

# **Oracle® Communications Session Router**

Software Installation on HP Platforms - SPP2015.06  
Release 1.0

October 2015

## Notices

Copyright ©2015 Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

# Contents

- Preface: About this Guide.....v**
  
- 1 Oracle Communications HP Platform Software Installation..... 7**
  - Oracle Communications Session Router Platform Requirements.....7
  - Installing Software Onto an HP Server.....8
  - Confirming Current Firmware Version.....8
  - Upgrading or Downgrading the Server Firmware SPP2015.06.....9
    - Required SPP 2015.06 Firmware Versions.....17
  - BIOS Configuration SPP2015.06.....17
  - RAID Array Configuration.....20
  - Booting the Server.....23
  - Logging in to the ACLI and Enabling Super User Mode.....23
  - Formatting the Hard Drive.....24
  
- A— Server Cabling Reference..... 27**
  - HP DL360 Gen9 Cabling.....27
  - Cabling the HP BL 460c Gen8 .....27



# Preface

---

## About this Guide

This document describes how to install Oracle Communications Session Delivery Software onto supported HP hardware platforms using SPP 2015.06. For service configuration, see the applicable Configuration Guide for your product. In addition, the information herein can help users after product deployment to, for example, identify physical interfaces.

### Revision History

This section contains a revision history for this document.

Date	Description
October 2015	<ul style="list-style-type: none"><li data-bbox="852 1094 1040 1119">• Initial Release</li></ul>

---



---

# Oracle Communications HP Platform Software Installation

This document describes to install supported S-Cz or E-Cz software onto the following HP platforms:

- HP BL 460c G7
- HP BL 460c Gen8
- HP BL 460c Gen9
- HP DL 360 Gen9
- HP DL360p Gen8

This document describes how to update these servers with HP's SPP2015.06.

---

## Oracle Communications Session Router Platform Requirements

All supported HP platforms require SPP2015.06.

The correct SPP must be installed onto the host/blade at the time the software is upgraded or downgraded. Combinations with older firmware are unsupported.

**Table 1: Minimum Hardware Requirements for HP Platforms**

Device	Processor	Memory	Hard Drive
HP DL360p Gen 8	Intel Xeon E5-2658, E5-2670, E5-2690	16 GB (2 x 8 GB)	450 GB
HP DL360 Gen 9	Intel Xeon E5-2699 v3	32 GB (2 x 16GB)	900 GB
HP BL460c Gen 7	Intel Xeon X5672, X5675	12 GB (6 x 2 GB)	500 GB
HP BL460c Gen 8	Intell Xeon E5-2670	16 GB (2 x 8 GB)	450 GB
HP BL460c Gen 9	2 x Intel Xeon E5-2667 v3	64 GB (4 x 16 GB)	600 GB

### Installing Software Onto an HP Server

---

This section describes in general the steps to take to install software onto a HP server. Detailed procedures for each of these steps is provided in the remainder of this document.

Prerequisites:

- USB module containing S-Cz
- HP BL460c Gen9 Server running the iLO4 Web Interface

To install software onto a HP server:

1. Check the current firmware revisions.
2. Upgrade the firmware revisions if necessary.
3. Change the BIOS settings.
4. Create a single RAID logical volume that spans all physical disks.
5. Shut down and disconnect power from the HP server.
6. Install the USB module into any USB port.
7. Connect power and power up the HP server.
8. The HP server automatically installs software from the USB key onto the hard drive(s). Then the USB key automatically reboots the server.
9. Log in to the ACLI and enable super user mode.
10. Format the hard disk.
11. Install the license key.
12. Reboot.
13. Log in to the ACLI and enable user mode.

The software is now licensed and the system is ready to be configured. Refer to the Configuration Guide for the software product being used to configure the wancom0 management network interface and other boot parameters.

### Confirming Current Firmware Version

---

The current list of required firmware versions of the HP servers is found in the product's release notes. Required firmware versions are specific to software release.

To check the firmware versions installed in the server, in the iLO4 web interface, navigate to **Information > System Information > Firmware**. The Firmware tab displays a list of the firmware and firmware version numbers in use on the system.

