this task is: 98.

Description	Bootable	Architecture
TPD.install-7.0.2.0.0_86.28.0-OracleLinux5.6-x86_64	Bootable	x86_64

8. PM&C GUI Wait until the Add Image task finishes

When the task is complete, its text changes to green and its Progress column indicates "100%". Check that the correct image name appears in the Status column:



9. PM&C GUI: Detach the image from the PM&C guest

If the image was supplied on USB, return to the PM&C guest's "**Media**" tab used in Step 3, locate the image in the "**Attached Media**" list, and click its "**Detach**" button. After a pause, the image will be removed from the "**Attached Media**" list. This will release the virtual device for future use.

Remove the USB device from the Management Server.

IPM Servers Using PM&C Application

This procedure provides the steps for installing TPD or TVOE using an image from the PM&C image repository.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. PM&C GUI: Log in

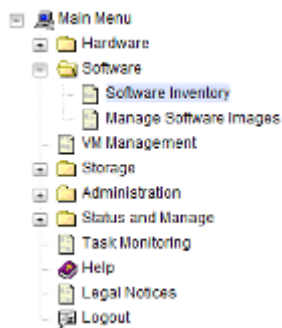
If needed, open web browser and enter:

```
https://<pmac_management_network_ip>
```

Log in as the pmacadmin user.

2. PM&C GUI: Navigate to the Software Inventory

Navigate to **Main Menu > Software > Software Inventory**.



3. PM&C GUI: Select Servers

Select the servers you want to IPM. If you want to install the same OS on more than one server, you may select multiple servers by individually clicking multiple rows. Selected rows will be highlighted in green.

Main Menu: Software → Software Inventory Tue Jul 12 16:42:51 2016 UTC

Filter

Identity	IP Address	Hostname	Platform Name	Platform Version	Application Name	Application Version	Designation	Function
Enc50301 Bay 3F								
Enc50301 Bay 3E								
Enc50301 Bay 3E								
Enc50301 Bay 3E								
Enc50301 Bay 3E								
Enc50301 Bay 3E								
Enc50301 Bay 3E	169.254.134.3	hostname1451772817	TPD (x86_64)	6.5.3-82.38.0	TI0E	2.5.3_82.38.0		
Enc50301 Bay 3E	169.254.134.2	hostnameb13235111c85	TPD (x86_64)	6.7.0.0.1-84.20.0				
Guest: b340h0d								
Enc50301 Bay 3E	169.254.134.9	hostname5d5c510a00a	TPD (x86_64)	6.7.0.0.1-84.20.0			Pending Upgrade Accflla	
Guest: u69a3d8a5f								
Enc50301 Bay 32F								
Enc50301 Bay 32F								
Enc50301 Bay 32F								
Enc50301 Bay 32F								
Host								
hostname62be2be4427	169.254.134.1	pmadU154	TPD (x86_64)	7.2.0.0.0-88.20.0	PMAC	6.2.0.0.0_62.18.0		

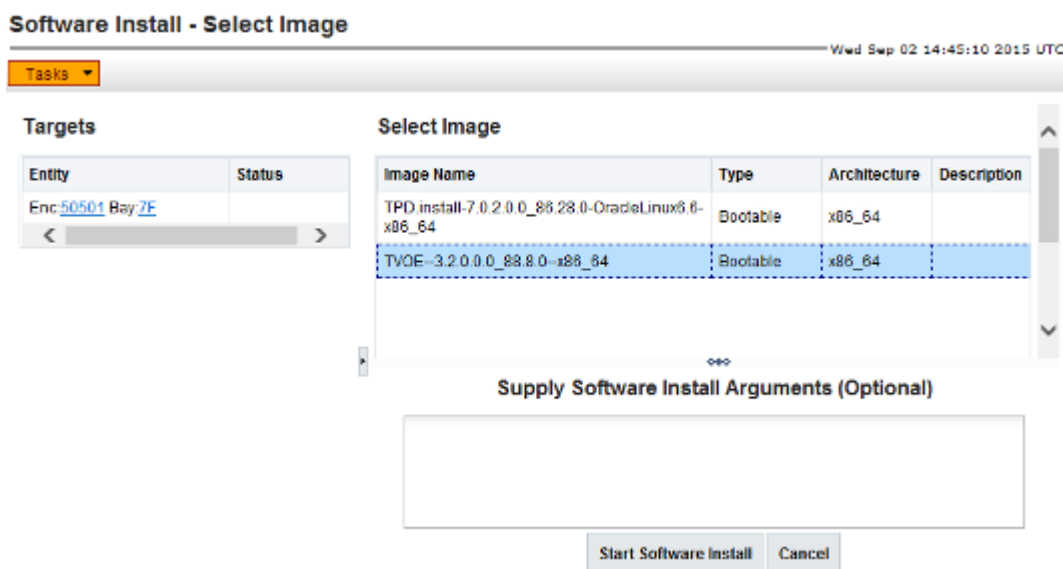
Selection active – periodic display updates paused

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Press the **Install OS** button.

4. PM&C GUI: Select Image

The left side of the screen displays the servers to be affected by the OS installation. From the list of available bootable images on the right side of the screen, select the OS image to install on the selected servers.



5. PM&C GUI: Supply Install Arguments (Optional)

Install arguments can be supplied by entering them into the text box displayed under the list of bootable images. These arguments will be appended to the kernel line during the IPM process. If no install arguments need to be supplied for the OS being installed, leave the install arguments text box empty.

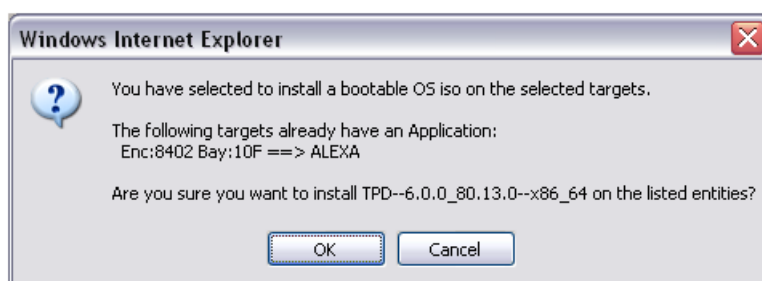
Note: The valid arguments for a TPD IPM are listed in *TPD Initial Product Manufacture Software Installation Procedure*, E53017.

6. PM&C GUI: Start Install

Press the **Start Install** button.

7. PM&C GUI: Confirm OS Install

Press the **OK** button to proceed with the install.



8. PM&C GUI: Monitor Install OS

Navigate to **Main Menu > Task Monitoring** to monitor the progress of the Install OS background task. A separate task will appear for each server affected.

Main Menu: Task Monitoring

Filter ▾ Wed Sep 02 14:53:58 2015 UTC

ID	Task	Target	Status	State	Task Output	Rt
60	Install OS	RMS: pmaU16tvoe Guest: tpd8628	Starting install of TPD.install-7.0.2.0.0_86.28.0-OracleLinux6.8-x86_64	IN_PROGRESS	N/A	^
58	Delete Guest	RMS: pmaU16tvoe Guest: tpd8626	Guest deletion completed (tpd8626)	COMPLETE	N/A	▼
56	Create Guest	RMS: pmaU16tvoe Guest: tpd8620	Guest creation completed (tpd8620)	COMPLETE	N/A	>

When the task is complete and successful, its text will change to green and its Progress column will indicate "100%".

Note: Repeat this procedure for additional RMS servers with appropriate data.

Appendix

A

NetBackup Procedures (Optional)

Topics:

- *Netbackup Client Install/Upgrade with nbAutoInstall.....170*
- *NetBackup Client Install/Upgrade with platcfg.....170*
- *Create NetBackup Client Config File.....176*
- *Configure PM&C Application Guest NetBackup Virtual Disk.....177*
- *Application NetBackup Client Install/Upgrade Procedures.....178*

Netbackup Client Install/Upgrade with nbAutoInstall

Executing this procedure will enable TPD to automatically detect when a Netbackup Client is installed and then complete TPD related tasks that are needed for effective Netbackup Client operation. With this procedure, the Netbackup Client install (pushing the client and performing the install) is the responsibility of the customer and is not covered in this procedure.

Note: If the customer does not have a way to push and install Netbackup Client, then use [NetBackup Client Install/Upgrade with platcfg](#).

Note: It is required that this procedure is executed before the customer does the Netbackup Client install.

1. If workaround is required:

As directed by [My Oracle Support \(MOS\)](#), complete required workarounds to prepare the server.

2. Enable nbAutoInstall:

Execute the following command:

```
$ sudo /usr/TKLC/plat/bin/nbAutoInstall --enable
```

The server will now periodically check to see if a new version of Netbackup Client has been installed and will perform necessary TPD configuration accordingly.

At any time, the customer may now push and install a new version of Netbackup Client.

3. Return to calling procedure if applicable.

NetBackup Client Install/Upgrade with platcfg

Executing this procedure will push and install NetBackup Client using platcfg menus.

Note: If a procedural STEP fails to execute successfully, STOP and contact [My Oracle Support \(MOS\)](#).

1. Application server iLO: Login and launch the integrated remote console

Log in to iLO in IE using password provided by application

```
http://<management_server_iLO_ip>
```

Click in the **Remote Console** tab and launch the **Integrated Remote Console** on the server.

Click **Yes** if the Security Alert pops up.

2. TVOE Application Server iLO: If the application is a guest on a TVOE host: Log in with application admusr credentials. If the application is not a guest on a TVOE host continue to step 3.

Note: On a TVOE host, If you launch the virsh console, i.e., "# **virsh console X**" or from the virsh utility "virsh # **console X**" command and you get garbage characters or output is not quite right, then more than likely there is a stuck "virsh console" command already being run on the TVOE host. Exit out of the "virsh console", then run "**ps -ef |grep virsh**", then kill the existing

process "**kill -9 <PID>**". Then execute the "**virsh console X**" command. Your console session should now run as expected.

Login to application console using **virsh**, and wait until you see the login prompt:

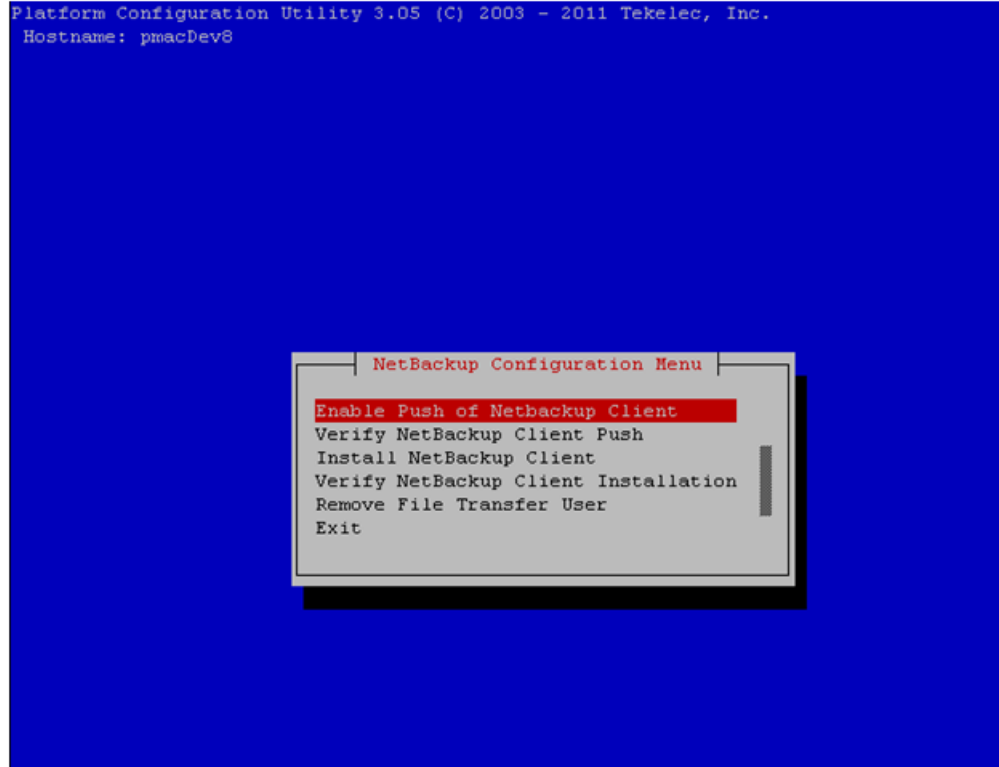
```
$ virsh
$ virsh list --all
Id Name State
-----
13 myTPD running
20 applicationGuestName running

$ virsh console applicationGuestName
[Output Removed]
Starting ntdMgr: [ OK ]
Starting atd: [ OK ]
'TPD Up' notification(s) already sent: [ OK ]
upstart: Starting tpdProvd...
upstart: tpdProvd started.
CentOS release 6.2 (Final)
Kernel 2.6.32-220.17.1.el6prere16.0.0_80.14.0.x86_64 on an x86_64
applicationGuestName login:
```

3. Application Console: Configure NetBackup Client on application server

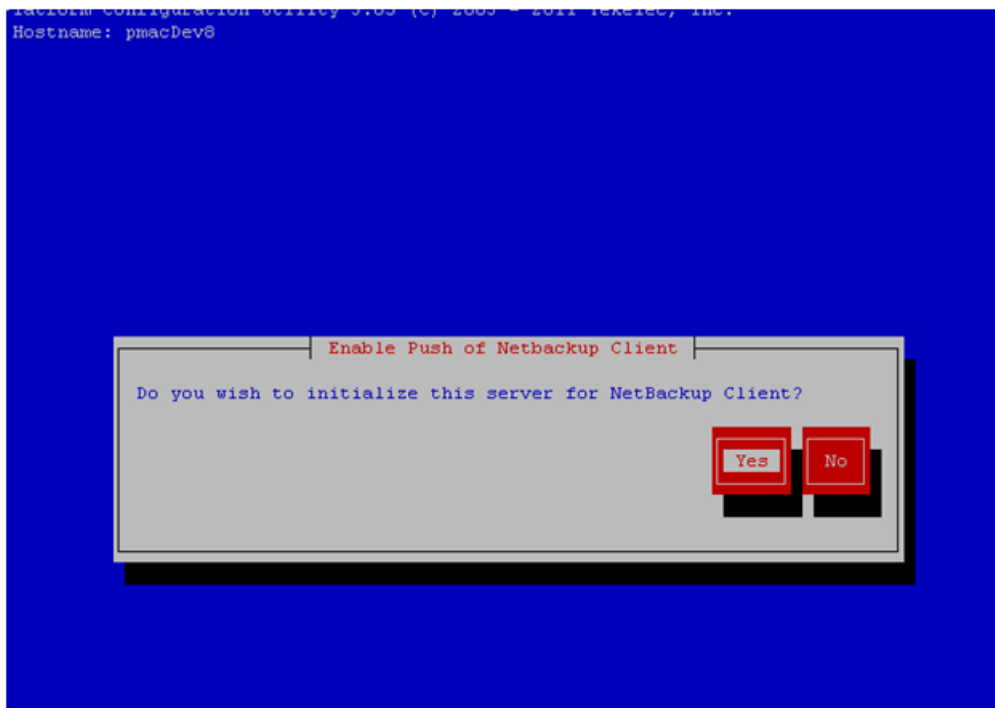
```
$ sudo su - platcfg
```

Navigate to **NetBackup Configuration**



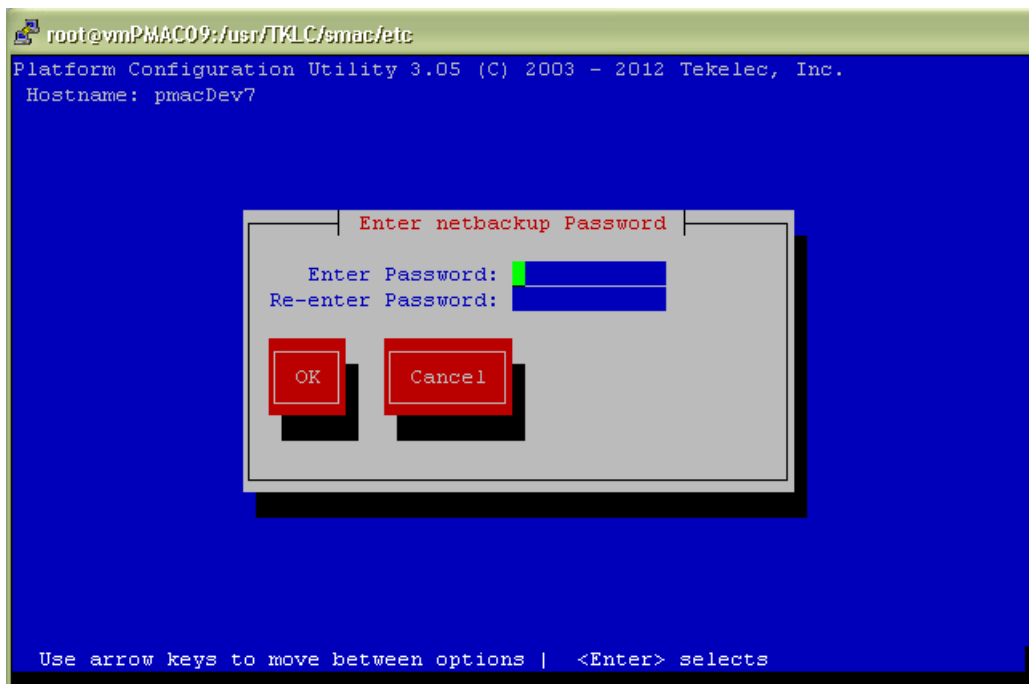
4. Application Console: Enable Push of NetBackup Client

Navigate to **NetBackup Configuration > Enable Push of NetBackup Client**



Select **Yes** to initialize the server and enable the Netbackup client software push.

5. Application Console: Enter NetBackup password and select OK.



6. If the version of NetBackup is 7.6.0.0 or greater, follow the instructions provided by the OSDC download for the version of NetBackup that is being pushed.
7. Application Console: Verify Netbackup client software push is enabled.

Navigate to **NetBackup Configuration > Verify NetBackup Client Push**



```

Platform Configuration Utility 3.05 (C) 2003 - 2011 Tekelec, Inc.
Hostname: pmacDev8
Verify NetBackup Client Environment
[OK] - User acct set up: netbackup
[OK] - User netbackup shell set up: /usr/bin/rssh
[OK] - Home directory: /home/rssh/home/netbackup
[OK] - Tmp directory: /home/rssh/tmp
[OK] - Tmp directory perms: 1777
  
```

Verify list entries indicate "OK" for Netbackup client software environment.

Select "Exit" to return to NetBackup Configuration menu.

8. NetBackup server: Push appropriate Netbackup client software to application server

Note: The NetBackup server is not an application asset. Access to the NetBackup server, and location path of the NetBackup client software is under the control of the customer. Below are the steps that are required on the NetBackup server to push the NetBackup client software to the application server. These example steps assume the NetBackup server is executing in a Linux environment.

Note: The backup server is supported by the customer, and the backup utility software provider. If this procedural STEP, executed at the backup utility server, fails to execute successfully, STOP and contact Customer Support for the backup and restore utility software provider that is being used at this site.

Note: The NetBackup user on the client will be a new user which will require the operator to change the password immediately. The operator will be prompted to change the initial password set during the client's NetBackup configuration platcfg session.

Log in to the NetBackup server using password provided by customer:

Navigate to the appropriate Netbackup client software path:

Note: The input below is only used as an example.

```
$ sudo cd /usr/opensv/netbackup/client/Linux/6.5
```

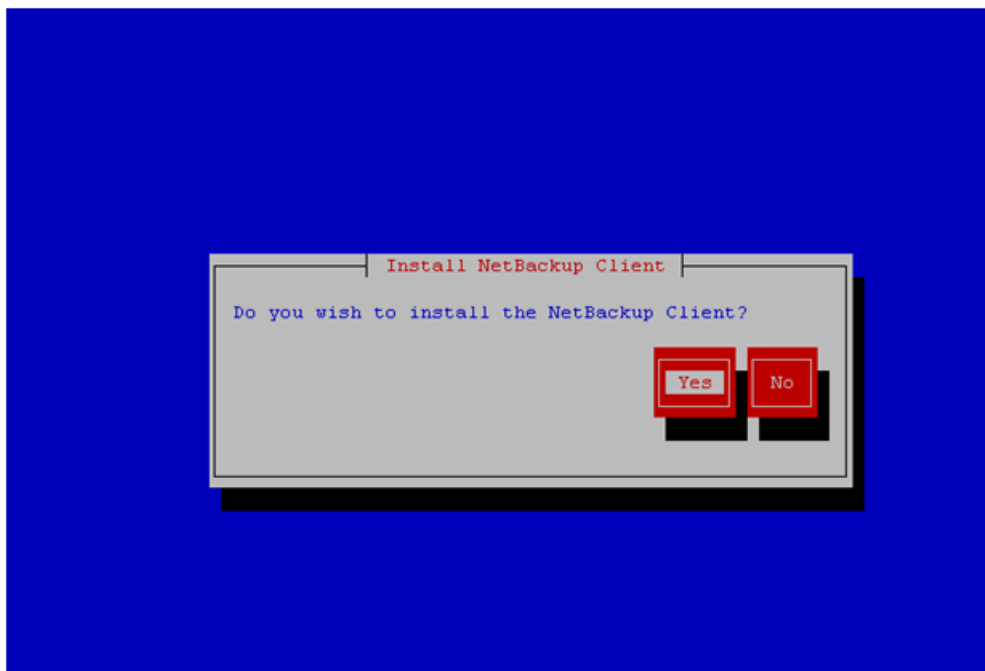
Execute the sftp_to_client NetBackup utility using the application IP address and application NetBackup user:

```
# ./sftp_to_client 10.240.17.106 netbackup
Connecting to 10.240.17.106...
Password:
You are required to change your password immediately (root enforced)
Changing password for netbackup.
(current) UNIX password:
New password:
Retype new password:

sftp completed successfully.

The root user on 10.240.17.106 must now execute the command
"sh /tmp/bp.26783/client_config [-L]". The optional argument,
"-L", is used to avoid modification of the client's current bp.conf file.
```

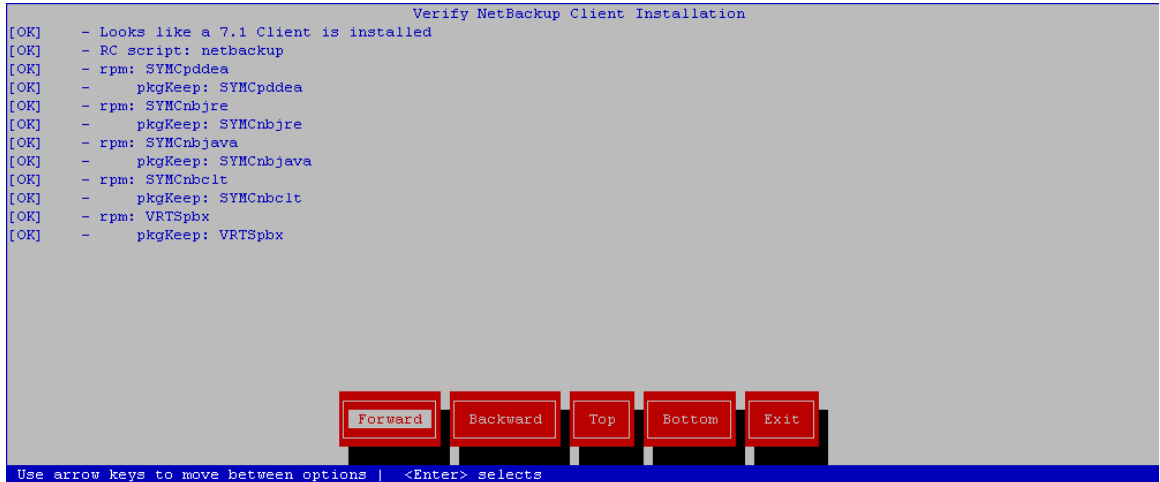
9. Application Console: Install Netbackup client software on application server.
Navigate to **NetBackup Configuration > Install NetBackup Client**



Select **Yes** to install the Netbackup client software.

Select "Exit" to return to NetBackup Configuration menu.

10. Application Console: Verify Netbackup client software installation on the application server.
Navigate to **NetBackup Configuration > Verify NetBackup Client Installation**.



Verify list entries indicate "OK" for Netbackup client software installation.

Select "Exit" to return to NetBackup Configuration menu.

11. Application Console: Disable Netbackup client software transfer to the application server.
Navigate to **NetBackup Configuration > Remove File Transfer User**



Select "Yes" to remove the NetBackup file transfer user from the application server.