Screen capture of iLO4 console, Firmware Version Info screen

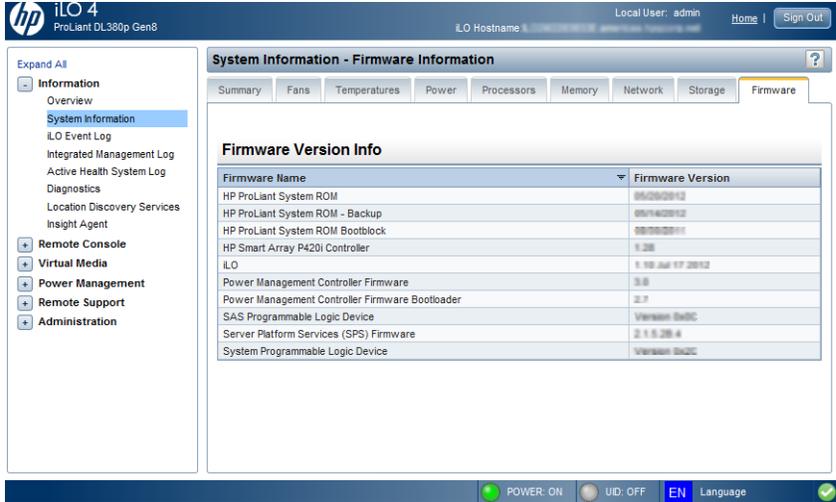


Figure 1: iLO4 Firmware Tab

 **Note:** For information on accessing iLO4, please refer to your HP documentation.

## Upgrading or Downgrading the Server Firmware SPP2015.06

The following procedure is the recommended way to change the firmware on the HP server with the HP Service Proliant Pack (SPP) or SPP components using the iLO manager by remotely booting an SPP image file. The SPP release contains a comprehensive collection of firmware and system software components, all tested together as a single solution stack for HP servers, their options, and limited external storage.

- Download the specified version of SPP .ISO image file for your server platform.
- Create a connection to the iLO web interface. (Consult your HP iLO4 documentation for procedure.)
- Ensure that the HP iLO4 Advanced license is installed.

To update your server’s firmware:

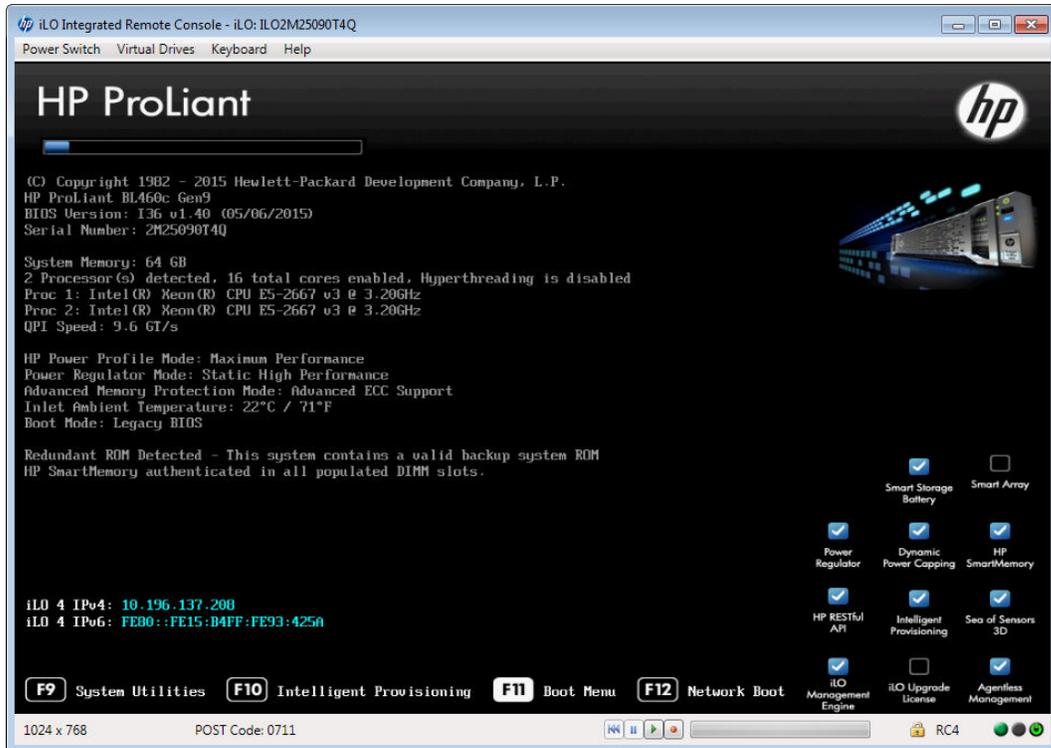
1. From the iLO web interface, expand the Remote Console node on the left pane and click the Remote Console option **Remote Console > Remote Console**. Next, click the **Launch** button in the Integrated Remote Console

section.

The screenshot displays the HP iLO 4 Remote Console interface. The top navigation bar includes the HP logo, 'iLO 4 ProLiant DL380p Gen8', the local user 'admin', and a 'Sign Out' button. The main content area is titled 'Remote Console - iLO Integrated Remote Console' and features three sections: 'Integrated Remote Console', 'Java Integrated Remote Console', and 'HP iLO Mobile App'. Each section has a 'Launch' button. The bottom status bar shows 'POWER: ON', 'UD: OFF', 'EN Language', and a green checkmark.

2. In the integrated remote console window that pops up, click the Virtual Drive menu. Click the image file choice and select the ISO that you downloaded from the HP web site.
3. Click the **Power** switch menu, and click the reset option. The server will reboot.

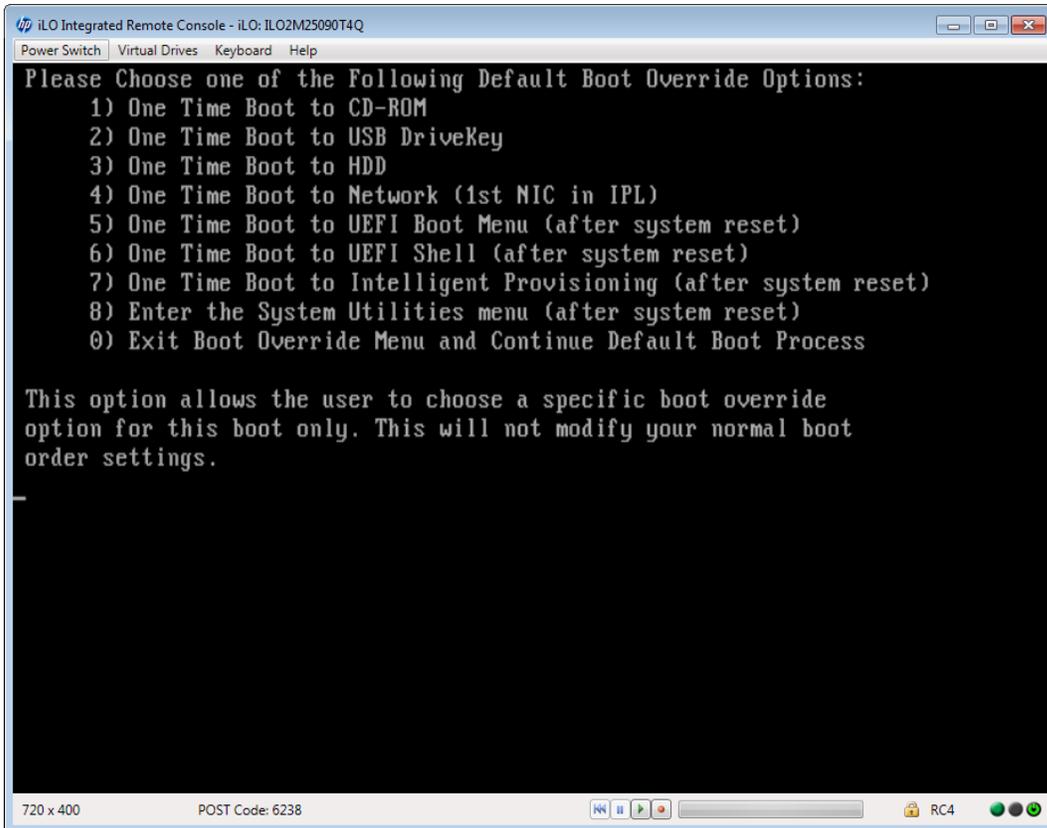
- As the server reboots, press the F11 key quickly to access the boot menu.



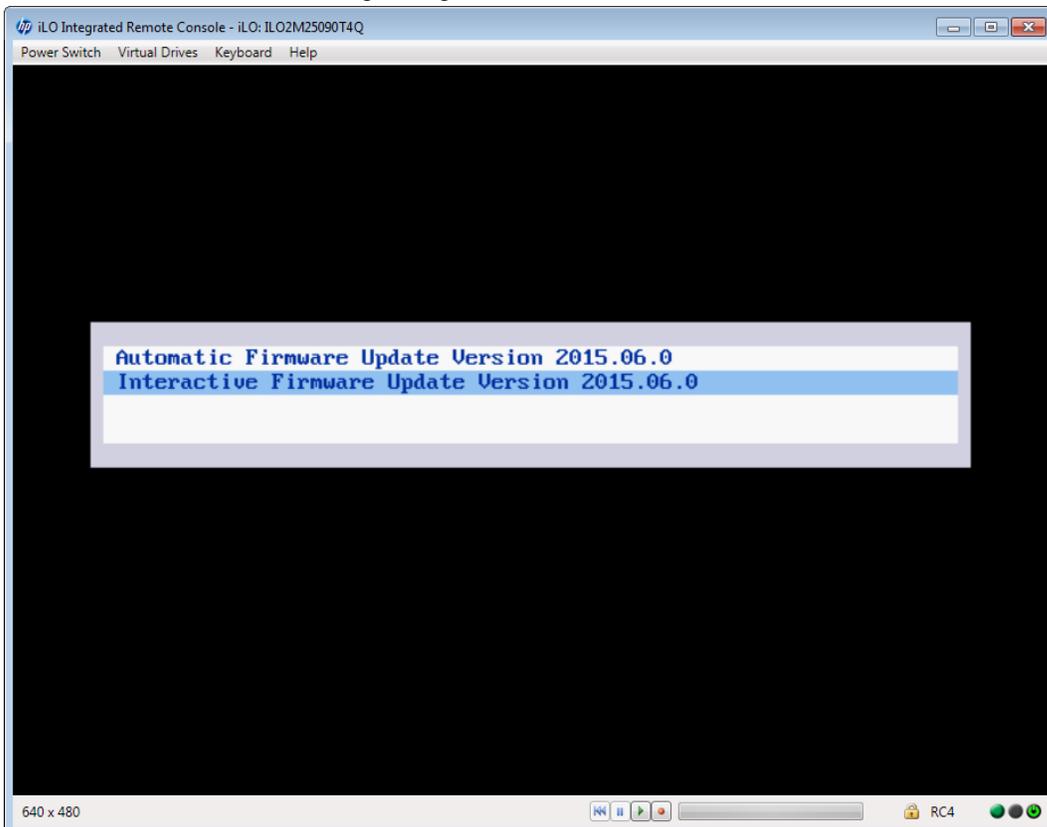
- If prompted, select to Legacy BIOS One-Time Boot Menu.