12. Application Console: Verify that the server has been added to the `/usr/opensv/netbackup/bp.conf` file.

```
$ sudo cat /usr/opensv/netbackup/bp.conf
CLIENT_NAME = 10.240.34.10
SERVER = NB71server
```

13. Application server iLO: Exit platform configuration utility (platcfg)
14. Return to calling procedure if applicable.

Create NetBackup Client Config File

This procedure will copy a NetBackup Client config file into the appropriate location on the TPD based application server. This config file will allow a customer to install previously unsupported versions of NetBackup Client by providing necessary information to TPD.

The contents of the config file should be provided by My Oracle Support. Contact [My Oracle Support \(MOS\)](#) if you are attempting to install an unsupported version of NetBackup Client.

1. Server: Create NetBackup Client Config File

Create the NetBackup Client config file on the server using the contents that were previously determined. The config file should be placed in the `/usr/TKLC/plat/etc/netbackup/profiles` directory and should follow the following naming conventions:

NB\$ver.conf

Where \$ver is the client version number with the periods removed. For the 7.5 client the value of \$ver would be 75 and the full path to the file would be:

```
/usr/TKLC/plat/etc/netbackup/profiles/NB75.conf
```

Note: The config files must start with "NB" and must have a suffix of ".conf". The server is now capable of installing the corresponding NetBackup Client.

The server is now capable of installing the corresponding NetBackup Client.

2. Server: Create NetBackup Client config file script.

Create the NetBackup Client config script file on the server using the contents that were previously determined. The config script file should be placed in the `/usr/TKLC/plat/etc/netbackup/scripts` directory. The name of the NetBackup Client config script file should be determined from the contents of the NetBackup Client config file. As an example for the NetBackup 7.5 client the following is applicable:

NetBackup Client config:

```
/usr/TKLC/plat/etc/netbackup/profiles/NB75.conf
```

NetBackup Client config script:

```
/usr/TKLC/plat/etc/netbackup/scripts/NB75
```

Configure PM&C Application Guest NetBackup Virtual Disk

1. PM&C GUI: Determine if the PM&C application guest is configured with a "NetBackup" virtual disk.

Navigate to "**Virtual Machine Management**" view and select the PM&C application guest from the "VM Entities" list.

2. PM&C GUI: Determine if the "Virtual Disks" list contains the "NetBackup" device.

If the "NetBackup" device exists for the PM&C application guest then return to the procedure that invoked this procedure. Otherwise continue with this procedure.

3. PM&C GUI: Edit the PM&C application guest to add the "NetBackup" virtual disk.

Click "Edit" and enter the following data for the new NetBackup virtual disk.

- Size (MB): "2048"
- Host Pool: "vgguests"
- Host Vol Name: "<pmacGuestName>_netbackup.img"
- Guest Dev Name: "netbackup"

Note: The "Guest Dev Name" must be set to "netbackup" for the PM&C application to mount the appropriate host device. The <pmacGuestName> variable should be set to this PM&C guest's name to create a unique volume name on the TVOE host of the PM&C.

4. PM&C GUI: Verify the new NetBackup virtual disk data and save.

Main Menu: VM Management

Tasks ▾ Thu Sep 03 17:24:26 2015 UTC

VM Entities

Refresh ↻

- hostname02be2be44427
 - pmacU16-1
 - pmacU16-2
 - pmacU16-3
 - pmacU16-4

Edit guest pmacU16-2

VM Info Software Network Media

Summary Virtual Disks Virtual NICs

Virtual Disks

Primary	Size (MB)	Host Pool	Host Vol Name	Guest Dev Name ▲
NO	2048	vgguests	pmacU16-2_netbackup.img	netbackup
YES	51200	vgguests	pmacU16-2.img	PRIMARY
NO	20480	vgguests	pmacU16-2_images.img	images
NO	10240	vgguests	pmacU16-2_logs.img	logs

Add Delete

Save Cancel

5. PM&C GUI: Confirm the PM&C application guest edit.

A confirmation dialog will be presented with the message, "Changes to the PMAC guest: <pmacGuestName> will not take effect until after the next power cycle. Do you wish to continue?". Click "OK" to continue.

6. PM&C GUI: Confirm the Edit VM Guest task has completed successfully.
Navigate to the Background Task Monitoring view. Confirm that the guest edit task has completed successfully.
7. TVOE Management server iLO: Shutdown the PM&C application guest.
Note: In order to configure the PM&C application with the new NetBackup virtual disk the PM&C application guest needs to be shut down and restarted. Refer to *PM&C Incremental Upgrade, Release 5.7 and 6.0*, E54387, Appendix O, "Shutdown PM&C 5.5 or Later Guest."
8. TVOE Management Server iLO: Start the PM&C application guest.
Note: To configure the PM&C application with the new netbackup virtual disk, the PM&C application guest needs to be shut down and restarted.
Using virsh utility on TVOE host of PM&C guest, start the PM&C guest. Query the list of guests until the PM&C guest is "running".

```
$ sudo /usr/bin/virsh
virsh # list --all
Id Name State
-----
20 pmacU14-1 shut off

virsh # start pmacU14-1
Domain pmacU14-1 started

virsh # list --all
Id Name State
-----
20 pmacU14-1 running
```

9. Return to the procedure that invoked this procedure.

Application NetBackup Client Install/Upgrade Procedures

NetBackup is a utility that allows for management of backups and recovery of remote systems. The NetBackup suite is for the purpose of supporting Disaster Recovery at the customer site. This procedure provides instructions for installing or upgrading the Netbackup client software on an application server.

Note: Platform 7.0.0 only supports NetBackup 7.1 and NetBackup 7.5 clients, while Platform 7.0.1 only supports NetBackup 7.1, NetBackup 7.5, and NetBackup 7.6 clients. If the NetBackup Client that is being installed is not supported, contact customer support for guidance on creating a config file that will allow for install of unknown NetBackup Clients. [Create NetBackup Client Config File](#) can be used once the contents of the config are known.

Note: Failure to install the NetBackup Client properly (i.e., by neglecting to execute this procedure) may result in the NetBackup Client being deleted during a Oracle software upgrade.

1. Choose NetBackup Client Install Path

NetBackup Procedures (Optional)

There are two different ways to install NetBackup Client. The following is a guide to which method to use:

- If a customer has a way of transferring and installing the NetBackup client without the aid of TPD tools then use *Netbackup Client Install/Upgrade with nbAutoInstall*. This is not common and if the answer to the previous question is not known then do not use *Netbackup Client Install/Upgrade with nbAutoInstall*.
- If you don't use *Netbackup Client Install/Upgrade with nbAutoInstall*, use *NetBackup Client Install/Upgrade with platcfg*.

Chosen Procedure: _____

2. Execute the procedure chosen in Step 1
3. Application Console: Use platform configuration utility (platcfg) to modify hosts file with NetBackup server alias.

Note: If NetBackup Client has successfully been installed then you can find the NetBackup server's hostname in the "/usr/opensv/netbackup/bp.conf" file. It will be identified by the "SERVER" configuration parameter as is shown in the following output:

List NetBackup servers hostname:

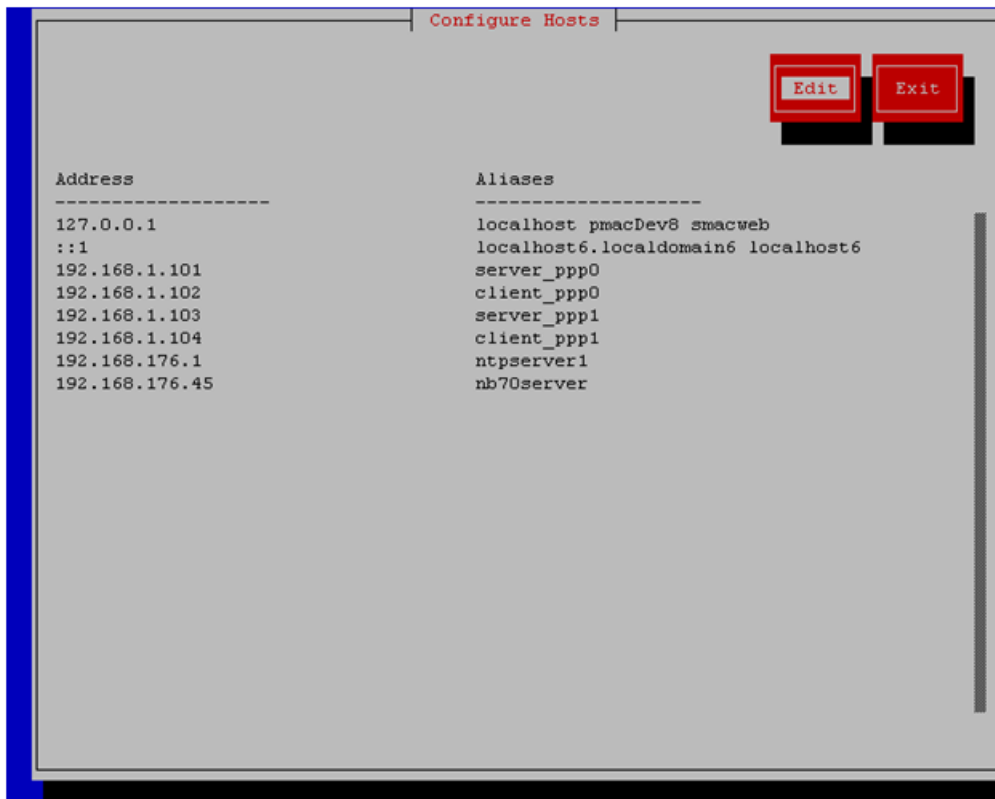
```
$ sudo cat /usr/opensv/netbackup/bp.conf
SERVER = nb70server
CLIENT_NAME = pmacDev8
```

Note: In the case of nbAutoInstall NetBackup Client may not yet be installed. For this situation the "/usr/opensv/netbackup/bp.conf" cannot be used to find the NetBackup server alias.

Use platform configuration utility (platcfg) to update application hosts file with NetBackup Server alias.

```
$ sudo su - platcfg
```

Navigate to **Network Configuration > Modify Hosts File**



Select **Edit**, the Host Action Menu will be displayed.



Select "Add Host", and enter the appropriate data



Select "OK", confirm the host alias add, and exit Platform Configuration Utility

4. Application Console: Create a link for the application provided NetBackup client notify scripts to path on application server where NetBackup expects to find them.

Note: Link notify scripts from appropriate path on application server for given application.

```
$ sudo mkdir -p /usr/opensv/netbackup/bin/  
$ sudo ln -s <path>/bpstart_notify /usr/opensv/netbackup/bin/bpstart_notify  
$ sudo ln -s <path>/bpend_notify /usr/opensv/netbackup/bin/bpend_notify
```

5. Application Console: Netbackup client software installation complete; if applicable return to calling procedure.

Appendix B

Worksheet: netConfig Repository

Topics:

- [Worksheet: netConfig Repository.....183](#)

Worksheet: netConfig Repository

Copy the following table as needed for each additional enclosure switch (6120XG, 6125G, 6125XG, or 3020):

Variable	Value
<switch_hostname>	
<enclosure_switch_IP>	
<switch_platform_username>	
<switch_platform_password>	
<switch_enable_password>	
<io_bay>	
<OA1_enX_ip_address>	X= the enclosure #
<OA_password>	
<FW_image>	

Appendix C

Initial Product Manufacture of RMS and Blade Servers

Topics:

- *Setting Server's CMOS Clock.....185*
- *Configure the RMS and Blade Server BIOS Settings.....185*
- *OS IPM Install.....187*
- *IPM Command Line Procedures.....187*
- *Post Install Processing.....191*
- *Media Check.....193*
- *Initial Product Manufacture Arguments.....197*

Setting Server's CMOS Clock

The date and time in the server's CMOS clock must be set accurately before running the IPM procedure. There are a number of different ways to set the server's CMOS clock.

Note: The IPM installation process managed by PM&C for blade servers automatically sets the server's CMOS clock, so there is no need to set the server CMOS clock when using PM&C.

Configure the RMS and Blade Server BIOS Settings

Configuring HP DL380 RMS Servers

Follow these steps to configure HP DL380 server BIOS settings for supported models of Gen8 and Gen9 servers.

1. Reboot the server and after the server is powered on, press the <F9> key when prompted to access the ROM-Based Setup Utility.

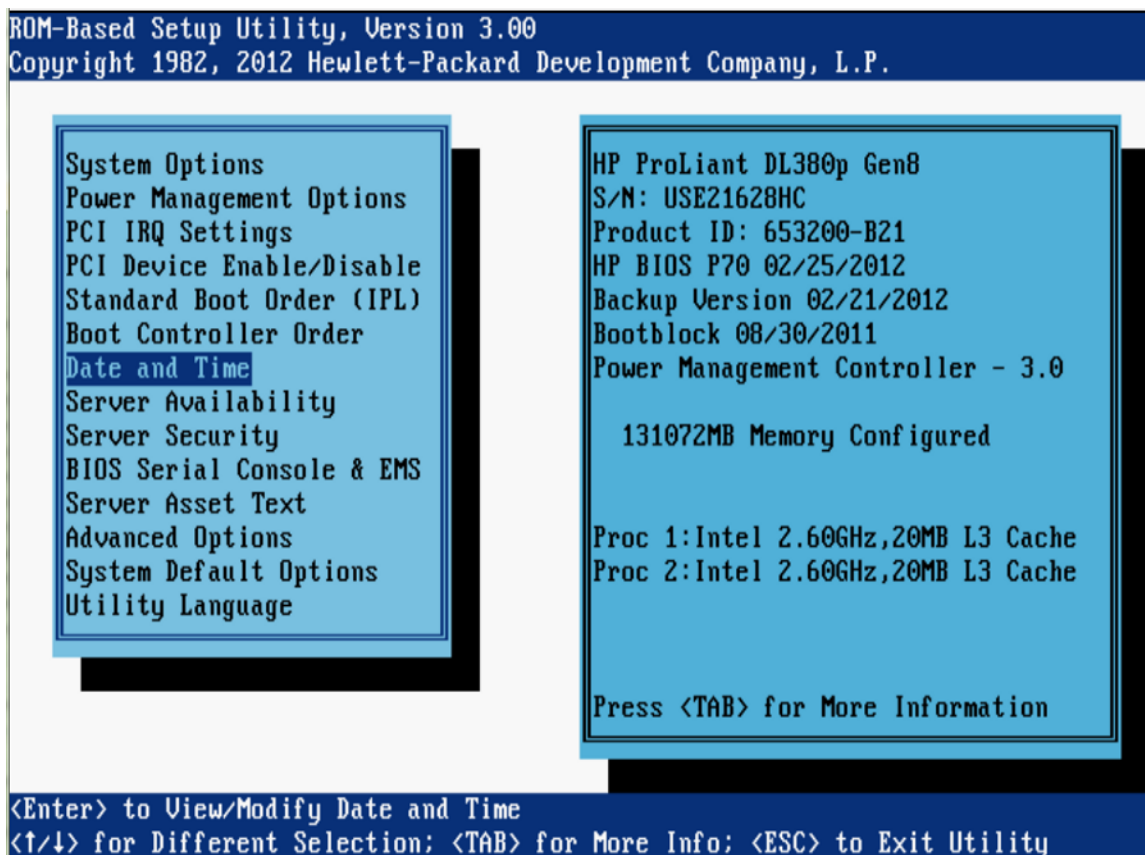


Figure 3: Example HP BIOS Setup

2. Select **Date and Time**.
 - a) Set the server date and time to UTC (Coordinated Universal Time).
 - b) Press <ESC> to navigate to the main menu.
3. Select **Server Availability**.
 - a) Change **Automatic Power-On** to **Restore Last Power State**.
 - b) Change **Power-On Delay** to **No Delay**.
 - c) Press <ESC> to navigate to the main menu.
4. Select **System Options**.
 - a) Select Processor Options.
 - b) Change **Intel® Virtualization Technology** to **Enabled**.
 - c) Press <ESC> to return to System Options.
 - d) Select **Serial Port Options**.
 - e) Change **Embedded Serial Port** to **COM2**.
 - f) Change **Virtual Serial Port** to **COM1**.
 - g) Press <ESC> to navigate to the main menu.
5. Press <F10> to Save and Exit from the ROM-Based Setup Utility.

Configuring HP Gen9 RMS and Blade Servers

The HP Gen9 systems can have UEFI boot enabled. Since TPD is configured to use the Legacy BIOS option, both blade and rackmount Gen9s should have their BIOS settings checked before IPM. Rack mount servers should also have the iLO serial port configured at this time. Directions for both settings are provided below.

1. If this is a rack mount server, connect via a VGA monitor and USB keyboard. If a blade server is being configured, use the iLO Integrated Remote Console.
2. Reboot/reset the server.
3. Press the F9 key to access the **System Utilities** menu when <F9 System Utilities> appears in the lower left corner of the screen.
4. Select the **System Configuration** menu.
5. Select the **BIOS/Platform Configuration (RBSU)** menu.
6. Select the **Boot Options** menu.
7. If the Boot Mode is not **Legacy BIOS** mode, press <Enter> to open the **BIOS** mode menu. Otherwise, skip to Step 9.
8. Select **Legacy BIOS Mode**.
9. Press <Esc> once to back out to the **BIOS/Platform Configuration (RBSU)** menu.
If a blade server is being configured, skip to Step 17, otherwise continue to Step 10.
10. Select the **System Options** menu, then select the **Serial Port Options** menu.
11. Change **Embedded Serial Port** to **COM2**.
12. Change **Virtual Serial Port** to **COM1**.
13. Press <Esc> twice to back out to the **BIOS/Platform Configuration (RBSU)** menu.
14. Select the **Server Availability** menu.
15. Set **Automatic Power-On** to **Restore Last Power State**.

16. Set **Power-On Delay** to **No Delay** then press <Esc> once to back out to the **BIOS/Platform Configuration (RBSU)** menu.
17. Select the **Power Management** menu.
18. Set **HP Power Profile** to **Maximum Performance**. Press <Esc> once to back out to the **BIOS/Platform Configuration (RBSU)** menu.
19. Press <F10> to save the updated settings, then <y> to confirm the settings change.
20. Press <Esc> twice to back out to the **System Utilities** menu.
21. Select **Reboot the System** and press <Enter> to confirm.

OS IPM Install

The IPM installation media must now be inserted into the system. Installation will then begin by resetting (or power cycling) the system so that the BIOS can find and then boot from the IPM installation media. The reboot steps are different for the different rack mount servers.

Note: This procedure can be accomplished by either configuring an IP address on the iLO/ILOM and accessing the console using the iLO/ILOM, or the VGA monitor and keyboard. The remote media function of the iLO/ILOM can also be used to provide access to the installation media.

HP Rack Mount Servers - Boot from CD/DVD/USB

1. Insert the OS IPM media (CD/DVD or USB) into the CD/DVD tray/USB slot of the Application Server.
2. Power cycle the server:
 - a) For HP Rack Mount servers, hold the power button in until the button turns amber, then release. Wait 5 seconds, then press the power button and release it again to power on the system.
3. For some servers, you must select a boot method so that the server does not boot directly to the hard drive:
 - a) For HP rack mount servers, press F11 when prompted to bring up the boot menu and select the appropriate boot method.
4. Proceed to steps in [IPM Command Line Procedures](#).

IPM Command Line Procedures

1. [Figure 4: Example Boot from Media Screen, TPD 7.0.0.0.0](#) is a sample output screen indicating the initial boot from the install media was successful. The information in this screen output is representative of TPD 7.0.0.0.0.

Note: Based on the deployment type, either TPD or TVOE can be installed.

```
Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.

Welcome to Tekelec Platform Distribution!
Release: 7.0.0.0.0_86.11.0
Arch: x86_64
For a detailed description of all the supported commands and their options,
please refer to the Initial Platform Manufacture document for this release.
In addition to linux & rescue TPD provides the following kickstart profiles:

[ TPD : TPDnoraidd : TPDblade : TPDcompact : HDD ]

Commonly used options are:

[ console=<console_option>[,<console_option>] ]
[ primaryConsole=<console_option> ]
[ rdate=<server_ip> ]
[ scrub ]
[ reserved=<size1>[,<sizeN>] ]
[ diskconfig=HWRAID[,force] ]
[ drives=<device>[,device] ]
[ guestArchive ]

To install using a monitor and a local keyboard, add console=tty0

boot: _
```

Figure 4: Example Boot from Media Screen, TPD 7.0.0.0.0

2. Optional Step: If media has not been previously verified, perform a media check now; refer to [Media Check](#).
3. The command to start the installation is dependent upon several factors, including the type of system, knowledge of whether an application has previously been installed or a prior IPM install failed, and what application will be installed.

Note: Text case is important, and the command must be typed exactly.

When IPMing HP G6 and newer hardware, if no diskconfig or drives option is passed, the correct diskconfig option is appended to the IPM command, without the force option. This option verifies the disk configuration is correct before proceeding with the install. If the configuration is not correct, it will stop the installation without changing the disk configuration so that you can reboot and start over, manually passing the diskconfig option you want with the force option.

IPM the server by entering the TPD command at the boot prompt. An example command to enter is:

```
TPDnoraidd console=tty0 diskconfig=HWRAID,force
```

After entering the command to start the installation, the Linux kernel will load, as in [Figure 5: Example Kernel Loading Output](#):

```
please refer to the Initial Platform Manufacture document for this release.
In addition to linux & rescue TPD provides the following kickstart profiles:

    [ TPD : TPDnoraidd : TPDblade : TPDbladeraidd : TPDnocons : T1200sol : HDD ]

Commonly used options are:

    [ console=<console_option>[,<console_option>] ]
    [ rdate=<server_ip> ]
    [ scrub ]
    [ reserved=<size1>[,<sizeN>] ]
    [ diskconfig=HPC6[,force] ]
    [ drives=<device>[,device] ]

To install using a monitor and a local keyboard, add console=tty0

boot: TPD
Loading vmlinuz.....
Loading initrd.img.....
.....
Ready.
```

Figure 5: Example Kernel Loading Output

4. After a few seconds, additional messages will begin scrolling by on the screen as the Linux kernel boots, and then the drive formatting and file system creation steps will begin:

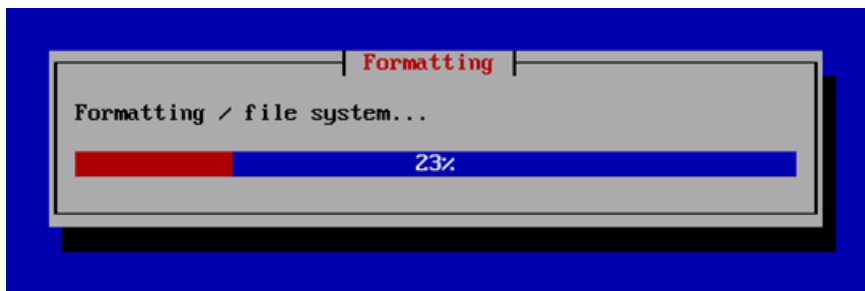


Figure 6: Example File System Creation Screen

5. Once the drive formatting and file system creation steps are complete, a screen similar to [Step 5](#) will appear indicating that the package installation step is about to begin.

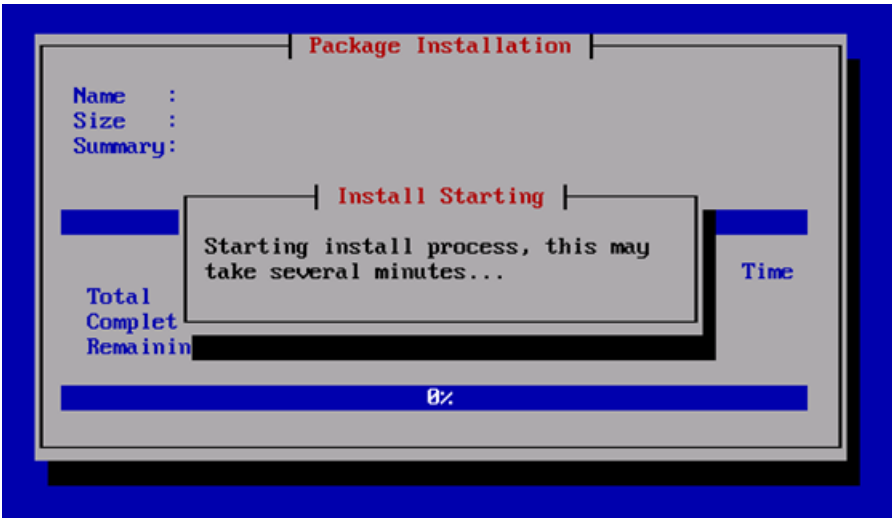


Figure 7: Example Package Installation Screen

6. Once the screen shown in Figure 6, Example Package Installation Screen Appears, it may take several minutes before anything changes. However, after a few minutes, you will see a screen similar to [Figure 8: Example Installation Statistics Screen](#), showing the status of the package installation step. For each package, there will be a status bar at the top indicating how much of the package has been installed, with a cumulative status bar at the bottom indicating how many packages remain. In the middle, you will see text statistics indicating the total number of packages, the number of packages installed, the number remaining, and current and projected time estimates:

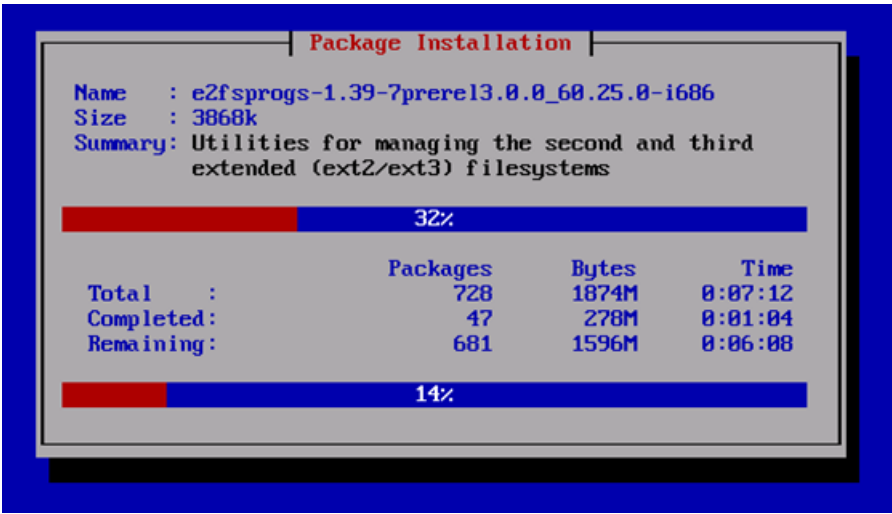


Figure 8: Example Installation Statistics Screen

7. Once all the packages have been successfully installed, a screen similar to [Figure 9: Example Installation Complete Screen](#) will appear, letting you know the installation process is complete. Remove the installation media (DVD or USB key) and then press **Enter** to reboot the system.