- When the boot options appear, select option **1) One Time Boot to CD-ROM**.

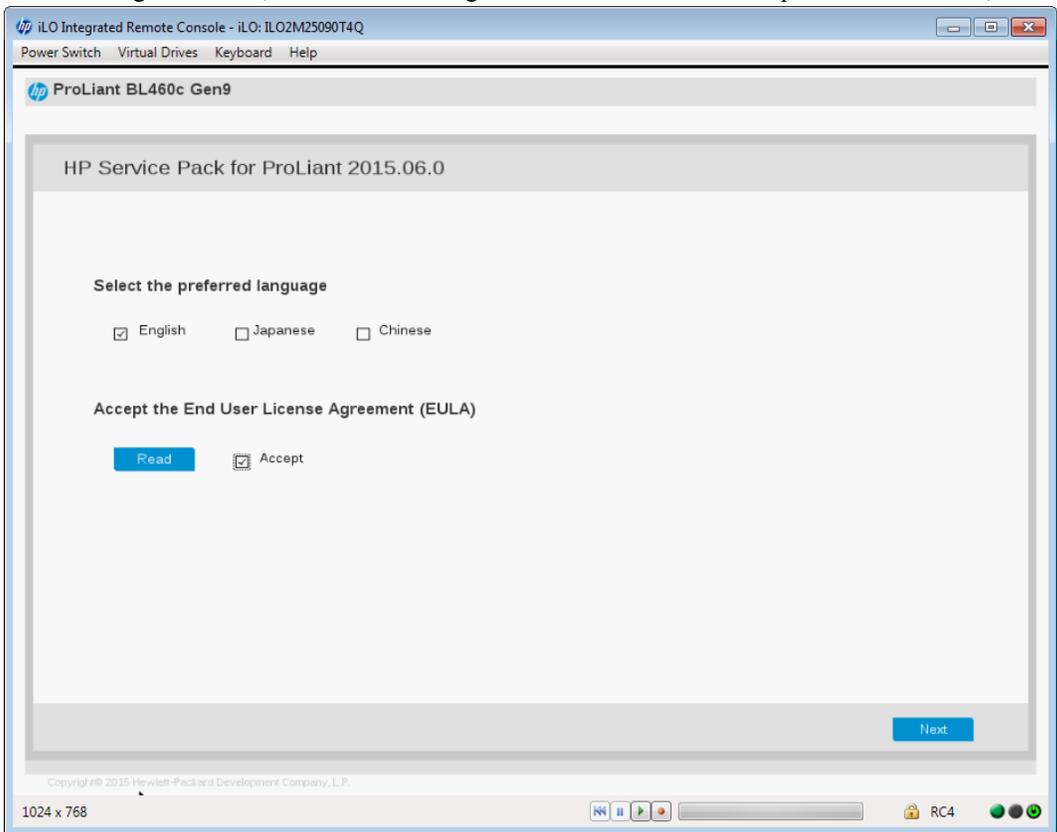


- Select the Interactive Firmware Update option from the list. This will boot HP Linux.