Note: It is possible that the system will reboot several times during the IPM process. No user input is required if this occurs.

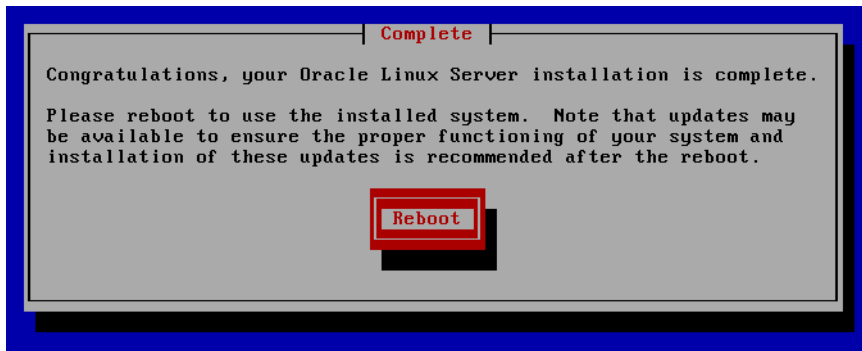


Figure 9: Example Installation Complete Screen

8. After a few minutes, the server boot sequence will start and eventually display that it is booting the new IPM load.

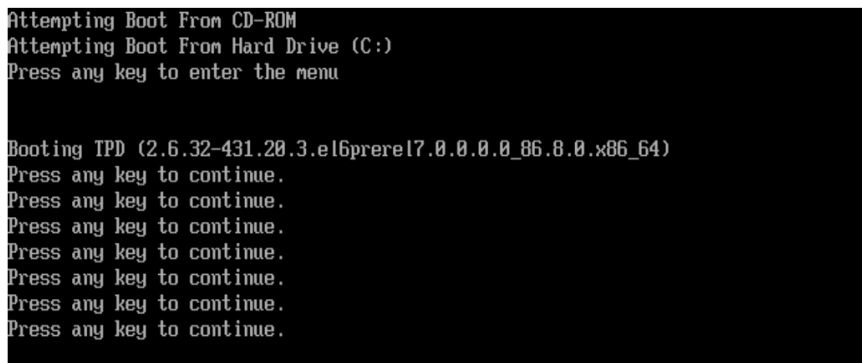


Figure 10: Example Boot Loader Output

9. A successful IPM platform installation process results in a user login prompt.

Post Install Processing

1. Log in as user syscheck, and the system health check runs automatically. This will check the health of the server, and print out an OK if the tests passed, or a descriptive error of the problem if anything failed. The screenshot [Figure 11: Example Successful Syscheck Output](#) shows a successful run of syscheck, where all tests pass, indicating the server is healthy.

```
Oracle Linux Server release 6.5
Kernel 2.6.32-431.20.3.el6prere17.0.0.0_86.8.0.x86_64 on an x86_64

Server login: syscheck
Password:
Last login: Fri Sep 26 09:53:06 on tty1
Running modules in class disk...
                                OK

Running modules in class hardware...
                                OK

Running modules in class net...
                                OK

Running modules in class proc...
                                OK

Running modules in class system...
                                OK

Running modules in class upgrade...
                                OK

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

Figure 11: Example Successful Syscheck Output

Since an NTP server will not normally be configured at this point, syscheck may fail due to the NTP test as shown in [Figure 12: Example Syscheck Output with NTP Error](#). The error is acceptable and can be ignored.

```
hostname1307389642 login: syscheck
Password:
Last login: Mon Jun  6 15:49:26 from localhost
Running modules in class system...
                                OK

Running modules in class hardware...
                                OK

Running modules in class proc...
*          ntp: FAILURE:: MINOR::5000000000000200 -- Server NTP
onized
*          ntp: FAILURE:: ntp is not synchronized.
One or more module in class "proc" FAILED

Running modules in class disk...
                                OK

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

CentOS release 5.5 (Final)
Kernel 2.6.18-194.32.1.el5prere15.0.0_72.11.0 on an x86_64

hostname1307389642 login: █
```

Figure 12: Example Syscheck Output with NTP Error

[Figure 13: Example Syscheck Disk Failure Output](#) indicates a disk failure in one of the syscheck tests. If the server is using software disk mirroring (RAID1), the syscheck disk test will fail until the disks

have synchronized. The amount of time required to synchronize the disks varies with disk speed and capacity. Continue executing system check every 5 minutes (by logging in as syscheck to run syscheck again) until the health check executes successfully as shown in [Figure 11: Example Successful Syscheck Output](#). If the disk failure persists for more than two (2) hours, or if system check returns any other error message besides a disk failure or the NTP error shown in [Figure 12: Example Syscheck Output with NTP Error](#), do not continue. Contact My Oracle Support and report the error condition.

```
Running modules in class hardware...
                                OK

Running modules in class proc...
                                OK

Running modules in class disk...
One or more module in class "disk" FAILED

Running modules in class system...
                                OK

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

Figure 13: Example Syscheck Disk Failure Output

2. Verify that the IPM completed successfully by logging in as admusr and running the `verifyIPM` command. No output is expected. Contact [My Oracle Support \(MOS\)](#) if any output is printed by the `verifyIPM` command.

```
$ sudo /usr/TKLC/plat/bin/verifyIPM
```

Media Check

Media Check only works on CD/DVDs. USB media should be validated when it is created, because the validation steps are dependent on how it was created.

1. Refer to [HP Rack Mount Servers - Boot from CD/DVD/USB](#) to automatically boot from the DVD or USB IPM media.
2. The screen output shown below indicates the initial boot from DVD is successful. Enter the command `linux mediacheck` and press **Enter**.

```
Copyright (C) 2003, 2014, Oracle and/or its affiliates. All rights reserved.

Welcome to Tekelec Platform Distribution!
Release: 7.0.0.0_86.11.0
Arch: x86_64
For a detailed description of all the supported commands and their options,
please refer to the Initial Platform Manufacture document for this release.
In addition to linux & rescue TPD provides the following kickstart profiles:

[ TPD : TPDnoraidd : TPDblade : TPDcompact : HDD ]

Commonly used options are:

[ console=<console_option>[,<console_option>] ]
[ primaryConsole=<console_option> ]
[ rdate=<server_ip> ]
[ scrub ]
[ reserved=<size1>[,<sizeN>] ]
[ diskconfig=HWRaid[,force] ]
[ drives=<device>[,device] ]
[ guestArchive ]

To install using a monitor and a local keyboard, add console=tty0
boot: linux mediacheck
```

Figure 14: Example Media Check Command

3. When the following screen appears, press **Tab** until **OK** is highlighted and then press **Enter**.



Figure 15: Example Media Test Dialog

4. Next, press **Tab** until **Test** is highlighted, and press **Enter** to begin testing the currently installed media.

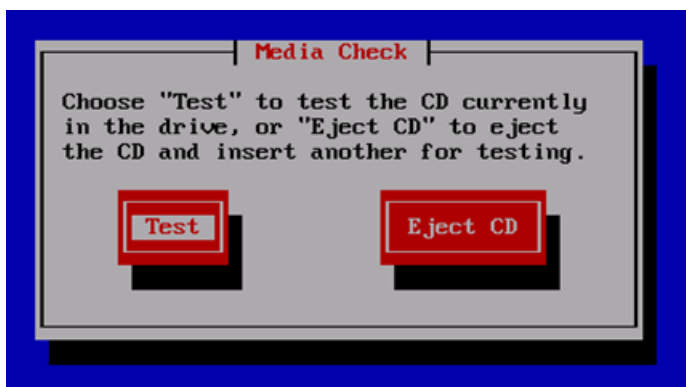


Figure 16: Example Dialog with Test Highlighted

5. The media check begins, with a status bar indicating the progress, as shown in the screen shot below:



Figure 17: Example Media Check Progress Screen

6. If the media check is successful, the following screen will be displayed. Press **Enter** to continue.

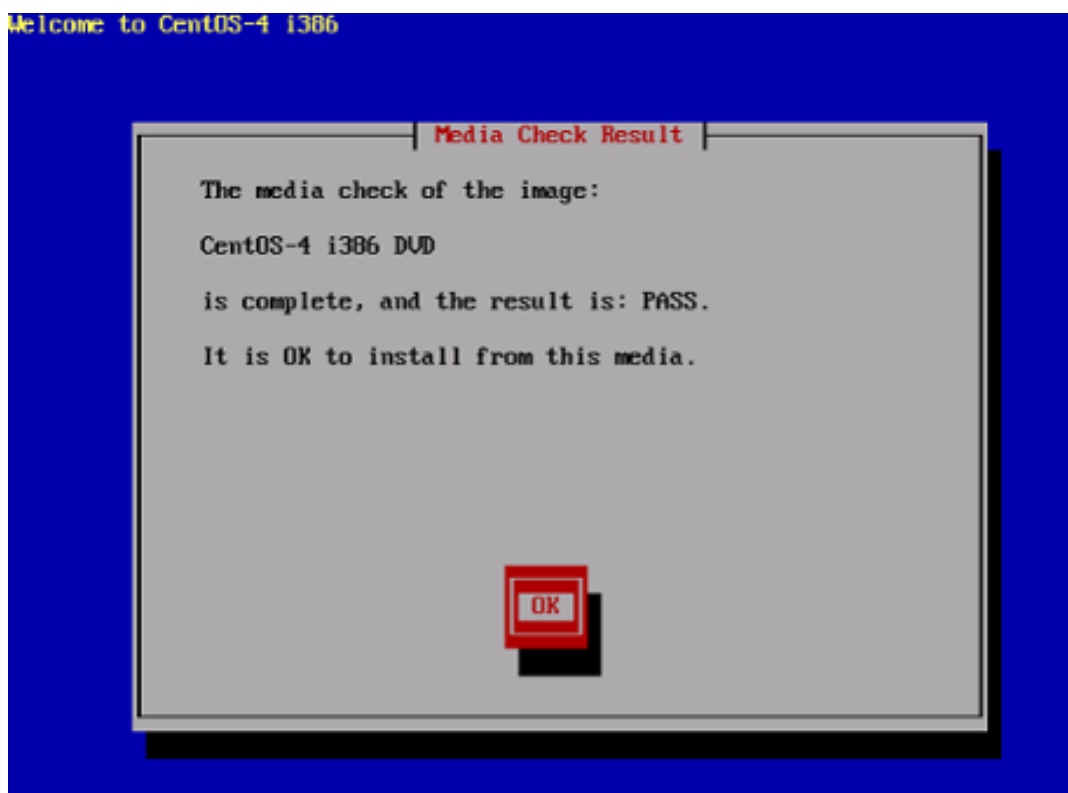


Figure 18: Example Media Check Result

7. To test additional media, remove original media, insert new media, press **Tab** until **Test** is highlighted and press **Enter**. If no additional media is available and the media check passed, remove the current media, insert the original media (first disk or USB pen), press **Tab** until **Continue** is highlighted and press **Enter** to continue the installation again.



Figure 19: Example Media Check Continuation Dialog

Initial Product Manufacture Arguments

1. reserved

The reserved option provides the capability to create one or more extra partitions that are not made part of the vgroot LVM volume group. The sizes of the partition(s) are indicated after "reserved=" and are separated by commas without any whitespace if there are more than one. The sizes use a suffix to indicate whether the value is in units of megabytes ('M') or gigabytes ('G'). In this context, a megabyte is 10242 and a gigabyte is 10243.

In the case of a software RAID-1 configuration, such as TPD (but not TPDnoraidd), a single value will actually cause the creation of a partition on 2 drives and a metadvice (md) that incorporates the two partitions.

Examples:

1. TPD reserved=2G - On a T1200, this will create reserved partitions on sda and sdb of 2 GB, and a RAID-1 metadvice using those reserved partitions.
2. TPDnoraidd reserved=512M - On an HP server, this will create a reserved partition on sda of 0.5 GB.
3. TPDnoraidd reserved=4G,128M - On an HP server, this will create two reserved partitions on cciss/c0d0 of 4 GB and of 128 MB.

The partition(s) or metadvice(s) can be used by storageMgr to create a DRBD device or LVM physical volume. However, to do so, one will need to know the partition number or metadvice number.

Numbering of partitions is performed by anaconda and is controlled by anaconda. Therefore, to get the partition number, a developer would need to examine the partition table after an IPM to determine the number. Also, this number may change due to changes in anaconda in future releases of TPD.

2. scrub

This option is typically used as part of the IPM process on machines that have had TPD loaded in the past. The usage of the "scrub" option is used to ensure that the disk and logical volume partitioning that occurs during the early phase of IPM operates correctly. Note that this option should not be used during hardware USB media based IPM since doing so will erase the TPD installation media.

It is extremely important to understand that the "scrub" option will remove all data from ALL attached disk devices to the machine being IPM'ed.

Note: this includes disk drives that are not mentioned in the "drives" parameter as well as USB install media. Therefore, whenever the "scrub" option is used, any and all disk drives attached to the machine being IPM'ed, including those not mentioned in the "drives" parameter, will lose all of their data. Technically, this is accomplished by writing zeroes to the entire disk of each attached disk drive.

3. diskconfig

This option is intended to direct the IPM process to configure the disks in different ways. At this time diskconfig supports the following options:

- HPHW - specify that the server is an HP server that should be configured to use hardware RAID1 (mirroring). The expected configuration is that the first two physical drives on the array controller

Initial Product Manufacture of RMS and Blade Servers

in slot 0 of the server will be configured as one logical disk. This is the default if no diskconfig or drives option is passed.

- HPSW – specify that the server is an HP server that should be configured to use software RAID1 (mirroring). This mode is intended for use during development and testing and is not supported on fielded systems.
- force – specify that if the current disk configuration does not match the desired configuration, that the desired configuration should forcibly installed. Loss of data on any disk on the same RAID disk controller may result.

Appendix D

Using WinSCP

Topics:

- [*Using WinSCP.....200*](#)

Using WinSCP

The following is an example of how to copy a file from the management server to your PC desktop

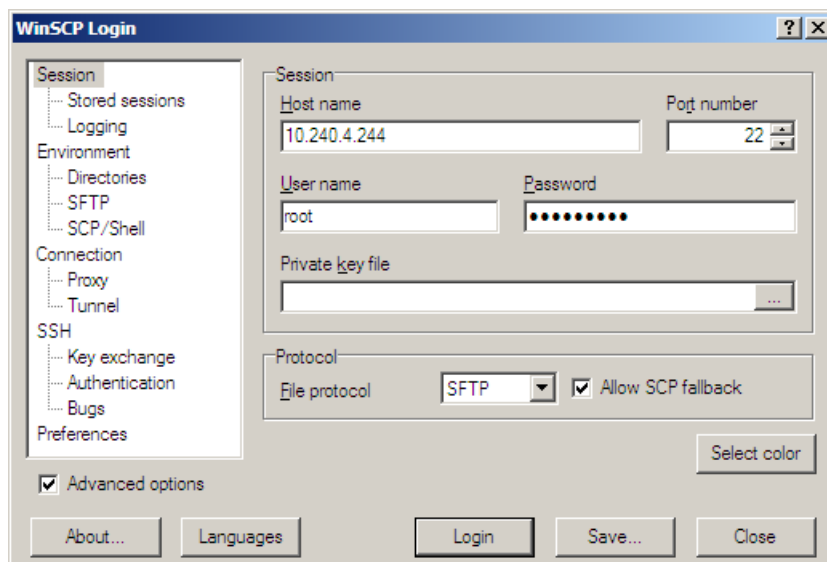
1. Download the WinSCP Application

Download the WinSCP application:

<http://winscp.net/eng/download.php>

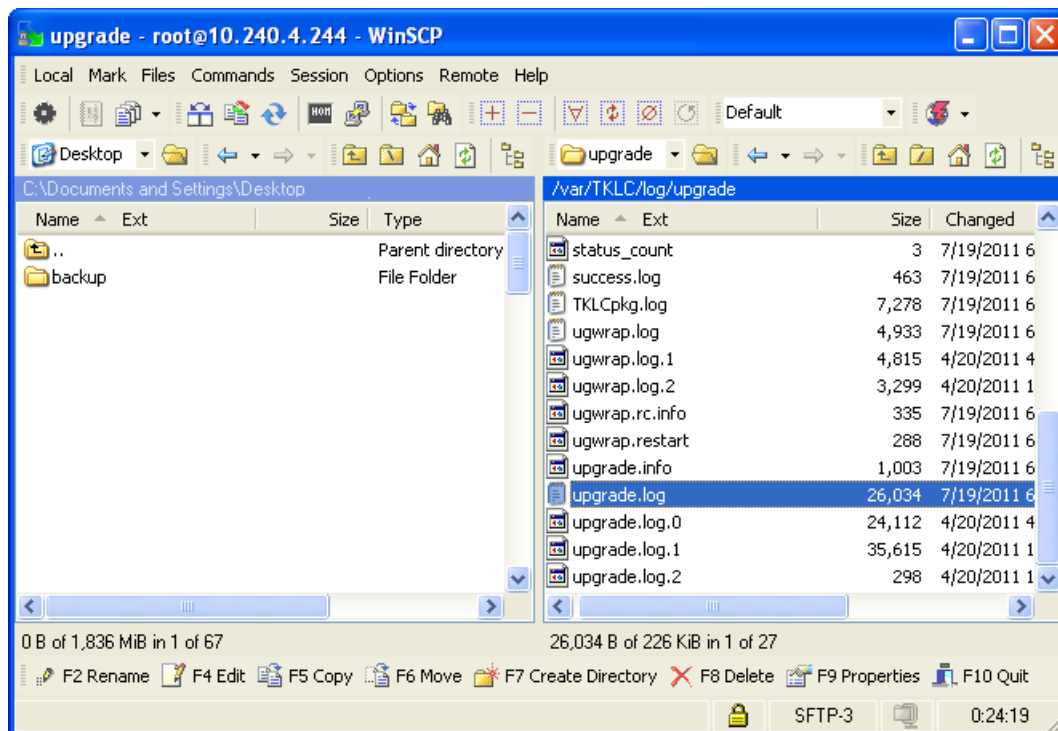
2. Connect to the management server

After starting this application, navigate to Session and enter: **<management_server_IP>** into the Host name field, **root** into the User name field, and **<root_password>** into the Password field. Click **Login**.



3. Copy the target file from the management server

On the left is your own desktop filesystem. Navigate within it to Desktop directory. On the right side is the management server file system. Within it, navigate into the location of the file you would like to copy to your desktop. Highlight the file in the management server file system by pressing the insert key, then press F5 to copy the file.



4. Close the WinSCP application

Then close application by pressing **F10** and confirm to terminate session by pressing **OK**.

Appendix E

Backup Procedures

Topics:

- *Backup HP (6120XG, 6125G, 6125XLG) Enclosure Switch.....203*
- *Backup Cisco 4948/4948E/4948E-F Aggregation Switch and/or Cisco 3020 Enclosure Switch (netConfig).....205*

Backup HP (6120XG, 6125G, 6125XLG) Enclosure Switch

This procedure should be executed after every change to the switch configuration after completing [Configure HP 6120XG Switch \(netConfig\)](#) and/or [Configure HP 6125G Switch \(netConfig\)](#) and/or [Configure HP 6125XLG Switch \(netConfig\)](#).

Prerequisites:

- [IPM DL380 Server](#) must be completed
- [Installing TVOE on the Management Server](#) must be completed
- [Deploy PM&C Guest](#) must be completed
- [Configure HP 6120XG Switch \(netConfig\)](#)
- [Configure HP 6125G Switch \(netConfig\)](#)
- [Configure HP 6125XLG Switch \(netConfig\)](#)

Procedure Reference Tables:

Variable	Value
<switch_name>	hostname of the switch

1. Ensure that the directory where the backups will be stored exists.

```
$ sudo /bin/ls -i -l /usr/TKLC/smac/etc/switch/backup
```

If you receive an error such as the following:

```
-bash: ls: /usr/TKLC/smac/etc/switch/backup: No such file or directory
```

Then the directory must be created by issuing the following command:

```
$ sudo /bin/mkdir -p /usr/TKLC/smac/etc/switch/backup
```

Then change the directory permissions:

```
$ sudo /bin/chmod go+x /usr/TKLC/smac/etc/switch/backup
```

2. Execute the backup command

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=<switch_name> backupConfiguration
service=ssh_service filename=<switch_name>-backup
```

3. Copy the files to the backup directory.

```
$ sudo /bin/mv -i ~admusr/<switch>-backup* /usr/TKLC/smac/etc/switch/backup
```

4. Verify switch configuration was backed up by cat <switch_name> and inspecting its contents to ensure it reflects the latest known good switch configurations.

```
$ sudo /bin/ls -i /usr/TKLC/smac/etc/switch/backup/<switch_name>-backup*
$
```

```
$ sudo /bin/cat /usr/TKLC/smac/etc/switch/backup/<switch_name>-backup
$
```

5. Save FW files:

If a firmware upgrade, switch replacement, or an initial install (which performed a FW upgrade during initialization) was performed, back up the FW image used by performing the following command:

```
$ sudo /bin/mv -i ~<switch_backup_user>/<fw image> <switch_backup_directory>/
```

6. PM&C: Perform PM&C application backup.

```
$ sudo /usr/TKLC/smac/bin/pmacadm backup
PM&C backup been successfully initiated as task ID 7
$
```

Note: The backup runs as a background task. To check the status of the background task use the PM&C GUI Task Monitor page, or issue the command "pmaccli getBgTasks". The result should eventually be "PM&C Backup successful" and the background task should indicate "COMPLETE".

Note: The "pmacadm backup" command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.

7. PM&C: Verify the Backup was successful

Note: If the background task shows that the backup failed, then the backup did not complete successfully. STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

The output of pmaccli getBgTasks should look similar to the example below:

```
$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks
2: Backup PM&C COMPLETE - PM&C backup successful
Step 2: of 2 Started: 2012-07-05 16:53:10 running: 4 sinceUpdate: 2 taskRecordNum:
2 Server Identity:
Physical Blade Location:
Blade Enclosure:
Blade Enclosure Bay:
Guest VM Location:
Host IP:
Guest Name:
TPD IP:
Rack Mount Server:
IP:
Name:
::
```

8. PM&C: Save the PM&C backup

The PM&C backup must be moved to a remote server. Transfer (sftp, scp, rsync, or preferred utility), the PM&C backup to an appropriate remote server. The PM&C backup files are saved in the following directory: "/var/TKLC/smac/backup".

9. Repeat [Step 2-Step 8](#) for each HP switch to be backed up.

Backup Cisco 4948/4948E/4948E-F Aggregation Switch and/or Cisco 3020 Enclosure Switch (netConfig)

Prerequisites for RMS system Aggregation Switch:

- [IPM DL380 Server](#) must be completed.
- [TVOE Network Configuration](#)
- [Configure Cisco 4948/4948E/4948E-F Aggregation Switches \(PM&C Installed\) \(netConfig\)](#)
- Application username and password for creating switch backups must be configured on the management server prior to executing this procedure.

Oracle-Provided Aggregation Switch Prerequisites for c-Class system Aggregation Switch:

- [IPM DL380 Server](#) must be completed.
- [Installing TVOE on the Management Server](#) must be completed.
- [TVOE Network Configuration](#) must be completed.
- [Deploy PM&C Guest](#) must be completed.
- [Configure Cisco 4948/4948E/4948E-F Aggregation Switches \(PM&C Installed\) \(netConfig\)](#)

Prerequisites for Cisco 3020 Enclosure switches:

Procedure Reference Tables:

- [IPM DL380 Server](#) must be completed.
- [Installing TVOE on the Management Server](#) must be completed.
- [TVOE Network Configuration](#) must be completed.
- [Deploy PM&C Guest](#) must be completed.
- [Configure Cisco 3020 Switch \(netConfig\)](#)

Variable	Value
<switch_backup_user> (also needed in switch configuration procedure)	admusr
<switch_backup_user_password> (also needed in switch configuration procedure)	Check application documentation
<switch_name>	hostname of the switch
<switch_backup_directory>	Non-PM&C System: /usr/TKLC/plat/etc/switch/backup
	PM&C System: /usr/TKLC/smac/etc/switch/backup

1. Verify switch is at least initialized correctly and connectivity to the switch by verifying hostname

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=<switch_name> getHostname
Hostname: switch1A
$
```

Note: The value beside "Hostname:" should be the same as the <switch_name> variable.