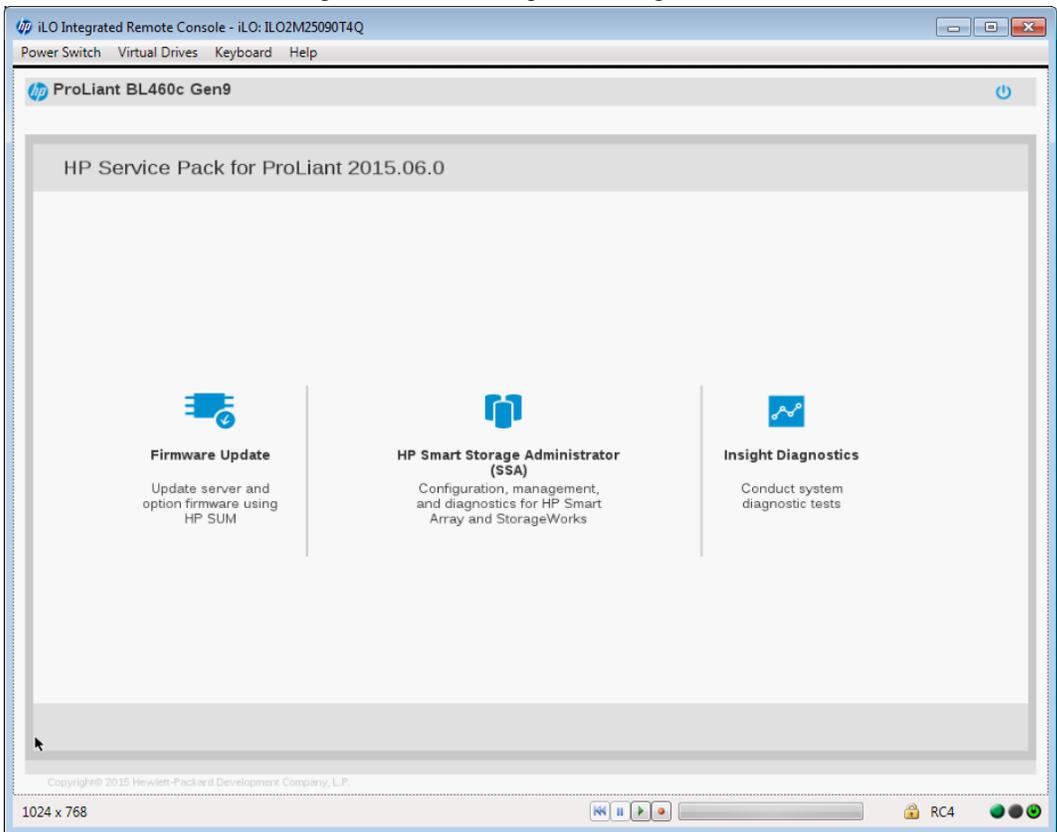


- Select English.

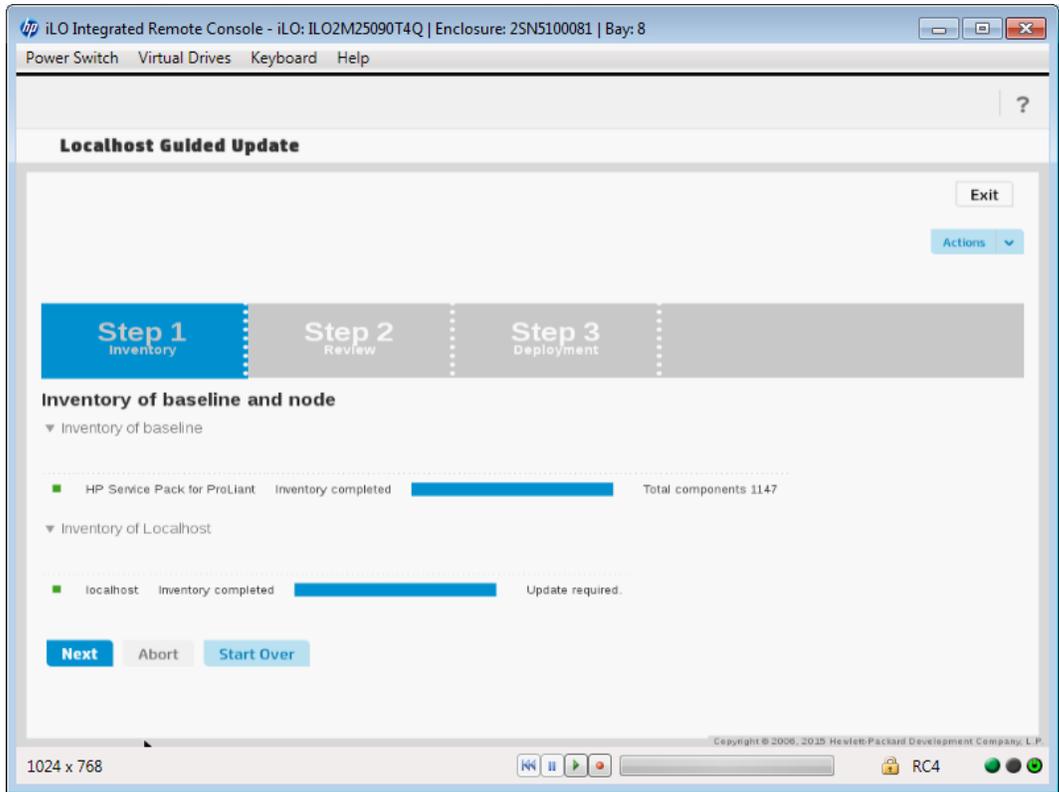
9. After reading the EULA, click the license agreement radio button to accept the license terms, and then click Next.



10. Select Launch HP SUM to begin the HP Smart Update Manager.



11. The inventory process begins. Status bars indicate progress.



12. After inventory concludes, click **Next**. Then click the **Installation Options** button.

Forced Downgrade

13. For any packages which are greyed out in the left column due to already being newer version, click the corresponding box to select them for forced update. It is not necessary to force update for components already at

the correct version.

**Localhost Guided Update**

**Deployment summary**

▼ localhost - applicable components

**Total components suggested : 6**

**Total components selected : 6**

Search

Select Components	Package	Ready to proceed	Type	Criticality	Installed Version	Active Version	Available Version	Reboot Required
<input checked="" type="checkbox"/>	Online ROM Flash - Advanced Power Capping Microcontroller Firmware for HP ProLiant Gen9 Servers firmware (hp-firmware-powerpic-gen9-1.0.9-1.1.i386)	■	Firmware	Recommended	View Devices	View Devices	1.0.9	No
<input checked="" type="checkbox"/>	HP ProLiant BL460c Gen9/WS460c Gen9 (i36) Servers firmware (hp-firmware-system-i36-1.40_05_06_2015-1.1.i386)	■	Firmware	Optional	i36 1.21 (11/03 /2014)	i36 1.21 (11/03 /2014)	i36 1.40 (05/06 /2015)	Yes
<input checked="" type="checkbox"/>	HP QLogic NX2 Online Firmware Upgrade Utility for Linux x86_64 (hp-firmware-nic-qlogic-nx2-2.15.19-1.1.x86_64)	■	Firmware	Optional	View Devices	View Devices	2.15.19	Yes
<input checked="" type="checkbox"/>	Supplemental Update / Online ROM Flash Component for Linux (x64) - Smart Array H240ar, H240tr, H240, H241, H244br, P240tr, P244br, P246br, P440ar, P440, P441, P542t, P741m, P840, P840ar, and P841 (hp-firmware-smartarray-aa3138d8e8-2.52-1.1.x86_64)	■	Firmware	Recommended	1.34	1.34	2.52	Yes
<input checked="" type="checkbox"/>	HP Intel Online Firmware Upgrade Utility for Linux x86_64 (hp-firmware-nic-intel-1.8.15-1.1.x86_64)	■	Firmware	Optional	View Devices	View Devices	1.8.15	Yes
<input checked="" type="checkbox"/>	HP Integrated Lights-Out 4 firmware (hp-firmware-ilo4-2.20-1.1.i386)	■	Firmware	Optional	2.03	2.03	2.20	No

**Warnings/Alerts**

No Warnings found.

Copyright © 2006, 2015 Hewlett-Packard Development Company, L.P.

14. Click the **Deploy** button.



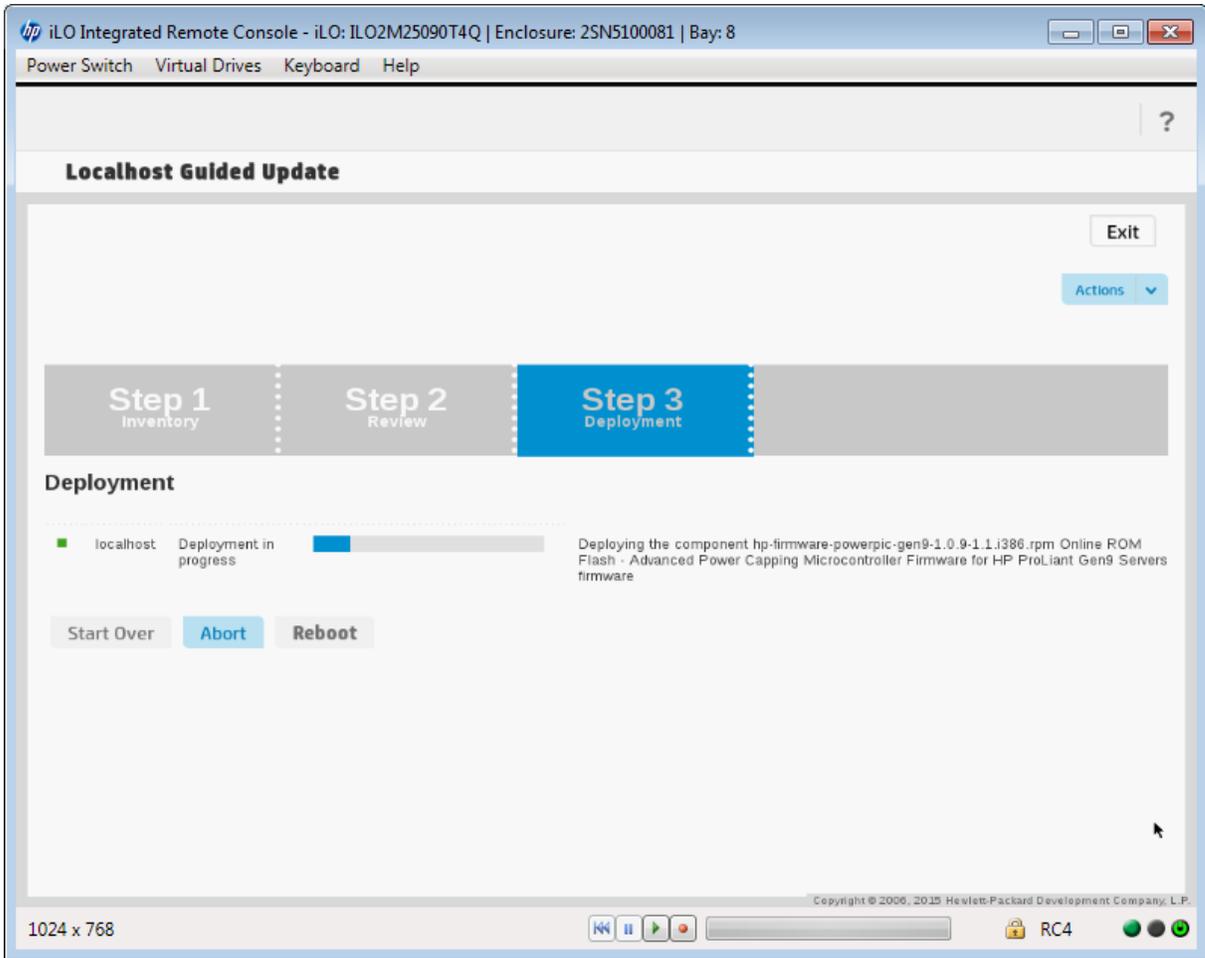
**Note:** The installation process may take up to 45 minutes to complete.