2. Run command "netConfig --repo showService name=ssh_service" and look for ssh service.

```
$ sudo /usr/TKLC/plat/bin/netConfig --repo showService name=ssh_service
Service Name:    ssh_service
Type:            ssh
Host:            10.250.62.85
Options:
  password: C20F7D639AE7E7
  user: admusr
$
```

In the `ssh_service` parameters, the value for 'user:' will be the value for the variable `<switch_backup_user>`.

3. Verify existence of the backup directory.

```
$ sudo /bin/ls -i <switch backup directory>
```

If the output contains

```
ls: cannot access <switch backup directory>: No such file or directory
```

create the directory with:

```
$ sudo /bin/mkdir -p <switch backup directory>
```

Change directory permissions:

```
$ sudo /bin/chmod go+x <switch backup directory>
```

4. Execute the backup command

```
$ sudo /usr/TKLC/plat/bin/netConfig --device=<switch_name> backupConfiguration  
service=ssh service filename=<switch name>-backup
```

5. Verify switch configuration was backed up by `cat <switch_name>-backup` and inspect its contents to ensure it reflects the latest known good switch configurations. Then, copy the files over to the backup directory.

```

$ sudo /bin/ls -i ~<switch_backup_user>/<switch_name>-backup*
$ sudo /bin/cat ~<switch_backup_user>/<switch_name>-backup*
$ sudo /bin/chmod 644 <switch_name>-backup*
$ sudo /bin/mv -i ~admusr/<switch name>-backup* <switch backup directory>/

```

Note: The cat command may leave garbled text on the next terminal prompt. Disregard this text.

Example:

```
[admusr@pmac ~]$ PuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTYPuTTY
```

6. PM&C: Perform PM&C application backup.

```
$ sudo /usr/TKLC/smac/bin/pmacadm backup
PM&C backup been successfully initiated as task ID 7
$
```

Note: The backup runs as a background task. To check the status of the background task use the PM&C GUI Task Monitor page, or issue the command "pmaccli getBgTasks". The result should eventually be "PM&C Backup successful" and the background task should indicate "COMPLETE".

Note: The "pmacadm backup" command uses a naming convention which includes a date/time stamp in the file name (Example file name: backupPmac_20111025_100251.pef). In the example provided, the backup file name indicates that it was created on 10/25/2011 at 10:02:51 am server time.

7. PM&C: Verify the Backup was successful

Note: If the background task shows that the backup failed, then the backup did not complete successfully. STOP and contact [My Oracle Support \(MOS\)](#) section of this document.

The output of pmaccli getBgTasks should look similar to the example below:

```
$ sudo /usr/TKLC/smac/bin/pmaccli getBgTasks
2: Backup PM&C COMPLETE - PM&C Backup successful
Step 2: of 2 Started: 2012-07-05 16:53:10 running: 4 sinceUpdate: 2 taskRecordNum:
2 Server Identity:
Physical Blade Location:
Blade Enclosure:
Blade Enclosure Bay:
Guest VM Location:
Host IP:
Guest Name:
TPD IP:
Rack Mount Server:
IP:
Name:
::
```

8. PM&C: Save the PM&C backup

The PM&C backup must be moved to a remote server. Transfer (sftp, scp, rsync, or preferred utility), the PM&C backup to an appropriate remote server. The PM&C backup files are saved in the following directory: "/var/TKLC/smac/backup".

9. Repeat steps [Step 1](#), [Step 4-Step 8](#) for each switch to be backed up.

Appendix F

How to Access a Server Console Using the iLO

Topics:

- [*How to Access a Server Console Using the iLO.....209*](#)

How to Access a Server Console Using the iLO

1. Access the iLO GUI

Using a laptop or desktop computer connected to the customer network, navigate with Internet Explorer to the IP address of the iLO of the Management Server. Log into the iLO as the user "Administrator".

2. Launch the Remote Console Window

Navigate to **Remote Console** > **Remote Console** to launch the remote console in a new window.

3. Log in to the Console

In the Remote Console window, log in to the console as user "admusr":

```
login as: admusr
Password:
Last login: Wed Jun  5 17:52:28 2013
[admusr@tvoe ~]$
```

4. Return to the procedure which referenced this appendix.

Appendix G

Onboard Administrator Procedures

Topics:

- [Replacing Onboard Administrator.....211](#)

Replacing Onboard Administrator

This information has been deleted from Platform 6.7.

This procedure describes how to replace OA in an enclosure with Redundant OA.

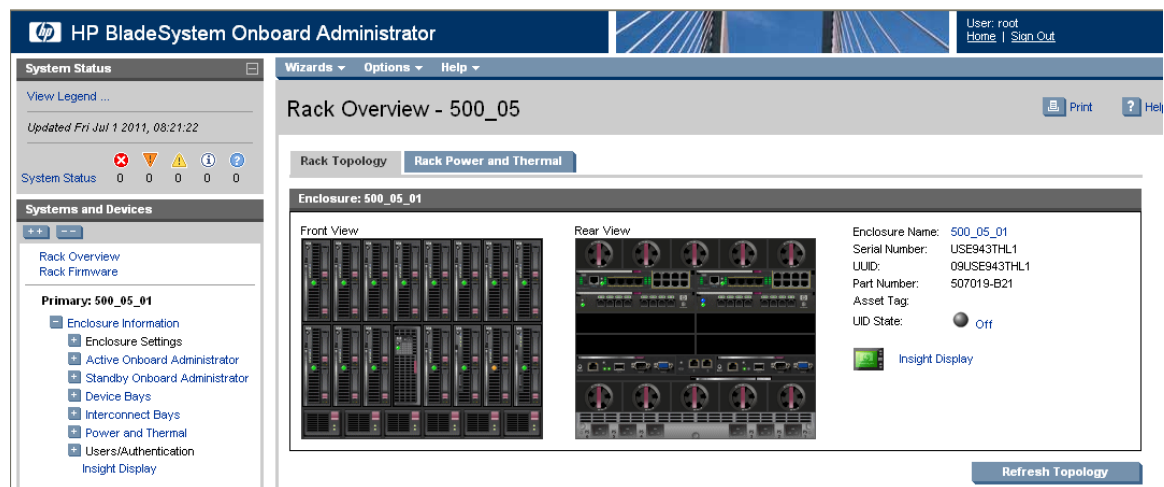
Note: The transfer of configuration occurs only from OA in Bay 1 to OA in Bay 2. Therefore in order to keep the current configuration of the system, the insertion of new OA into the OABay 1 location should be avoided.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to [My Oracle Support \(MOS\)](#).

1. OAGUI: Log into the active OA

Navigate to the IP address of the active OA, using [Determining Which Onboard Administrator Is Active](#). Log in as root.

You will see the following page.



2. OA GUI: Record the IP configuration of the Active and Standby OAs.

Navigate to Enclosure Information > Active Onboard Administrator > TCP/IP Settings. Record the Active OA's IP Address, Subnet Mask, and Gateway here:

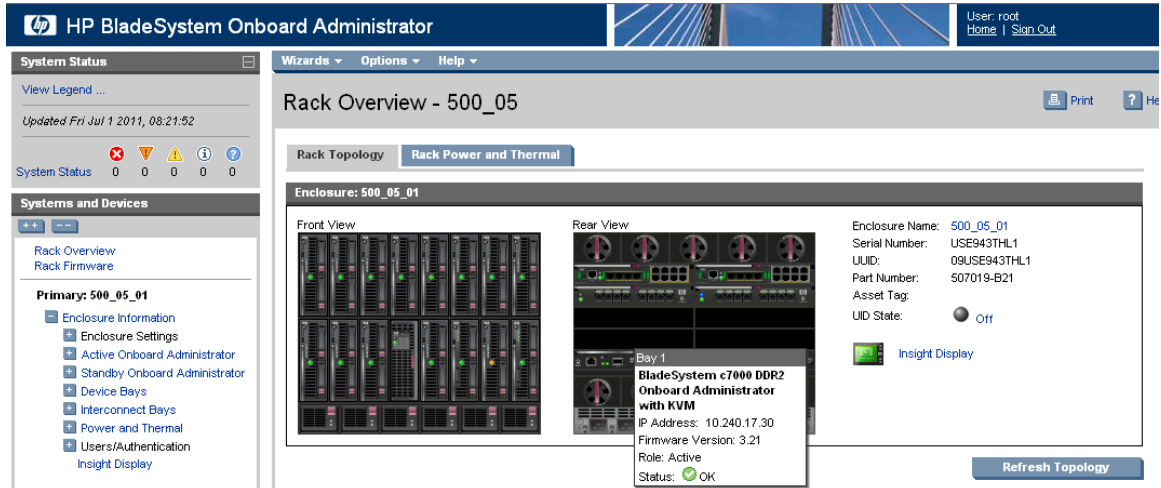
Active OA IP Address:	
Active OA Subnet Mask:	
Active OA Gateway:	

Navigate to Enclosure Information > Standby Onboard Administrator TCP/IP Settings. Record the Standby OA's IP Address, Subnet Mask, and Gateway here:

Standby OA IP Address:	
Standby OA Subnet Mask:	
Standby OA Gateway:	

3. OAGUI: Note the location of the active OA

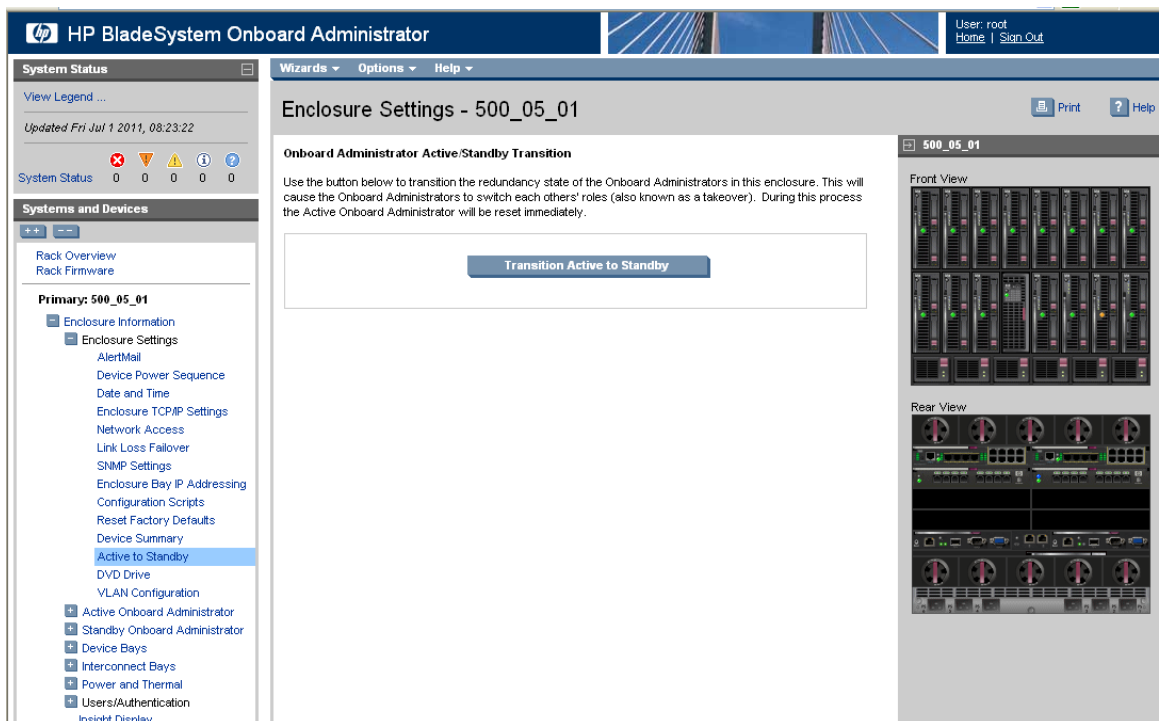
Note the location of the active onboard administrator within the enclosure. The active OA will have the Active LED on, as in the figure below. You may also mouse over the OA and see its role.



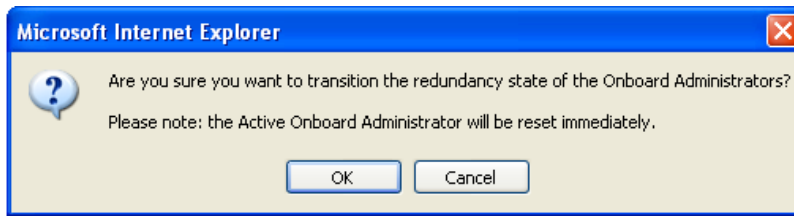
If the OA to be replaced is not the active OA for the enclosure, skip to step 5. Otherwise, continue with step 4.

4. OAGUI: Force active OA into standby mode

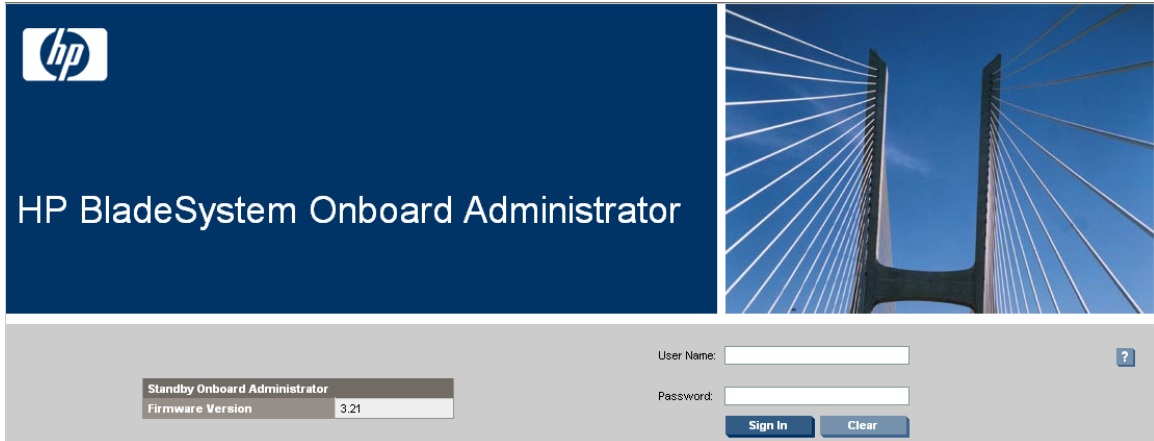
On the left-hand side navigate to **Enclosure Information > Enclosure Settings > Active to Standby**, then click on the **Transition Active to Standby** button.



Answer OK the following question:



Wait about five minutes , until the application reloads itself and the following page appears:



5. Remove the OA to be replaced

If you need to replace the Onboard Administrator from the OA Bay 2 location (right as viewed from rear) , remove it and skip to step 7.

If you need to replace the Onboard Administrator from the OA Bay 1 location (left as viewed from rear), remove it and proceed with step 6.

6. Move the OA from OABay 2 location into the OABay 1 location

Move the OA from OA Bay 2 location into the OA Bay 1 location. Wait five minutes so that the Onboard Administrator can initialize.

7. Install the new OA

Insert the new Onboard Administrator into OA Bay 2 of the enclosure and wait five minutes so it can get its configuration from the other OA and to initialize itself.

8. OAGUI: Log into the active OA

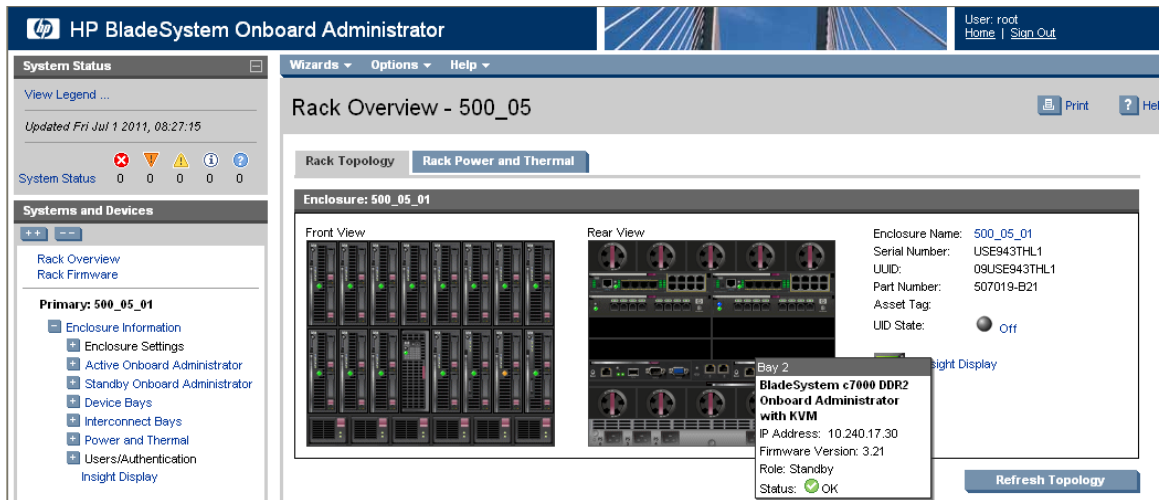
Navigate to the IP address of the active OA, using [Determining Which Onboard Administrator Is Active](#). Log in as root.

9. OA GUI: Re-establish the OA's IP configuration

Refer to the OA IP configuration settings recorded in Step 2 of this procedure. The current settings of each OA should be unique and should match the recorded settings for either the Active or Standby OA. The Active OA may now have the Standby OA's recorded settings and vice versa. If changes are needed, perform [Configure Initial OA IP](#).

10. OAGUI: Verify the status of Onboard Administrators

On the **Rear View** mouse over each OA and verify the that the "Status" value is "OK". If the status of one OA or the other is shown as "Degraded" because of a firmware version mismatch, perform [Upgrade or Downgrade OA Firmware](#).



11. PM&C CLI: Delete OA SSH keys

Log in to the PM&C CLI as admusr. Execute these three commands:

```
$ sudo /usr/bin/ssh-keygen -R <Active-OA-IP> -f ~pmacd/.ssh/known_hosts
$ sudo /usr/bin/ssh-keygen -R <Standby-OA-IP> -f ~pmacd/.ssh/known_hosts
$ sudo /bin/chown pmacd:pmacd ~pmacd/.ssh/known_hosts
```

New SSH keys will be established by PM&C the next time it logs in to each OA.

Appendix H

Changing SNMP Configuration Settings for iLO

Topics:

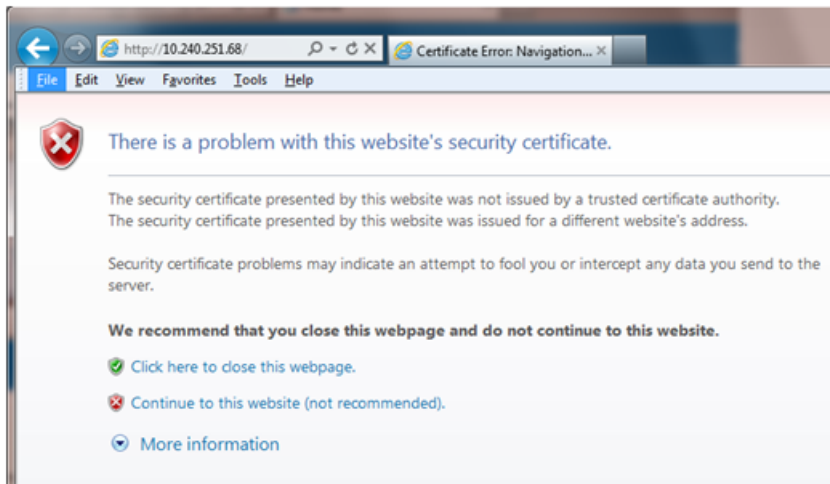
- [*Changing SNMP Configuration Settings for iLO4.....216*](#)

Changing SNMP Configuration Settings for iLO4

This procedure provides instructions to change the default SNMP settings for the HP ProLiant iLO device.

Perform this procedure for every iLO 4 device on the network. For instance, for every HP ProLiant Blade and Rack Mount server.

1. From Workstation: Launch Internet Explorer 7.x or higher and connect to the iLO 4 device using "https://"



2. iLO 4 Web UI:

The user should be presented the login screen shown below.

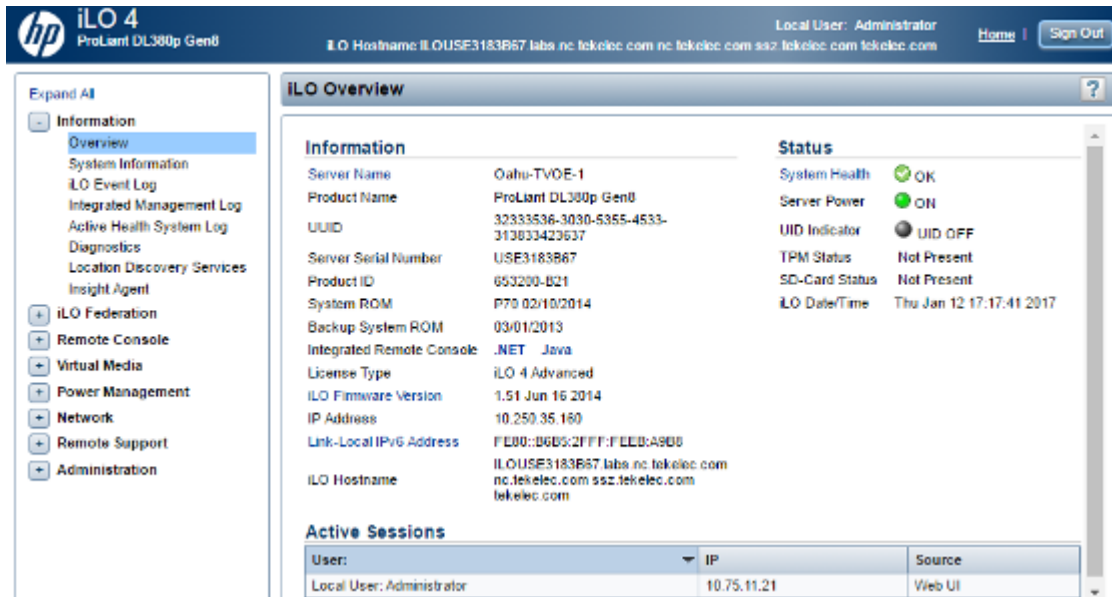
Login to the GUI using an Administrator account name and password.



3. iLO 4 Web UI:

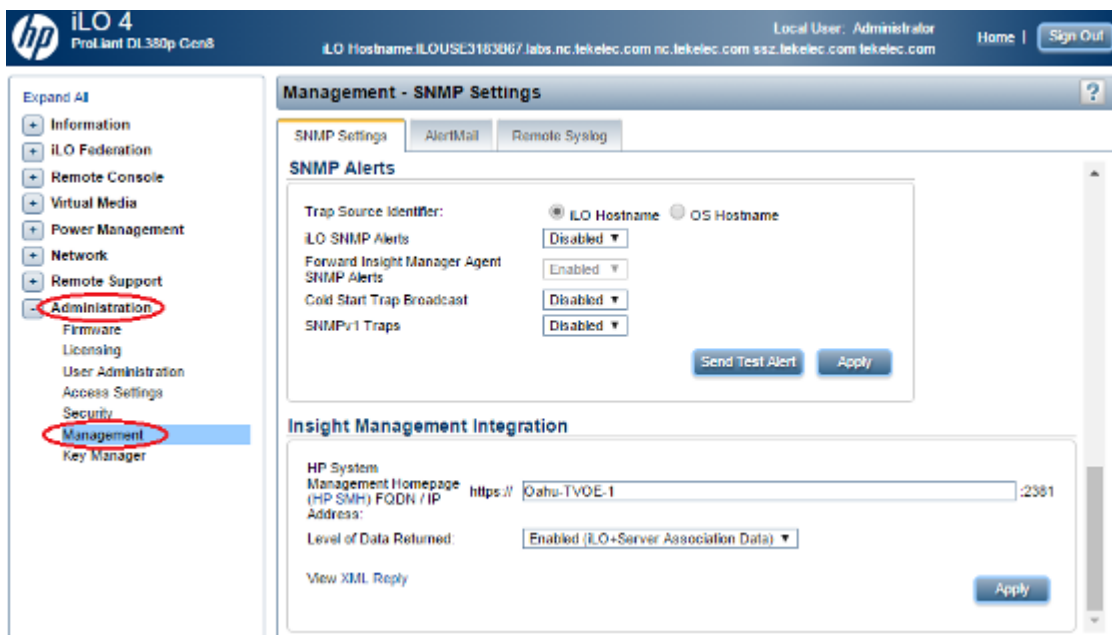
Changing SNMP Configuration Settings for iLO

The user should be presented the iLO 4 Overview page as shown below.



4. iLO 4 Web UI:

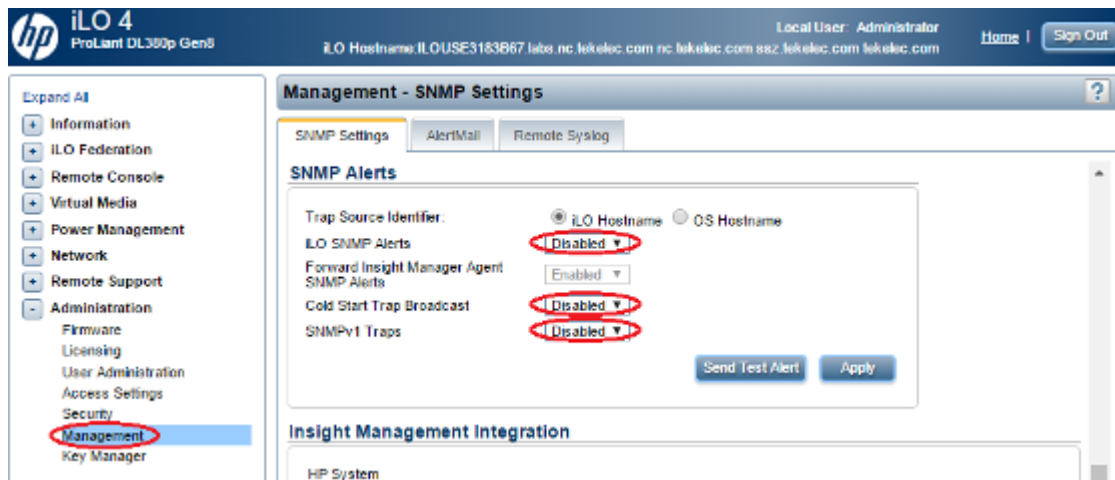
1. Expand the **Administration** menu item in the left hand navigation pane.
2. Select the **Management** sub-menu item to display the Management configuration page.



5. iLO 4 Web UI:

1. Select setting **Disabled** for each of the 3 SNMP Alerts options shown.
2. Click **Apply** to save the change.

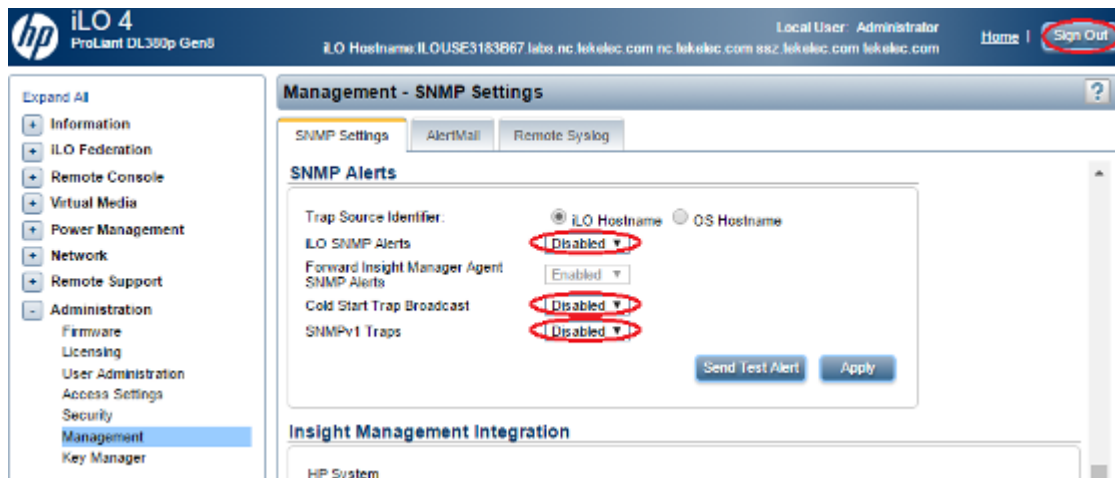
Changing SNMP Configuration Settings for iLO



6. iLO 4 Web UI:

To verify the setting changes navigate away from the Management configuration page and then return to it to verify the SNMP settings as shown.

1. Click **Sign Out** in the upper right corner of page to log out of the iLO Web UI.



7. Complete for remaining iLO 4 devices

Repeat this procedure all remaining iLO 4 devices on network.

Appendix I

Upgrade Cisco 4948 PROM

Topics:

- [Upgrade Cisco 4948 PROM.....220](#)

Upgrade Cisco 4948 PROM

1. Virtual PM&C/Management Server: Verify that the PROM image is on the system.

If the appropriate image does not exist, copy the image to the server.

Determine if the PROM image for the 4948/4948E/4948E-F is on the system.

For a PM&C system:

```
$ ls /var/TKLC/smac/image/<PROM_image_file>
```

For a NON-PM&C system:

```
$ ls /var/lib/tftpboot/<PROM_image_file>
```

If the file exists, skip the remainder of this step and continue with the next step. If the file does not exist, copy the file from the firmware media and ensure the file is specified by the Release Notes of the *HP Solutions Firmware Upgrade Pack* [2].

2. Virtual PM&C/Management Server: Attach to switch console.

If upgrading the firmware on switch1B, connect serially to the switch by issuing the following command as admusr on the server:

```
$ sudo /usr/bin/console -M <management_server_mgmt_ip_address> -l platcfg
switch1A_console
Enter platcfg@pmac5000101's password: <platcfg_password>
[Enter '^Ec?' for help]
Press Enter
```

If the switch is not already in enable mode ("switch#" prompt) then issue the **enable** command, otherwise continue with the next step.

```
Switch> enable
Switch#
```

If upgrading the firmware on switch1B, connect serially to switch1B by issuing the following command as admusr on the PM&C server:

```
$ sudo /usr/bin/console -M <management_server_mgmt_ip_address> -l platcfg
switch1B_console
Enter platcfg@pmac5000101's password: <platcfg_password>
[Enter '^Ec?' for help]
Press Enter
```

If the switch is not already in enable mode ("switch#" prompt), then issue the **enable** command, otherwise continue with the next step.

```
Switch> enable
Switch#
```

3. Virtual PM&C/Management Server (switch console session): Configure ports on the 4948/4948E/4948E-F switch.

To ensure connectivity, ping the management server's management vlan ip
<pmac_mgmt_ip_address> address from the switch.

```
Switch# conf t
```

If upgrading the firmware on switch1A, use these commands:

```
Switch(config)# vlan <switch_mgmtVLAN_id>
Switch(config-vlan)# int vlan <switch_mgmtVLAN_id>
Switch(config-if)# ip address <switch1A_mgmtVLAN_ip_address> <netmask>
Switch(config-if)# no shut
Switch(config-if)# int gil/40
```

If upgrading the firmware on switch1B, use these commands:

```
Switch(config)# vlan <switch_mgmtVLAN_id>
Switch(config-vlan)# int vlan <switch_mgmtVLAN_id>
Switch(config-if)# ip address <switch1B_mgmtVLAN_ip_address> <netmask>
Switch(config-if)# no shut
Switch(config-if)# int gil/40
```

If the model is 4948, execute these commands:

```
Switch(config-if)# switchport trunk encap dot1q
Switch(config-if)# switchport mode trunk
Switch(config-if)# spanning-tree portfast trunk
Switch(config-if)# end
Switch# write memory
```

If the model is 4948E or 4948E-F, execute these commands:

```
Switch(config-if)# switchport mode trunk
Switch(config-if)# spanning-tree portfast trunk
Switch(config-if)# end
Switch# write memory
```

Now issue ping command:

Note: The ip address <pmac_mgmt_ip_address> should be in the reference table at the beginning of the Cisco 4948 configuration procedure that referenced this procedure.

```
Switch# ping <pmac_mgmtVLAN_ip_address>
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to <pmac_mgmt_ip_address>, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round trip min/avg/max = 1/1/4 ms
```

If ping is not successful, double check that the procedure was completed correctly by repeating all steps up to this point. If after repeating those steps, ping is still unsuccessful, contact My Oracle Support.

4. Virtual PM&C/Management Server (Switch console session): Upgrade PROM

```
Switch# copy tftp: bootflash:
Address or name of remote host []? <pmac_mgmt_ip_address>
Source filename []? <PROM_image_file>
Destination filename [<PROM_image_file>]? [Enter]
Accessing tftp://<pmac_mgmt_ip_address>/<PROM_image_file>...
```

```

Loading <PROM_image_file> from <pmac_mgmt__ip_address> (via Vlan2): !!!!! [OK-
45606 bytes]
45606 bytes copied in 3.240 secs (140759 bytes/sec)
Switch#

```

5. Virtual PM&C/Management Server (Switch console session): Reload the switch

```

Switch# reload
System configuration has been modified. Save? [yes/no]: no
Proceed with reload? [confirm] [Enter]
=== Boot messages removed ===

```

Type **[Control-C]** when "Type control-C to prevent autobooting" is displayed on the screen.

6. Virtual PM&C/Management Server (Switch console session): Upgrade PROM

```

rommon 1 > boot bootflash:<PROM_image_file>
=== PROM upgrade messages removed ===
System will reset itself and reboot within few seconds....

```

7. Virtual PM&C/Management Server (Switch console session): Verify Upgrade

The switch will reboot when the firmware upgrade completes. Allow it to boot up. Wait for the following line to be printed:

```

Press RETURN to get started!
Would you like to terminate autoinstall? [yes]: [Enter]
Switch> show version | include ROM
ROM: 12.2(31r)SGA1
System returned to ROM by reload

```

Review the output and look for the ROM version. Verify that the version is the desired new version. If the switch does not boot properly or has the wrong ROM version, contact My Oracle Support.

8. Virtual PM&C/Management Server: Reset switch to factory defaults.

Connect serially to the switch as outlined in [Step 4](#), and reload by performing the following commands:

```

Switch# write erase
Switch# reload

```

Wait until the switch reloads, then exit from console, enter **<ctrl-e><c><.>** and you will be returned to the server prompt.

Note: There might be messages from the switch, if asked to confirm, press enter. If asked yes or no, type in **no** and press enter.

Appendix J

Operational Dependencies on Platform Account Passwords

Topics:

- [*PM&C Credentials for Communication with Other System Components.....224*](#)
- [*PM&C GUI Accounts Credentials.....225*](#)
- [*PM&C Linux User Accounts Credentials.....226*](#)

This appendix describes the operational dependencies on Platform account passwords, in order to provide guidance in cases when the customer insists on modifying a default password. Note that changing passwords should be attempted only on systems that are fully configured and stable. Modifying passwords during system installation is strongly discouraged.

Note that prior to modifying the passwords stored on PM&C, you should perform backup of PM&C databases, in case you might need to return to default passwords. To accomplish this, execute steps [*Step 6*](#) through [*Step 8*](#) (inclusive) in procedure [*Configure PM&C Application*](#). To restore the passwords stored in the backup file, you can refer to steps 4 through 9 (inclusive), in Procedure 1 of the *PM&C Disaster Recovery, Release 5.7 and 6.0*, E54388.

PM&C Credentials for Communication with Other System Components

This section covers the credentials that can be changed using the PM&C updateCredentials utility and the Platform dependencies users must be aware of to keep PM&C fully functional. Only the credentials that PM&C considers to be user accessible are listed here.

1. oaUser

PM&C uses these credentials to communicate with OAs for all enclosures it monitors. Therefore, all active OAs must be updated to have the new credentials and then the updateCredentials should be used to match the credentials PM&C uses. Lastly, all enclosures already provisioned in the PM&C must be rediscovered.

- a) To update the credentials on the OA's, log into the active OA GUI. On the left hand side of the OA GUI, navigate to **Users/Authentication > Local Users > pmacadmin**. After supplying the new password, click on **Update User**.
- b) To update the credentials on the PM&C, execute the following on the UI:

```
$ sudo/usr/TKLC/smac/bin/updateCredentials --type=oaUser
```

- c) To rediscover an enclosure already provisioned in the PM&C inventory, log into the PM&C GUI and navigate to **Hardware > System Inventory > Cabinet XXX > Enclosure XXXXX** and click the **Rediscover Enclosure...** button.

2. msa

All SAN controllers PM&C is expected to communicate with must be updated to have the new credentials and then the updateCredentials should be used to match credentials PM&C uses.

- a) To update the credentials, log into Fibre Channel Disk Controller via ssh as a manage user. Then execute:

```
# set password manage
```

- b) To update the credentials on the PM&C, execute the following in the UI:

```
$ sudo/usr/TKLC/smac/bin/updateCredentials --type=msa
```

3. tpdPlatCfg

Changing these credentials has no impact on PM&C functionality.

- a) To update the credentials, log into the UI with platcfg credentials and execute:

```
$ passwd
```

4. tvoeUser

TVOE administrator passwords need to be changed for all TVOE hosts PM&C is expected to communicate with and then the updateCredentials should be used to match the credentials PM&C uses. Note each time a new TVOE is installed its default password will have to be updated to match.

- a) To update the credentials, log into the TVOE UI with the admusr credentials and execute:

```
$ passwd
```

- b) To update the credentials on the PM&C, execute the following on the UI:

```
$ sudo /usr/TKLC/smac/bin/updateCredentials --type=tvoeUser
```

5. backupPassword

PM&C backup images are encrypted. The passphrase to encrypt the backup files may be changed. This only changes the encryption for future backups; prior backups cannot be restored without changing to the original pass phrase as shown below. A restore task that fails with a "Failed to decrypt backup file" reason is an indication of this condition.

- a) To update the passphrase on a PM&C, execute the following in the UI:

```
$ sudo /usr/TKLC/smac/bin/updateCredentials --type=backupPassword
```

6. remoteBackupUser

If pmacop credentials are changed on a redundant PM&C, the updateCredentials should be used to match credentials the primary PM&C uses.

- a) To update the credentials on a redundant PM&C, log into the redundant PM&C UI with the pmacop credentials and execute:

```
$ passwd
```

- b) To update the credentials on the primary PM&C, execute the following in primary PM&C UI:

```
$ sudo /usr/TKLC/smac/bin/updateCredentials --type=remoteBackupUser
```

7. oobUser

These credentials are used to communicate with the iLO of RMS, when no other credentials have been specified when the RMS was provisioned in PM&C. So the user has the option to modify this default password, or the RMS can be edited/added in the GUI with its specific credentials.

- a) To update the credentials on an RMS iLO, log into the iLO GUI and navigate to **Administration > User Administration**. Check the box next to root password and click the **Edit** button. After the password is changed, click **Update User**.
- b) To modify the default oobUser credentials on the PM&C, execute the following in the UI:

```
$ sudo /usr/TKLC/smac/bin/updateCredentials --type=oobUser
```

- c) To add a RMS to PM&C system inventory with its unique iLO password, refer to [Add Rack Mount Server to the PM&C System Inventory](#).
- d) To edit iLO password of a specific RMS already in PM&C system inventory, refer to [Edit Rack Mount Server in the PM&C System Inventory](#).

PM&C GUI Accounts Credentials

Modification of any of the PM&C GUI accounts has no system impact. The PM&C GUI users can be updated by logging into the PM&C GUI as pmacadmin, and navigating to **Administration > Users**.

Select the user from the first **Username** pull down menu and click the **Set Password** button. Then enter the new password twice and click the **Continue** button.

PM&C Linux User Accounts Credentials

PM&C Linux User Accounts Credentials

Modification of any PM&C Linux user account has no system impact with the exception of the "pmacop" user and "admusr" credentials. If pmacop credentials are changed on a redundant PM&C, the updateCredentials should be used to match the credentials that the primary PM&C uses. If admusr credentials are changed after configuration of the netconfig repository, then netconfig services must be deleted and re-added using the new credentials.

1. To update the pmacop credentials on a redundant PM&C, log in to the redundant PM&C UI with the pmacop credentials and execute:

```
$ passwd
```

2. To update the pmacop credentials the primary PM&C uses to communicate with the redundant PM&C, execute the following in primary PM&C UI:

```
$ sudo /usr/TKLC/smac/bin/updateCredentials --type=pmacop
```

Appendix K

How to Access a Server Console Remotely

Topics:

- [How to Access a Server Console Remotely.....228](#)

How to Access a Server Console Remotely

Procedure Reference Table:

Steps within this procedure may refer to variable data indicated by text within "<>". Refer to this table for the proper value to insert depending on your system type.

Variable	Value
<ilo_admin_user>	Privileged username for HP iLO access

1. Access the iLO/ILOM GUI

Using a laptop or desktop computer connected to the customer network, navigate with Internet Explorer to the IP address of the iLO/ILOM of the Management Server. Click on "Continue to this website (not recommended)." if prompted.

For HP servers:

- a) Log in to the iLO as the user <ilo_admin_user>

2. Launch the Remote Console Window

For HP servers:

Click the **Remote Console** tab and select **Remote Console** to launch the remote console in a new window.

If prompted, click "Continue" on the popup labeled "Security Warning" that asks "Do you want to continue?".

3. Log in to the Console

In the Remote Console window, log in to the console as user "admusr":

```
login as: admusr
Password:
Last login: Wed Jun  5 17:52:28 2013
[admusr@tvoe ~]$
```

Appendix L

Configure Speed and Duplex for 6125XLG LAG Ports (netConfig)

Topics:

- [*Configure Speed and Duplex for 6125XLG LAG Ports \(netConfig\).....230*](#)

Configure Speed and Duplex for 6125XLG LAG Ports (netConfig)

This utility procedure is intended only for use with 1GE LAG uplinks from HP 6125XLG enclosure switches to Cisco 4948/E/-F product aggregation switches or the customer network. Configuring speed and duplex on the LAG ports turns off auto-negotiation for the individual links, and must be performed on both switches for all participating LAG links. This procedure addresses a known weakness with auto-negotiation on 1GE SFPs and the 6125XLG which causes 1GE links to take longer than expected to become active.

1. Virtual PM&C: List configured link aggregation groups on the 6125XLG enclosure switch. Capture the LAG id connected to the 4948/E/-F product aggregation switch or the customer network. In the following example, LAG id 1 is identified as the 4x1GE LAG requiring speed and duplex configuration.

```
[admusr@exapmle~]$ sudo netConfig --device=<switch_hostname> listLinkAggregations  
LAG: 1
```

2. Virtual PM&C: Get the list of interfaces configured for the LAG on the 6125XLG. In the following example, LAG id 1 is inspected, and is shown to include interfaces tenGE17-20.

```
[admusr@exapmle~]$ sudo netConfig --device=<switch_hostname> getLinkAggregation  
id=1  
  
Type: Dynamic  
  
Description: ISL_to_agg_switch  
  
Switchport: =(  
link-type trunk  
vlan all  
)  
  
Interfaces: =(  
tenGE17  
tenGE18  
tenGE19  
tenGE20  
)
```

3. Virtual PM&C: Inspect the switch LAG port configurations and verify speed and duplex are set on the LAG interfaces, as shown in this example:

```
[admusr@exapmle~]$ sudo netConfig --device=<switch_hostname>  
setSwitchportinterface=tenGE17-20 speed=1000 duplex = full
```

4. Virtual PM&C: Inspect the switch LAG port configurations and verify speed and duplex are set on the LAG interfaces, as shown in this example:

```
[admusr@exapmle~]$ sudo netConfig --device=<switch_hostname>  
getSwitchportinterface=tenGE17-20  
  
Switchport: trunk
```

Configure Speed and Duplex for 6125XLG LAG Ports (netConfig)

Description: Ten-GigabitEthernet1/1/5 Interface

Speed: 1000Mbps

Duplex: full

VLAN =(
1(default
2-4094
)

Default VLAN: 1

Appendix M

Determining which Onboard Administrator is Active

Topics:

- *Determining Which Onboard Administrator Is Active.....233*

Determining Which Onboard Administrator Is Active

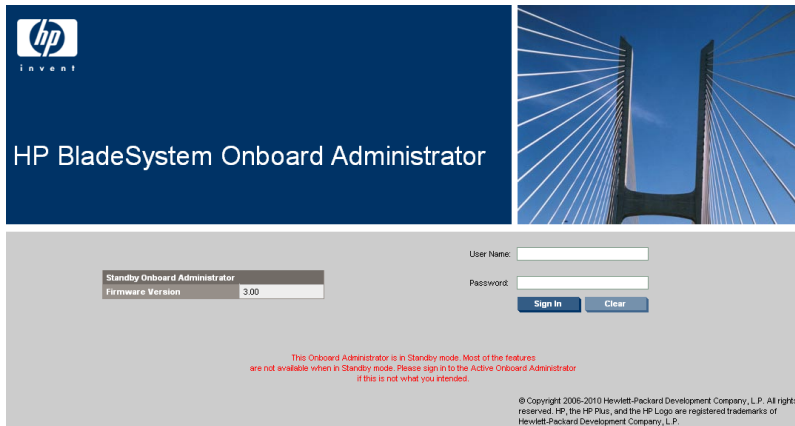
This appendix describes how to determine which Onboard Administrator is active in an enclosure with two OAs.

OA GUI: Determine which OA is Active

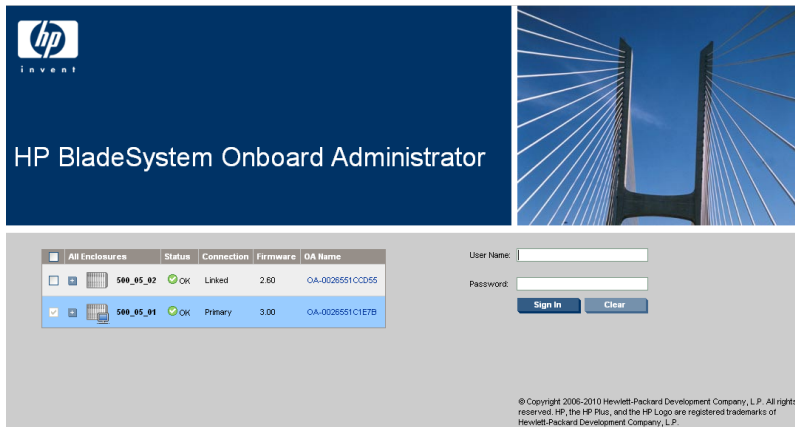
Open your web browser and navigate to the IP address of one of the Administrators:

`https://<OA_ip>`

If you see the following page, you have navigated to a GUI of the Standby Onboard Administrator as indicated by the red warning. In such case, navigate to the other Onboard Administrator IP address.



If you navigate the GUI of active Onboard Administrator GUI, the enclosure overview table is available in the left part of the login page as below.



Appendix N

Edit Rack Mount Server in the PM&C System Inventory

Topics:

- [*Edit Rack Mount Server in the PM&C System Inventory.....235*](#)

Edit Rack Mount Server in the PM&C System Inventory

This procedure provides instructions to edit a rack mount server in the PM&C system inventory. This option is used to modify the name, cabinet, or credentials of an already provisioned rack mount server.

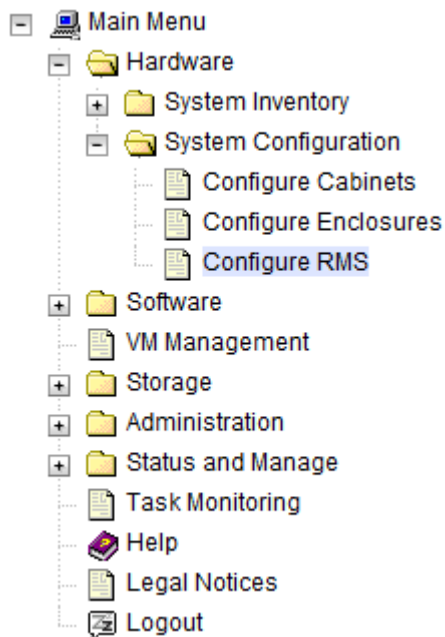
1. PM&C GUI: Login

Open web browser and enter:

```
https://<pmac_management_network_ip>
```

2. PM&C GUI: Configure RMS

Navigate to **Main Menu > Hardware > System Configuration > Configure RMS**.



3. PM&C GUI: Edit RMS

On the Configure RMS panel, select one row in the list of rack mount servers and click the **Edit RMS** button.