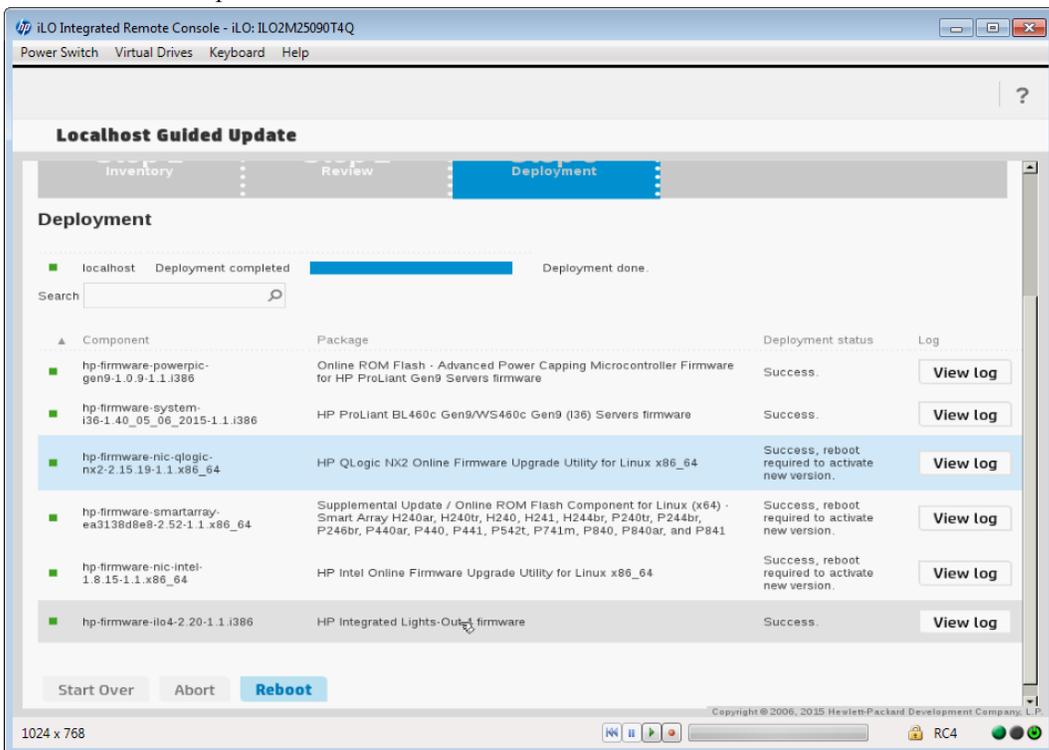
**Note:** If iLO firmware is required, an iLO restart may disconnect the Integrated Remote Console. If this happens, reconnect to the iLO4 web interface. The iLO upgrade status will be displayed at the bottom of the window. After the iLO upgrade has completed, it will reboot. Repeat the procedure starting at step 1 to update firmware on the remaining components.

# Oracle Communications HP Platform Software Installation

After all firmware has been updated, the **Reboot** button will be enabled.



15. Select the **Reboot** option. The server reboots.



## Required SPP 2015.06 Firmware Versions

Oracle Communications software that runs on the HP servers requires that the hardware run a specific SPP. Use of an SPP requires specific level/version of each component. When preparing an HP server for use, identify the SPP and then upgrade or downgrade the individual components per this section.

Components' versions are available at the iLO4 web interface from **Information > System Information > Firmware**. You may have to upgrade or downgrade accordingly to use a target SPP.

Supported SPPs per platform and the required component versions.

Component Description	BL460c Gen9	BL460c G8	BL460c G7	DL360 Gen9	DL360 Gen8
HP ProLiant System ROM	I36 v1.40 (05/06/2015)	04/01/2015	I27 07/02/2013	v1.40 (05/06/2015)	11/01/2014
HP Smart Array Controller	2.52	6.64	6.64	v2.52	6.64
iLO	2.20 May 20 2015	20 May 20 2015	1.85 May 13 2015	2.20 May 20 2015	2.20 May 20 2015
Server Platform Services (SPS) Firmware	3.0.6.267.4				

## BIOS Configuration SPP2015.06

The server BIOS must be configured prior to installing the software. The following procedure describes the required BIOS settings to make in the ROM-Based Setup Utility (RBSU) running on an HP BL460c.