Main Menu: Hardware -> System Configuration -> Configure RMS

Wed Sep 02 17:16:00 2015 UTC

RMS IP	RMS Name
10.240.32.1	appserver1
10.240.4.93	pmacU16tvoe

Add RMS Edit RMS Delete RMS Find RMS Found RMS

4. PM&C GUI: Edit RMS

In the Edit RMS panel, modify the field that needs to be altered.

Then click on the **Edit RMS** button.

Main Menu: Hardware -> System Configuration -> Configure RMS [Edit RMS 10.240.4.93]

Wed Sep 02 17:17:51 2015 UTC

Name: pmacU16tvoe
Cabinet ID: 505
User: root Required field when Password is entered.
Password: Required field when User is entered.

Edit RMS Cancel

5. PM&C GUI: Check errors

If no error is reported to the user you will see the following:

Main Menu: Hardware -> System Configuration -> Configure RMS [Edit RMS 10.240.4.93]

Wed Sep 02 17:21:01 2015 UTC

Info

Info

RMS 10.240.4.93 was updated in the database.

RMS Name
appserver1
10.240.4.93
pmacU16tvoe

Add RMS Edit RMS Delete RMS Find RMS Found RMS

Or you will see an error message:

Edit Rack Mount Server in the PM&C System
Inventory

Main Menu: Hardware -> System Configuration -> Configure RMS [Edit RMS 10.240.

Wed Sep 02 17:23:14 2016

Error



Error

- Both the user and the password must be specified or neither.

10.240.4.93

pmacU16tvoe

Add RMS

Edit RMS

Delete RMS

Find RMS

Found RMS

Appendix O

Disabling SNMP on the OA

Topics:

- [*Disabling SNMP on the OA.....239*](#)

Disabling SNMP on the OA

1. If necessary, log in to the Active OA.
2. Navigate to the SNMP Settings.

Use either the **First Time Setup Wizard SNMP Settings** menu item or the **Enclosure Information > Enclosure Settings > SNMP Settings** menu item.

3. Uncheck the Enable SNMP checkbox.

The screenshot shows the 'First Time Setup Wizard' for the HP BladeSystem Onboard Administrator. The wizard is at 'Step 10 of 12' titled 'SNMP Settings'. The left sidebar lists various setup steps, with 'SNMP Settings' highlighted. The main content area explains that this function forwards alerts from the enclosure to specified alert destinations. It includes a note about configuring individual server blades. Below this, there are two main sections: 'Enclosure: 500_05_01' and 'SNMP Alert Destinations'. In the 'Enclosure' section, the 'Enable SNMP' checkbox is unchecked. There are input fields for 'System Location' (containing '500_05_01'), 'System Contact', 'Read Community', and 'Write Community'. The 'SNMP Alert Destinations' section has a 'Host' input field (with a placeholder example), a 'Community String' input field, and 'Add' and 'Remove' buttons. At the bottom right, there are navigation buttons: '< Previous', 'Next >', 'Skip', and 'Cancel'.

Appendix P

Install NetBackup Client on TVOE Server (optional)

Topics:

- [Set Up and Install NetBackup Client.....241](#)

This procedure includes all information necessary to install the NetBackup software on the TVOE Host. This must be done after the Aggregate Switches are properly configured. The procedure assumes all necessary NetBackup network configuration has been completed from [Configure and IPM Management Server](#).

Note: The steps in this appendix can only be performed after the Aggregation Switches in [Configure Aggregation Switches](#) have been properly configured.

Set Up and Install NetBackup Client

If NetBackup is configured on this system, this step will set up and install the NetBackup Client on a TVOE host.

Note: Once the NetBackup Client is installed on TVOE, the NetBackup Master should be configured to back up the following files from the TVOE host:

```
/var/TKLC/bkp/*.iso
```

1. TVOE Server: Log in as the admusr user.
2. TVOE Server: Open firewall ports for NetBackup using the following commands:

```
$ sudo ln -s /usr/TKLC/plat/share/netbackup/60netbackup.ipt
/usr/TKLC/plat/etc/iptables
$ sudo /usr/TKLC/plat/bin/iptablesAdm reconfig
```

3. TVOE Server: Enable platcfg to show the NetBackup Menu Items by executing the following commands:

```
$ sudo platcfgadm --show NBConfig
$ sudo platcfgadm --show NBInit
$ sudo platcfgadm --show NBDeInit
$ sudo platcfgadm --show NBInstall
$ sudo platcfgadm --show NBVerifyEnv
$ sudo platcfgadm --show NBVerify
```

4. Use the vgguests volume group to create an LV and filesystem for the NetBackup Client software.
 - a) Server: Log in as the admusr user.
 - b) Server: Create a storageMgr configuration file that defines the LV to be created.

```
$ sudo echo "lv --mountpoint=/usr/openv --size=2G --name=netbackup_lv --vg=$VG
> /tmp/nb.lvm"
```

This example uses the \$VG as the volume group. Replace \$VG with the desired volume group as specified by the application group.

- c) Server: Create the LV and filesystem by using storageMgr.

```
$ sudo /usr/TKLC/plat/sbin/storageMgr /tmp/nb.lvm
```

This will create the LV, format it with a filesystem, and mount it under /usr/openv/.

Example output:

```
Called with options: /tmp/nb.lvm
VG vgguests already exists.
Creating lv netbackup lv.
Volume netbackup_lv will be created.
Success: Volume netbackup_lv was created.
Creating filesystem, this may take a while.
Updating fstab for lv netbackup_lv.
Configuring existing lv netbackup_lv.
```

Install NetBackup Client on TVOE Server (optional)

The LV for NetBackup has been created.

5. NetBackup is a utility that allows for management of backups and recovery of remote systems. The NetBackup suite is for the purpose of supporting Disaster Recovery at the customer site. This procedure provides instructions for installing or upgrading the Netbackup Client software on an application server.

See [Create NetBackup Client Config File](#) for more information.

Note: Failure to install the NetBackup Client properly (i.e., by neglecting to execute this procedure) may result in the NetBackup Client being deleted during an Oracle software upgrade.

- a) Choose NetBackup Client Install Path:

There are two different ways to install NetBackup Client. The following is a guide to which method to use:

- See [Netbackup Client Install/Upgrade with nbAutoInstall](#) for more information.
- See [NetBackup Client Install/Upgrade with platcfg](#) for more information.

Chosen Procedure: _____

- b) Execute the chosen procedure.

- c) Application Console:

Use platform configuration utility (platcfg) to modify hosts file with NetBackup server alias.

Note: If NetBackup Client has successfully been installed then the NetBackup server's hostname in the "/usr/opensv/netbackup/bp.conf" file. It will be identified by the "SERVER" configuration parameter as is shown:

List NetBackup server's hostname:

```
$ sudo cat /usr/opensv/netbackup/bp.confSERVER = nb70server CLIENT_NAME = pmacDev8
```

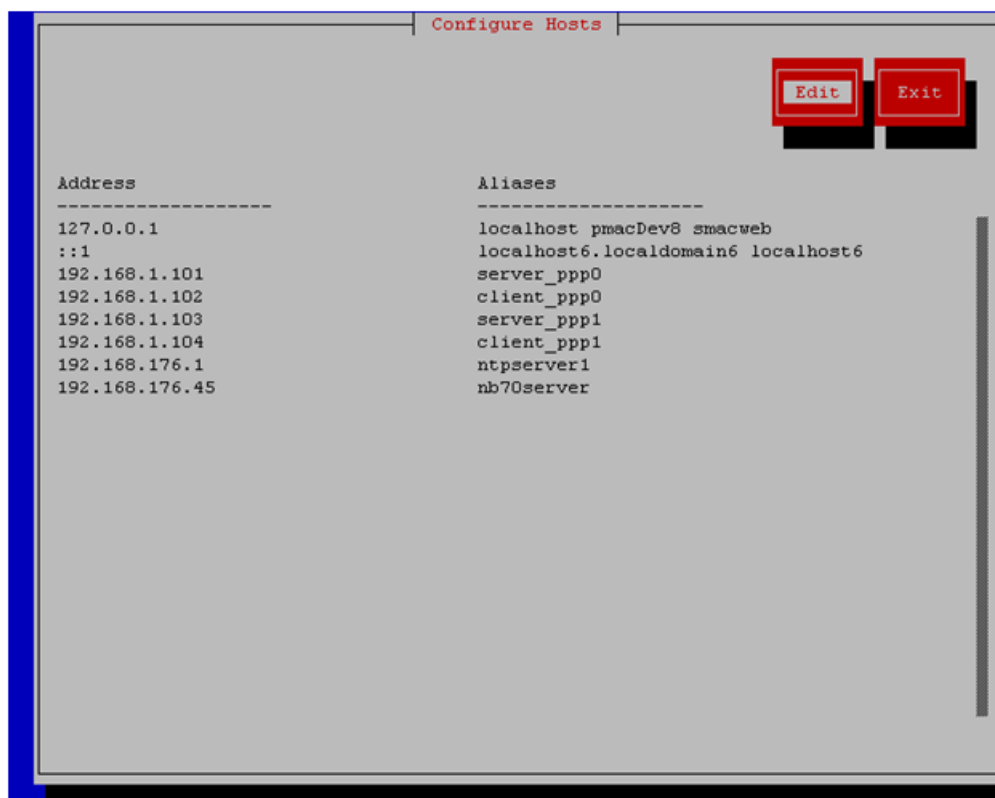
Note: In the case of nbAutoInstall NetBackup Client may not yet be installed. For this situation the "/usr/opensv/netbackup/bp.conf" file cannot be used to find the NetBackup server alias.

Use platform configuration utility (platcfg) to update application hosts file with NetBackup Server alias.

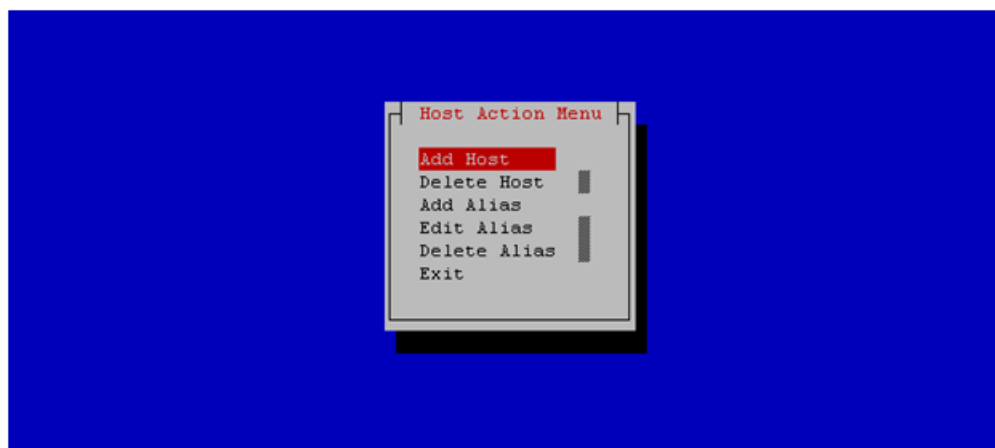
```
$ sudo su - platcfg
```

Navigate to **Network Configuration > Modify Hosts File**

Install NetBackup Client on TVOE Server (optional)



Select **Edit**. The Host Action Menu will be displayed.



Select **Add Host** and enter the appropriate data.

Install NetBackup Client on TVOE Server (optional)



Select **OK**, confirm the host alias was added, and exit the Platform Configuration Utility.

6. TVOE Server: Create softlinks for TVOE-specific NetBackup notify scripts.

```
$ sudo mkdir -p /usr/openv/netbackup/bin
$ sudo ln -s /usr/TKLC/plat/sbin/bpstart_notify
/usr/openv/netbackup/bin/bpstart_notify
$ sudo ln -s /usr/TKLC/plat/sbin/bpend_notify
/usr/openv/netbackup/bin/bpend_notify
```

Application Console: Netbackup client software installation complete.

Appendix

Q

How to Downgrade Firmware on a 6125G Switch

Topics:

- [Downgrade 6125G Switch Firmware.....246](#)

This appendix describes the procedure to downgrade firmware on the HP 6125G enclosure switch.

Downgrade 6125G Switch Firmware

Use this procedure to downgrade the 6125G enclosure switches when they are found to contain firmware newer than the qualified baseline. See [2] HP Solutions Firmware Upgrade Pack, version 2.x.x (the latest is recommended if an upgrade is to be performed, otherwise version 2.2.8 is the minimum) for the target firmware version.

Prerequisite: This procedure assumes the netConfig repository data fill is complete which includes copying the target firmware to the netConfig Server (PM&C).

Note: Do not use this procedure for 6125XLG switches. See [Downgrade 6125XLG Switch Firmware](#) for the correct procedure for that switch.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Verify the existing firmware version by executing steps 2-4.
2. Active OA: SSH into the active OA as the administrative user:

```
login as: <oa_user> [Enter]
<oa_user>@<oa_ip>'s password: <oa_password> [Enter]
```

3. Active OA: Gain serial console access to the switch by executing the following command:

Note: Multiple **Enter** keystrokes are required to gain the switch console prompt.

```
> connect interconnect <io_bay> [Enter] [Enter] [Enter]
Username: <switch_user> [Enter]
Password: <switch_password> [Enter] [Enter]
```

4. Switch: Execute the **display version** command to determine if a downgrade of the firmware needs to be performed.

```
> display version
HP Comware Platform Software
Comware Software, Version 5.20.99, Release 2105
Copyright (c) 2010-2013 Hewlett-Packard Development Company, L.P.
HP 6125G Blade Switch uptime is 0 week, 2 days, 23 hours, 49 minutes

Slot 1 (M):
Uptime is 0 weeks,2 days,23 hours,49 minutes
HP 6125G Blade Switch with 1 Processor
1024M   bytes SDRAM
256M   bytes Nand Flash Memory
Hardware Version is Ver.B
CPLD Version is 003
BootWare Version is 1.07
[SubSlot 0] Back Panel
[SubSlot 1] Front Panel
```

5. If the firmware is found to be newer than the target firmware proceed with the rest of this procedure; otherwise, skip to step 21 and gracefully exit the switch and PM&C.

6. Virtual PM&C: SSH into the PM&C and authenticate as admusr:

```
login as: admusr [Enter]
Password: <admusr_password> [Enter]
Last login: Fri Aug 28 12:09:06 2015 from 10.75.8.61
[admusr@<pmac> ~]$
```

7. Virtual PM&C: Copy the firmware file to the switch:

```
$ sudo /usr/bin/scp 6125-cmw520-r2105.bin
<switch_user>@<switch_ip>:/6125-cmw520-r2105.bin [Enter]
<switch_user>@<switch_ip>'s password: <switch_platform_password> [Enter]
100% 16MB 766.3KB/s 00:21
```

8. Virtual PM&C: Gracefully exit from the PM&C SSH session:

```
$ logout [Enter]
```

9. Active OA: If not already connected, SSH into the active OA as the administrative user:

```
login as: <oa_user> [Enter]
<oa_user>@<oa_ip>'s password: <oa_password> [Enter]
```

10. Active OA: If not already connected, gain serial console access to the switch by executing the following command:

Note: Multiple **Enter** keystrokes are required to gain the switch console prompt.

```
> connect interconnect <io_bay> [Enter] [Enter] [Enter]
Username: <switch_user> [Enter]
Password: <switch_password> [Enter] [Enter]
```

11. Switch: Reboot the switch and enter into the extended boot menu by pressing **Ctrl+B** when prompted:

Note: During this process you may be prompted for additional input. Only respond with the input noted in this step; otherwise, let the system time out and continue automatically.

```
> reboot [Enter]
Start to check configuration with next startup configuration file, please
wait.....DONE!N
This command will reboot the device. Current configuration will be lost,
save current configuration? [Y/N]: N [Enter]
This command will reboot the device. Continue? [Y/N]: Y [Enter]
#May 15 15:03:44:478 2015 HP6125G_IOBAY5 DEVM/1/REBOOT:
  Reboot device by command.

%May 15 15:03:44:570 2015 HP6125G_IOBAY5 DEVM/5/SYSTEM_REBOOT: System is rebooting
now.
System is starting...
Press Ctrl+D to access BASIC BOOT MENU
Press Ctrl+T to start memory test
Booting Normal Extend BootWare
The Extend BootWare is
self-decompressing.....Done!

[ OUTPUT REMOVED ]
```

How to Downgrade Firmware on a 6125G Switch

```
BootWare Validating...
Backup Extend BootWare is newer than Normal Extend BootWare,Update? [Y/N]
Press Ctrl+B to enter extended boot menu...
BootWare password: Not required. Please press Enter to continue.

[ OUTPUT REMOVED ]
```

12. Switch: Enter file control by selecting <4> from the extend-bootware menu:

```
=====<EXTEND-BOOTWARE MENU>=====
|<1> Boot System
|<2> Enter Serial SubMenu
|<3> Enter Ethernet SubMenu
|<4> File Control
|<5> Restore to Factory Default Configuration
|<6> Skip Current System Configuration
|<7> BootWare Operation Menu
|<8> Clear Super Password
|<9> Storage Device Operation
|<0> Reboot
=====
Ctrl+Z: Access EXTEND-ASSISTANT MENU
Ctrl+C: Display Copyright
Ctrl+F: Format File System
Enter your choice(0-9): 4 [Enter]
```

13. Switch: Display all files by selecting <1> from the file control menu and identify the target firmware from the list:

```
=====<File CONTROL>=====
|Note:the operating device is flash
|<1> Display All File(s)
|<2> Set Application File type
|<3> Delete File
|<0> Exit To Main Menu
=====
Enter your choice(0-3): 1 [Enter]

Display all file(s) in flash:
'M' = MAIN      'B' = BACKUP      'S' = SECURE      'N/A' = NOT ASSIGNED
=====
|NO.  Size(B)   Time                Type   Name
|1    1584      Aug/27/2015 18:41:08 N/A    private-data.txt
|2    151       Aug/27/2015 18:41:08 N/A    system.xml
|3    3626      Aug/27/2015 18:41:09 M      config.cfg
|4    16493888  Aug/20/2015 11:14:44 M+B    6125-cmw520-r2106.bin
|5    4         Apr/26/2000 07:00:52 N/A    snmpboots
|6    16913408  Aug/20/2015 10:56:42 N/A    6125-cmw520-r2112.bin
|7    735       Apr/26/2000 12:04:14 N/A    hostkey_v3
|8    591       Apr/26/2000 12:04:15 N/A    serverkey_v3
|9    16166     Sep/05/2013 10:17:21 N/A    test
|10   16053376  Jun/05/2012 10:14:37 N/A    ~/6125-cmw520-r2103.bin
|11   16479296  Apr/26/2000 10:31:54 N/A    ~/6125-cmw520-r2105.bin
|12   16493888  Apr/26/2000 10:59:10 N/A    ~/6125-cmw520-r2106.bin
|13   16479296  Nov/05/2013 23:24:06 N/A    ~/2105.bin
|14   5361      Jun/25/2013 14:22:05 N/A    ~/config.cfg
|15   16493888  Nov/05/2013 23:20:13 N/A    ~/2106.bin
|16   1048519   Aug/27/2015 23:30:55 N/A    logfile/logfile.log
|17   735       Apr/26/2000 12:05:10 N/A    hostkey
|18   591       Apr/26/2000 12:05:11 N/A    serverkey
```

How to Downgrade Firmware on a 6125G Switch

```
=====
[ OUTPUT REMOVED ]
=====
```

14. Switch: Set application file type by entering <2> from the file control menu:

```
=====<File CONTROL>=====
|Note:the operating device is flash
|<1> Display All File(s)
|<2> Set Application File type
|<3> Delete File
|<0> Exit To Main Menu
=====
Enter your choice(0-3): 2 [Enter]
```

15. Switch: Choose the firmware file identified in step 13 and enter the corresponding line number:

```
'M' = MAIN      'B' = BACKUP      'S' = SECURE      'N/A' = NOT ASSIGNED
=====
|NO.  Size(B)   Time                Type   Name
|1    16493888  Aug/20/2015 11:14:44 M+B    6125-cmw520-r2106.bin
|2    16913408  Aug/20/2015 10:56:42 N/A    6125-cmw520-r2112.bin
|3    16053376  Jun/05/2012 10:14:37 N/A    ~/6125-cmw520-r2103.bin
|4    16479296  Apr/26/2000 10:31:54 N/A    ~/6125-cmw520-r2105.bin
|5    16493888  Apr/26/2000 10:59:10 N/A    ~/6125-cmw520-r2106.bin
|6    16479296  Nov/05/2013 23:24:06 N/A    ~/2105.bin
|7    16493888  Nov/05/2013 23:20:13 N/A    ~/2106.bin
|0    Exit
=====
Enter file No: <4> [Enter]
```

16. Switch: Modify the file attribute to +Main by selecting <1> from the file attributes menu:

```
Modify the file attribute:
=====
|<1> +Main
|<2> -Main
|<3> +Backup
|<4> -Backup
|<0> Exit
=====
Enter your choice(0-4): 1 [Enter]
This operation may take several minutes. Please wait....
Set the file attribute success!
```

17. Switch: Verify the file attribute modification by listing the files and inspecting the **type** attribute for the target firmware. The type attribute on this line should display **M**:

```
=====<File CONTROL>=====
|Note:the operating device is flash
|<1> Display All File(s)
|<2> Set Application File type
|<3> Delete File
|<0> Exit To Main Menu
=====
Enter your choice(0-3): 1 [Enter]

Display all file(s) in flash:
'M' = MAIN      'B' = BACKUP      'S' = SECURE      'N/A' = NOT ASSIGNED
=====
```

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NO.	Size(B)	Time	Type	Name
1	1584	Aug/27/2015 18:41:08	N/A	private-data.txt
2	151	Aug/27/2015 18:41:08	N/A	system.xml
3	3626	Aug/27/2015 18:41:09	M	config.cfg
4	16493888	Aug/20/2015 11:14:44	B	6125-cmw520-r2106.bin
5	4	Apr/26/2000 07:00:52	N/A	snmpboots
6	16913408	Aug/20/2015 10:56:42	N/A	6125-cmw520-r2112.bin
7	735	Apr/26/2000 12:04:14	N/A	hostkey_v3
8	591	Apr/26/2000 12:04:15	N/A	serverkey_v3
9	16166	Sep/05/2013 10:17:21	N/A	test
10	16053376	Jun/05/2012 10:14:37	N/A	~/6125-cmw520-r2103.bin
11	16479296	Apr/26/2000 10:31:54	M	~/6125-cmw520-r2105.bin
12	16493888	Apr/26/2000 10:59:10	N/A	~/6125-cmw520-r2106.bin
13	16479296	Nov/05/2013 23:24:06	N/A	~/2105.bin
14	5361	Jun/25/2013 14:22:05	N/A	~/config.cfg
15	16493888	Nov/05/2013 23:20:13	N/A	~/2106.bin
16	1048519	Aug/27/2015 23:30:55	N/A	logfile/logfile.log
17	735	Apr/26/2000 12:05:10	N/A	hostkey
18	591	Apr/26/2000 12:05:11	N/A	serverkey

18. Switch: Exit to main menu by selecting <0> from the file control menu:

```
=====<File CONTROL>=====
Note:the operating device is flash
<1> Display All File(s)
<2> Set Application File type
<3> Delete File
<0> Exit To Main Menu
=====
Enter your choice(0-3): 0 [Enter]
```

19. Switch: Boot the system by selecting <1> from the extend-bootware menu:

Note: Do NOT select reboot by choosing <0>!

Note: During this process you may be prompted for additional input. Only respond with the input noted in this step; otherwise, let the system time out and continue automatically.

```
=====<EXTEND-BOOTWARE MENU>=====
<1> Boot System
<2> Enter Serial SubMenu
<3> Enter Ethernet SubMenu
<4> File Control
<5> Restore to Factory Default Configuration
<6> Skip Current System Configuration
<7> BootWare Operation Menu
<8> Clear Super Password
<9> Storage Device Operation
<0> Reboot
=====
Ctrl+Z: Access EXTEND-ASSISTANT MENU
Ctrl+C: Display Copyright
Ctrl+F: Format File System
Enter your choice(0-9): 1 [Enter]
Starting to get the main application file--flash:~/6125-cmw520-r2105.bin!..
.....
The main application file is self-decompressing.....
[ OUTPUT REMOVED ]
```

How to Downgrade Firmware on a 6125G Switch

```
.....Done!  
System application is starting...  
User interface aux0 is available.
```

Press ENTER to get started.

Login authentication

Username:

20. Switch: Log back into the switch and verify the firmware version by executing the **display version** command:

Note: You may have to press **Enter** multiple times after authenticating to land on the switch prompt.

```
Username: username [Enter]  
Password: password [Enter] [Enter]  
#Aug 28 09:29:09:694 2015 HP6125g_sanity SHELL/4/LOGIN:  
  Trap 1.3.6.1.4.1.25506.2.2.1.1.3.0.1:plat login from Console  
%Aug 28 09:29:09:819 2015 HP6125g_sanity SHELL/5/SHELL_LOGIN: plat logged in  
from aux0.
```

```
> display version [Enter]
```

```
HP Comware Platform Software  
Comware Software, Version 5.20.99, Release 2105  
Copyright (c) 2010-2013 Hewlett-Packard Development Company, L.P.  
HP 6125G Blade Switch uptime is 0 week, 0 day, 0 hour, 9 minutes
```

```
[ OUTPUT REMOVED ]
```

21. Switch: Gracefully disconnect from the switch serial console session by executing the escape character '<Ctrl>_' (Control + Shift + Underscore).

```
> '<Ctrl>_' (Control + Shift + Underscore)
```

```
-----  
Command: D)isconnect, C)hange settings, send B)reak, E)xit command mode X)modem  
send > D
```

```
-----  
D [Enter]
```

22. Active OA: Logout of the OA.

```
> logout
```

You have completed this procedure.

Appendix R

How to Downgrade Firmware on a 6125XLG Switch

Topics:

- [Downgrade 6125XLG Switch Firmware.....253](#)

This appendix describes the procedure to downgrade firmware on the HP 6125XLG enclosure switch.

Downgrade 6125XLG Switch Firmware

Use this procedure to downgrade the 6125XLG enclosure switches when they are found to contain firmware newer than the qualified baseline. See HP Solutions Firmware Upgrade Pack, version 2.x.x [2] (the latest is recommended if an upgrade is to be performed, otherwise version 2.2.8 is the minimum) for the target firmware version.

Prerequisite: This procedure assumes the netConfig repository data fill is complete which includes copying the target firmware to the netConfig Server (PM&C).

Note: Once the NetBackup Client is installed on TVOE, the NetBackup Master should be configured to back up the following files from the TVOE host:

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. First verify the existing firmware version by executing steps 2-4.
2. Active OA: SSH into the active OA as the administrative user:

```
login as: <oa_user> [Enter]
<oa_user>@<oa_ip>'s password: <oa_password> [Enter]
```

3. Active OA: Gain serial console access to the switch by executing the following command:

Note: Multiple **Enter** keystrokes are required to gain the switch console prompt.

```
> connect interconnect <io_bay> [Enter] [Enter] [Enter]
Username: <switch_user> [Enter]
Password: <switch_password> [Enter]
```

4. Switch: Execute the **display version** command to determine if a downgrade of the firmware needs to be performed.

Note: You will need to verify both the boot image version and the system image version.

```
> display version
HP Comware Software, Version 7.1.045, Release 2403
Copyright (c) 2010-2014 Hewlett-Packard Development Company, L.P.
HP 6125XLG Blade Switch uptime is 0 weeks, 0 days, 0 hours, 1 minute
Last reboot reason : Power on

Boot image: flash:/6125xlg-cmw710-boot-r2403.bin
Boot image version: 7.1.045P08, Release 2403
  Compiled Mar 06 2014 13:13:45
System image: flash:/6125xlg-cmw710-system-r2403.bin
System image version: 7.1.045, Release 2403
  Compiled Mar 06 2014 13:13:57
```

5. If the firmware is found to be newer than the target firmware proceed with the rest of this procedure; otherwise, skip to step 21 and gracefully exit the switch and PM&C.
6. Virtual PM&C: SSH into the PM&C and authenticate as admusr:

```
login as: admusr [Enter]
Password: <admusr_password> [Enter]
```

How to Downgrade Firmware on a 6125XLG Switch

```
Last login: Fri Aug 28 12:09:06 2015 from 10.75.8.61
[admusr@<pmac> ~]$
```

7. Virtual PM&C: Copy the firmware file to the switch:

```
$ sudo /usr/bin/scp 6125XLG-CMW710-R2403.ipe
<switch_user>@<switch_ip>:/6125XLG-CMW710-R2403.ipe [Enter]
<switch_user>@<switch_ip>'s password: <switch_platform_password> [Enter]
100% 16MB 766.3KB/s 00:21
```

8. Virtual PM&C: Gracefully exit from the PM&C SSH session:

```
$ logout [Enter]
```

9. Active OA: If not already connected, SSH into the active OA as the administrative user:

```
login as: <oa_user> [Enter]
<oa_user>@<oa_ip>'s password: <oa_password> [Enter]
```

10. Active OA: If not already connected, gain serial console access to the switch by executing the following command:

Note: Multiple **Enter** keystrokes are required to gain the switch console prompt.

```
> connect interconnect <io_bay> [Enter] [Enter] [Enter]
Username: <switch_user> [Enter]
Password: <switch_password> [Enter]
```

11. Switch: Reboot the switch and enter into the extended boot menu by pressing **Ctrl+B** when prompted:

Note: During this process you may be prompted for additional input. Only respond with the input noted in this step; otherwise, let the system time out and continue automatically.

```
> reboot [Enter]
Start to check configuration with next startup configuration file, please
wait.....DONE!N
This command will reboot the device. Current configuration will be lost,
save current configuration? [Y/N]: N [Enter]
This command will reboot the device. Continue? [Y/N]: Y [Enter]
Now rebooting, please wait...

System is starting...
Press Ctrl+D to access BASIC-BOOTWARE MENU...
Press Ctrl+T to start heavy memory test
Booting Normal Extended BootWare
The Extended BootWare is self-decompressing.....Done.

[ OUTPUT REMOVED ]

BootWare Validating...
Press Ctrl+B to access EXTENDED-BOOTWARE MENU...
[ OUTPUT REMOVED ]
```

12. Switch: Enter file control by selecting <4> from the extend-bootware menu:

```

=====<EXTEND-BOOTWARE MENU>=====
|<1> Boot System
|<2> Enter Serial SubMenu
|<3> Enter Ethernet SubMenu
|<4> File Control
|<5> Restore to Factory Default Configuration
|<6> Skip Current System Configuration
|<7> BootWare Operation Menu
|<8> Clear Super Password
|<9> Storage Device Operation
|<0> Reboot
=====
Ctrl+Z: Access EXTEND-ASSISTANT MENU
Ctrl+C: Display Copyright
Ctrl+F: Format File System
Enter your choice(0-9): 4 [Enter]

```

13. Switch: Display all files by selecting <1> from the file control menu and identify the target firmware from the list:

Note: Two files should be identified. One is a system file and the other is a boot file.

```

=====<File CONTROL>=====
|Note:the operating device is flash
|<1> Display All File(s)
|<2> Set Application File type
|<3> Delete File
|<0> Exit To Main Menu
=====
Enter your choice(0-3): 1 [Enter]

Display all file(s) in flash:
'M' = MAIN      'B' = BACKUP      'N/A' = NOT ASSIGNED
=====
|NO.  Size(B)   Time                Type   Name
|1    110167    Aug/28/2015 18:05:46 N/A    flash:/startup.mdb
|2    7388      Aug/28/2015 18:05:46 M      flash:/startup.cfg
|3    1039      Aug/28/2015 18:05:46 N/A    flash:/ifindex.dat
|4    252       Jan/27/2011 02:29:27 N/A    flash:/trash/.trashinfo
|5    62561280  Aug/19/2015 16:55:55 N/A    flash:/6125XLG-CMW710-R2406P03.i
|pe
|6    0         Jan/03/2011 20:20:38 N/A    flash:/lauth.dat
|7    62660608  Aug/19/2015 17:10:28 N/A    flash:/6125XLG-CMW710-R2403.ipe
|8    591       Jun/02/2011 17:26:58 N/A    flash:/serverkey
|9    735       Jun/02/2011 17:26:58 N/A    flash:/hostkey
|10   536       Jan/27/2011 02:39:29 N/A    flash:/versionInfo/version1.dat
|11   536       Jan/27/2011 02:36:40 N/A    flash:/versionInfo/version0.dat
|12   8         Jan/01/2011 00:00:21 N/A    flash:/versionInfo/versionCtl.da
|t
|13   536       Aug/19/2015 17:13:37 N/A    flash:/versionInfo/version7.dat
|14   536       Mar/29/2011 18:38:24 N/A    flash:/versionInfo/version5.dat
|15   536       Mar/29/2011 18:35:41 N/A    flash:/versionInfo/version4.dat
|16   536       Aug/19/2015 16:59:08 N/A    flash:/versionInfo/version6.dat
|17   536       Mar/29/2011 18:24:06 N/A    flash:/versionInfo/version2.dat
|18   536       Mar/29/2011 18:31:37 N/A    flash:/versionInfo/version3.dat
|19   536       Jan/27/2011 02:32:46 N/A    flash:/versionInfo/version9.dat
|20   536       Jan/27/2011 02:25:15 N/A    flash:/versionInfo/version8.dat
|21   20        Aug/28/2015 18:48:29 N/A    flash:/snmpboots
|22   53308416  Aug/19/2015 17:11:52 M      flash:/6125xlg-cmw710-system-r24
|03.bin

```

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```

23 10433677 Jan/01/2011 00:06:50 N/A flash:/logfile/logfile.log
24 18 Jan/01/2011 00:00:14 N/A flash:/pathfile
25 796 Jan/01/2011 00:07:25 N/A flash:/license/DeviceID.did
26 796 Jan/01/2011 00:07:25 N/A flash:/license/history/DeviceID_
20110101000725.did
27 796 Jan/01/2011 00:00:14 N/A flash:/license/history/DeviceID_
20110101000014.did
28 805 Jan/01/2011 00:00:18 N/A flash:/license/history/DeviceID_
20110101000018.did
29 54222848 Aug/19/2015 16:57:16 N/A flash:/6125xlg-cmw710-system-r24
06p03.bin
30 8331264 Aug/19/2015 16:57:06 N/A flash:/6125xlg-cmw710-boot-r2406
p03.bin
31 9345024 Aug/19/2015 17:11:38 M flash:/6125xlg-cmw710-boot-r2403
.bin
=====
[ OUTPUT REMOVED ]

```

14. Switch: Set bin file type by entering <2> from the file control menu:

```

=====<File CONTROL>=====
Note:the operating device is flash
<1> Display All File(s)
<2> Set Bin File type
<3> Delete File
<0> Exit To Main Menu
=====
Enter your choice(0-3): 2 [Enter]

```

15. Switch: Choose the firmware files identified in step 13 and enter the corresponding line numbers:

```

'M' = MAIN      'B' = BACKUP      'N/A' = NOT ASSIGNED
=====
NO. Size(B)    Time                               Type    Name
1  53308416    Aug/19/2015 17:11:52 M        flash:/6125xlg-cmw710-system-r24
03.bin
2  54222848    Aug/19/2015 16:57:16 N/A      flash:/6125xlg-cmw710-system-r24
06p03.bin
3  8331264     Aug/19/2015 16:57:06 N/A      flash:/6125xlg-cmw710-boot-r2406
p03.bin
4  9345024     Aug/19/2015 17:11:38 M        flash:/6125xlg-cmw710-boot-r2403
.bin
0  Exit
=====
Note:Select .bin files. One but only one boot image and system image must
be included.
Enter file No.(Allows multiple selection): 1 [Enter]
Enter another file No.(0-Finish choice): 4 [Enter]
Enter another file No.(0-Finish choice):0 [Enter]
You have selected:
flash:/6125xlg-cmw710-system-r2403.bin
flash:/6125xlg-cmw710-boot-r2403.bin

```

16. Switch: Modify the file attribute to +Main by selecting <1> from the file attributes menu:

```

Modify the file attribute:
=====
<1>+Main
<2>+Backup
<0> Exit

```

How to Downgrade Firmware on a 6125XLG Switch

```
=====
Enter your choice(0-2): 1 [Enter]
This operation may take several minutes. Please wait....
Set the file attribute success!
```

17. Switch: Verify the file attribute modification by selecting <1> to list the files and inspecting the **type** attribute for the target firmware files. The type attribute on the applicable lines should display **M**:

```
=====<File CONTROL>=====
Note:the operating device is flash
<1> Display All File(s)
<2> Set Bin File type
<3> Delete File
<0> Exit To Main Menu
=====
Enter your choice(0-3): 1 [Enter]

Display all file(s) in flash:
'M' = MAIN      'B' = BACKUP      'N/A' = NOT ASSIGNED
=====
```

NO.	Size(B)	Time	Type	Name
1	110167	Aug/28/2015 18:05:46	N/A	flash:/startup.mdb
2	7388	Aug/28/2015 18:05:46	M	flash:/startup.cfg
3	1039	Aug/28/2015 18:05:46	N/A	flash:/ifindex.dat
4	252	Jan/27/2011 02:29:27	N/A	flash:/trash/.trashinfo
5	62561280	Aug/19/2015 16:55:55	N/A	flash:/6125XLG-CMW710-R2406P03.ipe
6	0	Jan/03/2011 20:20:38	N/A	flash:/lauth.dat
7	62660608	Aug/19/2015 17:10:28	N/A	flash:/6125XLG-CMW710-R2403.ipe
8	591	Jun/02/2011 17:26:58	N/A	flash:/serverkey
9	735	Jun/02/2011 17:26:58	N/A	flash:/hostkey
10	536	Jan/27/2011 02:39:29	N/A	flash:/versionInfo/version1.dat
11	536	Jan/27/2011 02:36:40	N/A	flash:/versionInfo/version0.dat
12	8	Jan/01/2011 00:00:21	N/A	flash:/versionInfo/versionCtl.dat
13	536	Aug/19/2015 17:13:37	N/A	flash:/versionInfo/version7.dat
14	536	Mar/29/2011 18:38:24	N/A	flash:/versionInfo/version5.dat
15	536	Mar/29/2011 18:35:41	N/A	flash:/versionInfo/version4.dat
16	536	Aug/19/2015 16:59:08	N/A	flash:/versionInfo/version6.dat
17	536	Mar/29/2011 18:24:06	N/A	flash:/versionInfo/version2.dat
18	536	Mar/29/2011 18:31:37	N/A	flash:/versionInfo/version3.dat
19	536	Jan/27/2011 02:32:46	N/A	flash:/versionInfo/version9.dat
20	536	Jan/27/2011 02:25:15	N/A	flash:/versionInfo/version8.dat
21	20	Aug/28/2015 18:48:29	N/A	flash:/snmpboots
22	53308416	Aug/19/2015 17:11:52	M	flash:/6125xlg-cmw710-system-r2403.bin
23	10433677	Jan/01/2011 00:06:50	N/A	flash:/logfile/logfile.log
24	18	Jan/01/2011 00:00:14	N/A	flash:/pathfile
25	796	Jan/01/2011 00:07:25	N/A	flash:/license/DeviceID.did
26	796	Jan/01/2011 00:07:25	N/A	flash:/license/history/DeviceID_20110101000725.did
27	796	Jan/01/2011 00:00:14	N/A	flash:/license/history/DeviceID_20110101000014.did
28	805	Jan/01/2011 00:00:18	N/A	flash:/license/history/DeviceID_20110101000018.did
29	54222848	Aug/19/2015 16:57:16	N/A	flash:/6125xlg-cmw710-system-r2406p03.bin
30	8331264	Aug/19/2015 16:57:06	N/A	flash:/6125xlg-cmw710-boot-r2406p03.bin
31	9345024	Aug/19/2015 17:11:38	M	flash:/6125xlg-cmw710-boot-r2403

```
| .bin |
=====
```

18. Switch: Exit to main menu by selecting <0> from the file control menu:

```
=====<File CONTROL>=====
|Note:the operating device is flash
|<1> Display All File(s)
|<2> Set Application File type
|<3> Delete File
|<0> Exit To Main Menu
=====
Enter your choice(0-3): 0 [Enter]
```

19. Switch: Boot the system by selecting <1> from the extended-bootware menu:

Note: Do NOT select reboot by choosing <0>!

Note: During this process you may be prompted for additional input. Only respond with the input noted in this step; otherwise, let the system time out and continue automatically.

```
=====<EXTENDED-BOOTWARE MENU>=====
|<1> Boot System
|<2> Enter Serial SubMenu
|<3> Enter Ethernet SubMenu
|<4> File Control
|<5> Restore to Factory Default Configuration
|<6> Skip Current System Configuration
|<7> BootWare Operation Menu
|<8> Skip Authentication for Console Login
|<9> Storage Device Operation
|<0> Reboot
=====
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format File System
Enter your choice(0-9): 1
Loading the main image files...
Loading file flash:/6125xlg-cmw710-system-r2403.bin.....
.....Done.
Loading file flash:/6125xlg-cmw710-boot-r2403.bin.....Done.

Image file flash:/6125xlg-cmw710-boot-r2403.bin is self-decompressing.....

[ OUTPUT REMOVED ]

.....Done!
System application is starting...
User interface aux0 is available.

Press ENTER to get started.

Login authentication

Username:
```

20. Switch: Log back into the switch and verify the firmware version by executing the **display version** command:

How to Downgrade Firmware on a 6125XLG Switch

Note: You may have to press **Enter** multiple times after authenticating to land on the switch prompt.

```
login: <switch_user> [Enter]
Password: <switch_password> [Enter]
> display version
HP Comware Software, Version 7.1.045, Release 2403
Copyright (c) 2010-2014 Hewlett-Packard Development Company, L.P.
HP 6125XLG Blade Switch uptime is 0 weeks, 0 days, 0 hours, 1 minute
Last reboot reason : Power on

Boot image: flash:/6125xlg-cmw710-boot-r2403.bin
Boot image version: 7.1.045P08, Release 2403
  Compiled Mar 06 2014 13:13:45
System image: flash:/6125xlg-cmw710-system-r2403.bin
System image version: 7.1.045, Release 2403
  Compiled Mar 06 2014 13:13:57

[ OUTPUT REMOVED ]
```

- 21. Switch:** Gracefully disconnect from the switch serial console session by executing the escape character '<Ctrl>_' (Control + Shift + Underscore).

```
> '<Ctrl>_' (Control + Shift + Underscore)
-----
Command: D)isconnect, C)hange settings, send B)reak, E)xit command mode X)modem
send > D
-----
D [Enter]
```

- 22. Active OA:** Logout of the OA.

```
> logout [Enter]
```

You have completed this procedure.

Appendix S

How to Uninstall Symantec NetBackup Client

Topics:

- [Uninstall Symantec NetBackup Client.....261](#)

This appendix describes the procedure to uninstall a successfully installed Symantec NetBackup client.

Uninstall Symantec NetBackup Client

Use this procedure to uninstall the Symantec NetBackup client from a server with an OS based on TPD or TVOE.

Note: If you are attempting to uninstall a failed Symantec NetBackup client installation or upgrade, do not use this procedure. This procedure should only be used when the initial Symantec NetBackup client installation, or subsequent upgrade, is successful.

Prerequisites:

- The TPD NetBackup RPM is installed on the server.
- The contents of the NetBackup client configuration file are known if one exists. Depending on the version of NetBackup, a configuration file may not exist.
- The firewall rules implementation is known. Depending on the application, the implementation of firewall rules vary. Do not proceed without understanding the appropriate steps to remove the rules for your application. Reference the documentation for your specific application. The steps presented in this procedure are for a TVOE server and may not apply to a TPD application server.
- The server health checks return no issues.

In this procedure, target server refers to the TPD or TVOE server where the NetBackup client is installed. In the case of TPD, this is the application server. In the case of TVOE, this is the base server hosting the application virtual machines.

Note: If a procedural STEP fails to execute successfully, STOP and contact My Oracle Support by referring to the [My Oracle Support \(MOS\)](#) section of this document.

1. Per your application documentation, perform the application backup procedure. Take care not to use NetBackup since the NetBackup client is being removed from the server.
2. Target server: SSH into the server and log in as admusr:

```
login as: admusr [Enter]
Password: <admsr_password> [Enter]
Last login: Fri Aug 28 12:09:06 2015 from 10.75.8.61
[admsr@<target_server> ~]$
```

3. Target server: Determine the NetBackup client version.

Execute this command to determine the NetBackup client version by inspecting the version file:

```
[admsr@<target_server> ~]$ sudo /bin/cat /usr/opensv/netbackup/bin/version [Enter]
NetBackup-RedHat2.6.18 7.6.0.1
[admsr@<target_server> ~]$
```

In this example, the version is 7.6.0.1.

4. Target server: Determine the packages installed and services configured.

Determine the NetBackup client packages installed, and services configured, on the server by inspecting the client profile configuration file. For some versions of NetBackup, a configuration file is not used and does not exist. If your installation does not use a client profile file, reference [Table 3: Installed Packages and Services for NetBackup Client 7.0, 7.1, and 7.5](#) for your specific release.

How to Uninstall Symantec NetBackup Client

Note: The client profile configuration file includes the client version in the name. For example, NB7601.conf where 7601 represents the client version number with the periods removed. In this example, version 7.6.0.1 is used.

Execute this command to inspect the client profile configuration file:

```
[admusr@<target_server> ~]$ sudo /bin/cat
/usr/TKLC/plat/etc/netbackup/profiles/NB7601.conf [Enter]
VERSION=7.6.0.1
RPMS="SYMCpddea,SYMCnbjre,SYMCnbjava,SYMCnbcld,VRTSpx"
RC_SERVICES="netbackup,vxpbx_exchanged"
[admusr@<target_server> ~]$
```

Table 3: Installed Packages and Services for NetBackup Client 7.0, 7.1, and 7.5

NetBackup Client Version	Packages (RPMs)	Services
NB 7.0	VRTSpx	RC: netbackup
NB 7.1	SYMCpddea SYMCnbjre SYMCnbjava SYMCnbcld VRTSpx	RC: netbackup
NB 7.5	SYMCpddea SYMCnbcld SYMCnbjava SYMCnbjre VRTSpx	RC: netbackup RC: vxpbx_exchanged

5. Target server: Stop all NetBackup processes.

Execute the commands in this step to stop the Symantec NetBackup client services identified in [Step 4](#). This example stops the services for NetBackup version 7.6.0.1.

```
[admusr@<target_server> ~]$ sudo service netbackup stop [Enter]
stopping the NetBackup Deduplication Multi-Threaded Agent
stopping the NetBackup Discovery Framework
stopping the NetBackup client daemon
stopping the NetBackup network daemon

[admusr@<target_server> ~]$ sudo service vxpbx_exchanged stop [Enter]
Stopped Symantec Private Branch Exchange
[admusr@<target_server> ~]$
```

6. Target server: Verify that the NetBackup processes are stopped.

Execute the command in this step to verify all processes are stopped. No output is expected.

```
[admusr@<target_server> ~]$ sudo /usr/openv/netbackup/bin/bpps [Enter]
[admusr@<target_server> ~]$
```

7. Target server: Navigate to the home directory.

Execute the command in this step to ensure that the directory to which the NetBackup LV is mounted is not already in use. This is a precautionary step.

```
[admusr@<target_server> ~]$ cd ~ [Enter]
[admusr@<target_server> ~]$
```

8. Target server: Delete the services.

Execute the commands in this step to delete the NetBackup services identified in the client profile from [Step 4](#). In this example, the NetBackup client services are netbackup and vxpbx_exchanged.

```
[admusr@<target_server> ~]$ sudo /usr/TKLC/plat/bin/service_conf del netbackup
[Enter]
[admusr@<target_server> ~]$ sudo /usr/TKLC/plat/bin/service_conf del
vxpbx_exchanged [Enter]
[admusr@<target_server> ~]$
```

9. Target server: Reconfigure the services.

Execute this command to reconfigure the server services after the deletion:

```
[admusr@<target_server> ~]$ sudo /usr/TKLC/plat/bin/service_conf reconfig [Enter]
[admusr@<target_server> ~]$
```

10. Target server: Uninstall the packages.

Execute the command in this step to uninstall the NetBackup client packages identified in the client profile from [Step 4](#). In this example the NetBackup client packages are: SYMCnbclt, SYMCnbjava, SYMCnbjre, SYMCpddea, and VRTSpx.

Note: Warnings can be ignored.

```
[admusr@<target_server> ~]$ sudo rpm -ev SYMCnbclt SYMCnbjava SYMCnbjre SYMCpddea
VRTSpx [Enter]
warning:   erase unlink of /opt/VRTSpx/lib/libvxicuil8n.so.6 failed: No such
file or directory
warning:   erase unlink of /opt/VRTSpx/bin/vxpbxcfg failed: No such file or
directory

Starting SYMCpddea postremove script.

Removing link /opt/pdag
Removing link /opt/pdshared
Removing /opt/pdde directory.
Removing link /usr/openv/lib/ost-plugins/libstspipd.so
Removing link /usr/openv/lib/ost-plugins/libstspipdMT.so
Removing PDDE installation directory.

SYMCpddea postremove script done!
[admusr@<target_server> ~]$
```

11. Target server: Verify the removal of the client RPMs.

How to Uninstall Symantec NetBackup Client

Execute the command in this step to verify the removal of the NetBackup client RPMs. In this example the NetBackup client RPMs are: SYMCnbclt, SYMCnbjava, SYMCnbjre, SYMCpddea, and VRTSpbx. No output is expected.

```
[admusr@<target_server> ~]$ sudo rpm -qa | egrep  
"SYMCnbclt|SYMCnbjava|SYMCnbjre|SYMCpddea|VRTSpbx" [Enter]  
[admusr@<target_server> ~]$
```

12. Target server: Clean up the /etc/rc.d/init.d directory.

Execute the command in this step to list any NetBackup client service files that may not have been removed by the uninstall of the client RPMs. In this example the client services are: netbackup and vxpbx_exchanged.

```
[admusr@<target_server> ~]$ sudo ls -l /etc/rc.d/init.d/netbackup  
/etc/rc.d/init.d/vxpbx_exchanged [Enter]  
ls: cannot access /etc/rc.d/init.d/vxpbx_exchanged: No such file or directory  
-r-x----- 1 root root 22776 Sep  6 16:04 /etc/rc.d/init.d/netbackup  
[admusr@<target_server> ~]$
```

The output of this example shows that the netbackup service file was not removed. Execute this command to delete the service file:

```
[admusr@<target_server> ~]$ sudo rm -f /etc/rc.d/init.d/netbackup [Enter]  
[admusr@<target_server> ~]$
```

13. Target server: Identify the NetBackup logical volume (LV) and volume group (VG).

Execute the following command to identify the LV and VG used by NetBackup. The LV and VG are referenced in later steps.

```
[admusr@<target_server> ~]$ sudo lvs [Enter]  
  LV          VG      Attr      LSize Pool Origin Data%  Meta%   Move Log  
Cpy%Sync Convert  
netbackup_lv  vgroot -wi-ao---- 5.00g  
plat_root     vgroot -wi-ao---- 1.00g  
plat_tmp      vgroot -wi-ao---- 1.00g  
plat_usr      vgroot -wi-ao---- 4.00g  
plat_var      vgroot -wi-ao---- 1.00g  
plat_var_tklc vgroot -wi-ao---- 4.00g  
[admusr@<target_server> ~]$
```

The output shows that the NetBackup LV is named netbackup_lv and the VG is vgroot.

14. Target server: Identify processes using the NetBackup logical volume (LV).

Execute the command in this step to verify that no processes are using the LV identified in the previous step. Use the VG and LV values identified in the previous step. No output is expected.

```
[admusr@<target_server> ~]$ sudo /sbin/fuser -m /dev/vgroot/netbackup_lv [Enter]  
[admusr@<target_server> ~]$
```

15. Target server: Unmount device /usr/openv.

Execute this command to unmount device /usr/openv from the NetBackup LV:

```
[admusr@<target_server> ~]$ sudo /bin/umount -l /usr/openv [Enter]  
[admusr@<target_server> ~]$
```

16. Target server: Remove the NetBackup LV entry from `/etc/fstab`.

Execute this command to remove the NetBackup LV entry from `/etc/fstab`:

```
[admusr@<target_server> ~]$ sudo /bin/sed -i.bak '/netbackup_lv/d' /etc/fstab
[Enter]
[admusr@<target_server> ~]$
```

17. Target server: Check in the `/etc/fstab` file.

Execute this command to check the `/etc/fstab` file into the RCS:

```
[admusr@<target_server> ~]$ sudo /usr/TKLC/plat/bin/rcscheck /etc/fstab [Enter]
[admusr@<target_server> ~]$
```

18. Target server: Verify the removal of the entry from the `/etc/fstab` file.

Execute this command to compare the `/etc/fstab` file to the backup, `/etc/fstab.bak`:

```
[admusr@<target_server> ~]$ sudo /usr/bin/diff /etc/fstab.bak /etc/fstab [Enter]
19d18
< /dev/vgroot/netbackup_lv /usr/openv          ext4      defaults      1 2
[admusr@<target_server> ~]$
```

The output should reflect a difference similar to the example.

19. Target server: Remove the `/etc/fstab.bak` file.

Execute this command to remove the `/etc/fstab.bak`:

```
[admusr@<target_server> ~]$ sudo rm -f /etc/fstab.bak [Enter]
[admusr@<target_server> ~]$
```

20. Target server: Remove the NetBackup Logical Volume (LV).

Execute the command in this step to remove the NetBackup LV identified in [Step 13](#). Take care to use the correct volume group.

```
[admusr@<target_server> ~]$ sudo /sbin/lvremove -f /dev/vgroot/netbackup_lv
[Enter]
[admusr@<target_server> ~]$
```

21. Target server: Remove the NetBackup client package entries.

Execute the command in this step to remove the NetBackup client package entries from the `pkgKeep.conf` file. The NetBackup client packages were identified in [Step 4](#). If `pkgKeep.conf` only contains these packages, the `pkgKeep.conf` file can be removed. In this example the NetBackup client packages are: SYMCnbclt, SYMCnbjava, SYMCnbjre, SYMCpddea, and VRTSpx.

```
[admusr@<target_server> ~]$ sudo /bin/sed -i.bak
'/SYMCnbclt\|SYMCnbjava\|SYMCnbjre\|SYMCpddea\|VRTSpx/d'
/usr/TKLC/plat/etc/upgrade/pkgKeep.conf [Enter]
[admusr@<target_server> ~]$
```

22. Target server: Verify the removal of the NetBackup client package entries.

Execute the command in this step to verify the removal of the NetBackup client package entries from the `pkgKeep.conf` file by comparing the `pkgKeep.conf` to the backup file, `pkgKeep.conf.bak`.

```
[admusr@<target_server> ~]$ sudo /usr/bin/diff
/usr/TKLC/plat/etc/upgrade/pkgKeep.conf.bak
/usr/TKLC/plat/etc/upgrade/pkgKeep.conf [Enter]
1,5d0
< SYMCnbc1t
< SYMCnbjava
< SYMCnbjre
< SYMCpddea
< VRTSpx
[admusr@<target_server> ~]$
```

The output should reflect a difference similar to the example.

23. Target server: Remove the `pkgKeep.conf.bak` file.

Execute this command to remove the `pkgKeep.conf.bak` file:

```
[admusr@<target_server> ~]$ sudo rm -f /usr/TKLC/plat/etc/upgrade/pkgKeep.conf.bak
[Enter]
[admusr@<target_server> ~]$
```

24. Target server: Remove the client profile configuration file.

Execute the command in this step to remove the client profile configuration file, if one exists. The existence of this file is determined in [Step 4](#).

Note: The client profile configuration file includes the client version in the name. For example: `NB7601.conf`, where 7601 represents the client version number with the periods removed. In this example, version 7.6.0.1 is used.

```
[admusr@<target_server> ~]$ sudo rm -f
/usr/TKLC/plat/etc/netbackup/profiles/NB7601.conf [Enter]
[admusr@<target_server> ~]$
```

25. Target server: Remove the client script file.

Execute the command in this step to remove the NetBackup client script file. For some versions of NetBackup, a script file is not used and does not exist. Proceed to the next step if this is the case.

Note: The client script file includes the client version in the name. For example: `NB7601`, where 7601 represents the client version number with the periods removed. In this example, version 7.6.0.1 is used.

```
[admusr@<target_server> ~]$ sudo rm -f /usr/TKLC/plat/etc/netbackup/scripts/NB7601
[Enter]
[admusr@<target_server> ~]$
```

26. Target server: Remove the firewall rules related to NetBackup.

Note: This step varies depending on how the application implemented the firewall rules. The example in this step illustrates the correct steps for a TVOE server. If you are uninstalling NetBackup on a TPD application server refer to the documentation for your specific application.

Execute these commands to remove the iptables and ip6tables firewall rules related to NetBackup on a TVOE server:

```
[admusr@<target_server> ~]$ sudo /usr/TKLC/plat/bin/iptablesAdm delete
--type=domain --domain=60netbackup --protocol=ipv4 [Enter]
[admusr@<target_server> ~]$ sudo /sbin/service iptables restart [Enter]
iptables: Setting chains to policy ACCEPT: filter [ OK ]
iptables: Flushing firewall rules: [ OK ]
iptables: Applying firewall rules: [ OK ]
[admusr@<target_server> ~]$ sudo /usr/TKLC/plat/bin/iptablesAdm delete
--type=domain --domain=60netbackup --protocol=ipv6 [Enter]
[admusr@<target_server> ~]$ sudo /sbin/service ip6tables restart [Enter]
ip6tables: Setting chains to policy ACCEPT: filter [ OK ]
ip6tables: Flushing firewall rules: [ OK ]
ip6tables: Applying firewall rules: [ OK ]
[admusr@<target_server> ~]$
```

27. Target server: Remove firewall configuration files related to NetBackup.

Note: This step varies depending on how the application implemented the firewall rules. The example in this step illustrates the correct steps for a TVOE server. If you are uninstalling NetBackup on a TPD application server refer to the documentation for your specific application.

Execute these commands to remove firewall configuration files related to Netbackup on a TVOE server:

```
[admusr@<target_server> ~]$ sudo rm -f /usr/TKLC/plat/etc/iptables/60netbackup.ipt
[admusr@<target_server> ~]$ sudo rm -f
/usr/TKLC/plat/etc/ip6tables/60netbackup.ipt
[admusr@<target_server> ~]$
```

28. Target server: Update the /etc/hosts file to remove the NetBackup server host.

Execute these sub-steps to update the /etc/hosts file using the platcfg utility:

Note: If the NetBackup entry in the /etc/hosts is an alias and you do not wish to delete the host, simply choose Delete Alias instead of Delete Host. The rest of the steps remain the same.

1. As admusr, execute the command **sudo su - platcfg** to launch the platcfg utility.
2. Select Network Configuration.
3. Select Modify Hosts File.
4. Select Edit.
5. Select Delete Host.
6. Select the host entry for NetBackup.
7. Select Yes to confirm deletion.
8. Exit out of the platcfg utility.

29. Target server: Verify server health.

Execute the commands in this step to verify server health. No unexpected alarms should be presented and no missing package files should exist.

```
[admusr@<target_server> ~]$ sudo /usr/TKLC/plat/bin/alarmMgr -alarmStatus [Enter]
[admusr@<target_server> ~]$ sudo rpm -Va
[admusr@<target_server> ~]$
```

Appendix T

How to Increase the PM&C Netbackup Filesystem Size

Topics:

- [*Increase the PM&C Netbackup Filesystem Size.....269*](#)

This appendix describes how to increase the PM&C Netbackup filesystem to accommodate upgrading to Netbackup 7.7 or greater.

Increase the PM&C Netbackup Filesystem Size

This procedure describes how to increase the PM&C Netbackup filesystem to accommodate upgrading to Netbackup 7.7 or greater. Currently the recommended filesystem size for Netbackup 7.7 is 5GB. This filesystem is mounted to a logical volume maintained on the TVOE host.

Prerequisites:

- There is a volume defined on the TVOE host called `<pmac_guest_name>_netback.img` and set to 2GB.
- There is a filesystem on the PM&C guest at `/dev/<device_name>` mounted to `/usr/openv` and sized to 2GB.
- The Netbackup filesystem on the PM&C must be type `ext2/3/4`.
- This procedure assumes there is an entry in the `/etc/fstab` file for the mounted `/usr/openv` filesystem.

Notes:

- The `<device_name>` used can differ from `/dev/vdd`. This can be determined by issuing the `df -h` command on the PM&C prior to starting this procedure and searching for the `/usr/openv` Netbackup filesystem. Once Netbackup has been enabled and configured on a PM&C, there should be a softlink defined, called `/dev/netbackup`, which points to the actual device. Usually this points to `/dev/vdd`. If that is available then all references to `/dev/vdd` can be replaced with `/dev/netbackup` and the user does not have to know what actual device is used for the filesystem. The procedure below assumes this to be true.
 - The commands listed below require root access to execute them. `sudo` is used to elevate the user permissions to be able to execute the commands. Any command that is not prefixed with `sudo` does not require elevation to execute.
 - All commands are executed from a PM&C shell or from a TVOE shell.
 - Performing this procedure increases the size of the Netbackup filesystem to 5GB. You can use this procedure to increase the Netbackup volume to any size that can be accommodated by the TVOE host. 5GB is the required size for NetBackup 7.7.
 - Each step in this procedure begins by identifying the target server on which the command is to be executed. In this procedure, commands are executed on either the TVOE host or the PM&C.
1. Connect to the management server's TVOE host shell and the PM&C shell via SSH using the `admusr` credentials.
 2. TVOE Host: Verify the existing TVOE Netbackup volume is set to 2GB.
 - a) Display the logical volume sizes.

```
[admusr@tvoe_host> ~]$ /usr/bin/sudo /sbin/lvs [Enter]
LV          VG      Attr      LSize
<pmac_guest>.img      vgguests -wi-ao---- 50.00g
<pmac_guest>_images.img vgguests -wi-ao---- 20.00g
<pmac_guest>_logs.img  vgguests -wi-ao---- 10.00g
<pmac_guest>_netbackup.img vgguests -wi-ao---- 2.00g
plat_root          vgroot -wi-ao---- 768.00m
plat_swap          vgroot -wi-ao---- 2.00g
plat_tmp           vgroot -wi-ao---- 1.00g
plat_usr           vgroot -wi-ao---- 3.00g
plat_var           vgroot -wi-ao---- 1.00g
```

```
[admusr@<tvoe_host> ~]$
```

b) Display the logical volume details.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /sbin/lvdisplay
/dev/vgguests/<pmac_guest>_netbackup.img [Enter]
--- Logical volume ---
LV Path                /dev/vgguests/<pmac_guest>_netbackup.img
LV Name                 <pmac_guest>_netbackup.img
VG Name                 vgguests
LV UUID                 CWe1Nl-1n6r-22Tv-5B0p-Xj4F-44dM-SyGUwp
LV Write Access         read/write
LV Creation host, time <tvoe_host>, 2016-11-14 10:00:54 -0500
LV Status                available
# open                  1
LV Size                2.00 GiB
Current LE              64
Segments                1
Allocation              inherit
Read ahead sectors      auto
- currently set to      4096
Block device            253:19

[admusr@<tvoe_host> ~]$
```

3. PM&C: Verify the NetBackup filesystem is set to 2GB.

```
[admusr@<pmac_guest> ~]$ /bin/df -h /usr/openv [Enter]
Filesystem      Size  Used Avail Use% Mounted on
/dev/vdd        2.0G   69M   2.3G   1% /usr/openv

[admusr@<pmac_guest> ~]$
```

4. TVOE Host: Resize the NetBackup volume from 2GB to 5GB.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /sbin/lvextend --size 5G
/dev/vgguests/<pmac_guest>_netbackup.img [Enter]
Size of logical volume vgguests/<pmac_guest>_netbackup.img changed from 2.00 GiB
(64 extents) to 5.00 GiB (160 extents).
Logical volume <pmac_guest>_netbackup.img successfully resized

[admusr@<tvoe_host> ~]$
```

5. TVOE Host: Verify the size of the volume has increased to 5GB.

a) Display the logical volume sizes.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /sbin/lvs [Enter]
LV                VG      Attr      LSize
<pmac_guest>.img  vgguests -wi-ao---- 50.00g
<pmac_guest>_images.img vgguests -wi-ao---- 20.00g
<pmac_guest>_logs.img vgguests -wi-ao---- 10.00g
<pmac_guest>_netbackup.img vgguests -wi-ao---- 5.00g
plat_root         vgroot  -wi-ao---- 768.00m
plat_swap         vgroot  -wi-ao---- 2.00g
plat_tmp          vgroot  -wi-ao---- 1.00g
plat_usr          vgroot  -wi-ao---- 3.00g

[admusr@<tvoe_host> ~]$
```

- b) Display the logical volume details.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /sbin/lvdisplay
/dev/vgguests/<pmac_guest>_netbackup.img [Enter]
--- Logical volume ---
LV Path                /dev/vgguests/<pmac_guest>_netbackup.img
LV Name                 <pmac_guest>_netbackup.img
VG Name                 vgguests
LV UUID                 CWe1Nl-1n6r-22Tv-5B0p-Xj4F-44dM-SyGUwp
LV Write Access         read/write
LV Creation host, time <tvoe_host>, 2016-11-14 10:00:54 -0500
LV Status                available
# open                  1
LV Size                5.00 GiB
Current LE              64
Segments                1
Allocation               inherit
Read ahead sectors      auto
- currently set to      4096
Block device            253:19

[admusr@<tvoe_host> ~]$
```

6. PM&C: Verify the space on the PM&C Netbackup filesystem has not changed.

```
[admusr@<pmac_guest> ~]$ /bin/df -h /usr/openv [Enter]
Filesystem      Size  Used Avail Use% Mounted on
/dev/vdd         2.0G   69M  1.3G   1% /usr/openv

[admusr@<pmac_guest> ~]$
```

7. TVOE Host: Ensure the PM&C is made aware of the volume size increase.

- a) TVOE Host: Identify the PM&C guest using a virsh command.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /usr/bin/virsh list --all [Enter]
Id      Name                                State
-----
86      <pmac_guest>                        running

[admusr@<tvoe_host> ~]$
```

- b) TVOE Host: Shut down the PM&C guest.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /usr/bin/virsh shutdown <pmac_guest> [Enter]
Domain <pmac_guest> is being shutdown

[admusr@<tvoe_host> ~]$
```

- c) TVOE Host: Wait for the PM&C shutdown to complete. (If the State is "running", repeat the command until it indicates the State is "shut off.")

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /usr/bin/virsh list --all [Enter]
Id      Name                                State
-----
86      <pmac_guest>                        shut off
```

- d) TVOE Host: Once shutdown is complete, restart the PM&C.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /usr/bin/virsh start <pmac_guest> [Enter]
Domain <pmac_guest> started

[admusr@<tvoe_host> ~]$
```

- e) TVOE Host: Verify the PM&C has completed the restart. This can be checked by executing the command **sudo virsh console <pmac_guest>** and checking for the PM&C guest login prompt. Once the escape character is displayed, press **<Enter>** once more to reach the login prompt. Afterwards, press **Ctrl-]** to exit the PM&C login prompt and return to the TVOE host prompt.

```
[admusr@<tvoe_host> ~]$ /usr/bin/sudo /usr/bin/virsh console <pmac_guest> [Enter]
Connected to domain <tvoe_host>
Escape character is ^]

Oracle Linux Server release 6.8
Kernel 2.6.32-642.6.1.el6prere17.3.0.0.0_88.30.0.x86_64 on an x86_64

<pmac_guest> login:
```

8. PM&C: Verify the volume size increase is 5GB as seen from the PM&C.

```
[admusr@<pmac_guest> ~]$ /usr/bin/sudo admusr /sbin/fdisk -l /dev/netbackup
[Enter]

Disk /dev/netbackup: 5368 MB, 5368709120 bytes
16 heads, 63 sectors/track, 10402 cylinders
Units = cylinders of 1008 * 512 = 516096 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

[admusr@<pmac_guest> ~]$
```

9. PM&C: Resize the PM&C NetBackup filesystem to 5GB.

- a) PM&C: Verify the filesystem is still mounted by issuing the mount command and looking for /dev/vdd mounted on /usr/openv.

```
[admusr@<pmac_guest> ~]$ /bin/mount [Enter]
/dev/mapper/vgroot-plat_root on / type ext4 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
tmpfs on /dev/shm type tmpfs (rw)
/dev/vdal on /boot type ext4 (rw)
/dev/mapper/vgroot-plat_tmp on /tmp type ext4 (rw)
/dev/mapper/vgroot-plat_usr on /usr type ext4 (rw)
/dev/mapper/vgroot-plat_var on /var type ext4 (rw)
/dev/mapper/vgroot-plat_var_tklc on /var/TKLC type ext4 (rw)
/dev/mapper/vgroot-smac_root on /usr/TKLC/smac type ext4 (rw)
/dev/mapper/vgroot-smac_var on /var/TKLC/smac type ext4 (rw)
/dev/mapper/vgroot-smac_backup on /var/TKLC/smac/backup type ext4 (rw)
/dev/mapper/vgroot-smac_isoimages on /var/TKLC/smac/image/isoimages type ext4 (rw)
/var/TKLC/smac/image/core on /var/TKLC/core type none (rw,bind)
/dev/vdb on /var/TKLC/smac/logs type ext3 (rw)
/dev/vdc on /var/TKLC/smac/image/repository type ext3 (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
```

```
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
nfsd on /proc/fs/nfsd type nfsd (rw)
/dev/vdd on /usr/openv type ext3 (rw)
```

```
[admusr@<pmac_guest> ~]$
```

- b) PM&C: Unmount the NetBackup filesystem. The **umount** command can be verified by issuing the **mount** command again. The `/usr/openv` filesystem should not be displayed as in the previous command.

Note: There **umount** command does not generate output upon success.

```
[admusr@<pmac_guest> ~]$ /usr/bin/sudo /bin/umount /usr/openv [Enter]
[admusr@<pmac_guest> ~]$
```

- c) PM&C: Execute the **e2fsck** command to make sure the Netbackup filesystem is clean.

```
[admusr@<pmac_guest> ~]$ /usr/bin/sudo /sbin/e2fsck /dev/netbackup [Enter]
e2fsck 1.43-WIP (20-Jun-2013)
/dev/netbackup: clean, 11/327680 files, 37999/1310720 blocks

[admusr@<pmac_guest> ~]$
```

- d) PM&C: Execute the **resize2fs** command to resize the filesystem and map it to the 5GB size of the disk volume on the TVOE host. If the size attribute is not included in the command, the Netbackup filesystem will be resized to the total free space on the TVOE host volume. This should be 5GB as there should not be any other filesystems mounted to this volume. If the **resize2fs** command returns an indication that the **e2fsck** command must be executed on the Netbackup filesystem, then re-execute that command.

```
[admusr@<pmac_guest> ~]$ /usr/bin/sudo /usr/bin/resize2fs /dev/netbackup [Enter]
resize2fs 1.43-WIP (20-Jun-2013)
Resizing the filesystem on /dev/netbackup to 1310720 (4k) blocks.
The filesystem on /dev/netbackup is now 1310720 blocks long.

[admusr@<pmac_guest> ~]$
```

- e) PM&C: Re-mount the `/usr/openv` Netbackup filesystem with the **mount -a** command.

```
[admusr@<pmac_guest> ~]$ mount -a [Enter]
[admusr@<pmac_guest> ~]$
```

Note: This command can only be used if the existing entry to mount the filesystem is contained in the `/etc/fstab` file (which is expected).

- f) PM&C: Verify the new size of the Netbackup filesystem. Issue the **mount** command to verify the filesystem is correctly mounted. Issue the **/bin/df -h /usr/openv** command to show the Netbackup filesystem using 5GB instead of 2GB.

```
[admusr@<pmac_guest> ~]$ /bin/mount [Enter]
/dev/mapper/vgroot-plat_root on / type ext4 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
tmpfs on /dev/shm type tmpfs (rw)
/dev/vdal on /boot type ext4 (rw)
/dev/mapper/vgroot-plat_tmp on /tmp type ext4 (rw)
```

How to Increase the PM&C Netbackup Filesystem Size

```
/dev/mapper/vgroot-plat_usr on /usr type ext4 (rw)
/dev/mapper/vgroot-plat_var on /var type ext4 (rw)
/dev/mapper/vgroot-plat_var_tklc on /var/TKLC type ext4 (rw)
/dev/mapper/vgroot-smac_root on /usr/TKLC/smac type ext4 (rw)
/dev/mapper/vgroot-smac_var on /var/TKLC/smac type ext4 (rw)
/dev/mapper/vgroot-smac_backup on /var/TKLC/smac/backup type ext4 (rw)
/dev/mapper/vgroot-smac_isoimages on /var/TKLC/smac/image/isoimages type ext4
(rw)
/var/TKLC/smac/image/core on /var/TKLC/core type none (rw,bind)
/dev/vdb on /var/TKLC/smac/logs type ext3 (rw)
/dev/vdc on /var/TKLC/smac/image/repository type ext3 (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
nfsd on /proc/fs/nfsd type nfsd (rw)
/dev/vdd on /usr/openv type ext3 (rw)

[admusr@<pmac_guest> ~]$
```

The second command in this sub-step shows the Netbackup filesystem using 5GB instead of 2GB.

```
[admusr@<pmac_guest> ~]$ /bin/df -h /usr/openv [Enter]
Filesystem      Size  Used Avail Use% Mounted on
/dev/vdd         5.0G   69M  4.3G   1% /usr/openv

[admusr@<pmac_guest> ~]$
```

- g) PM&C: Change directory to the /usr/openv directory and verify any files contained on the original 2GB Netbackup filesystem are still available on the new 5GB Netbackup filesystem.

```
[admusr@<pmac_guest> ~]$ /bin/ls -l /usr/openv [Enter]
java lost+found pack regid.1992-12.com.symantec_netbackup-7.6.0.1_1.swidtag share
var
lib msg pack.7.6.0.1 regid.1992-12.com.symantec_netbackup-7.7.1.0_1.swidtag
swidtag.xml
logs netbackup pdde resources tmp

[admusr@<pmac_guest> ~]$
```