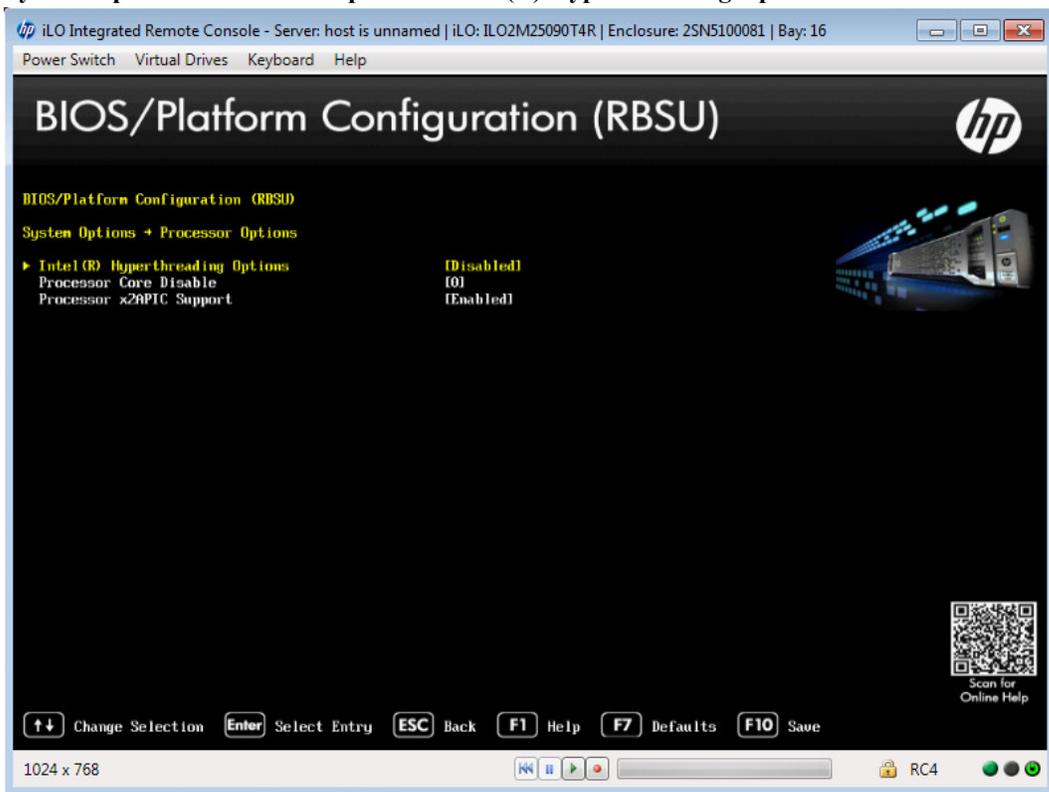
The HP Platforms running SPP2015.06 require the following BIOS settings in RBSU:

- Legacy BIOS mode = Enabled
- x2APIC = Disabled
- HP Power Profile = Maximum Performance
- Hyperthreading = Disabled
- BIOS Serial Console Baud Rate = 115200

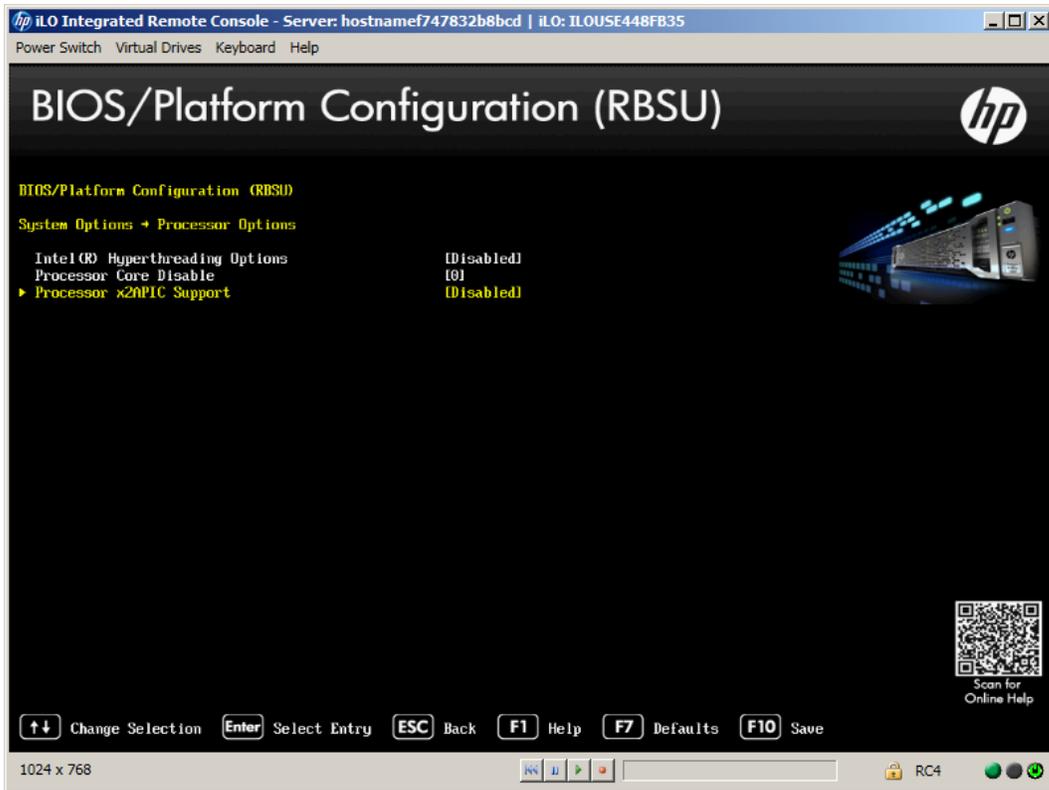
## 1. Boot Options > Boot mode = Legacy BIOS mode



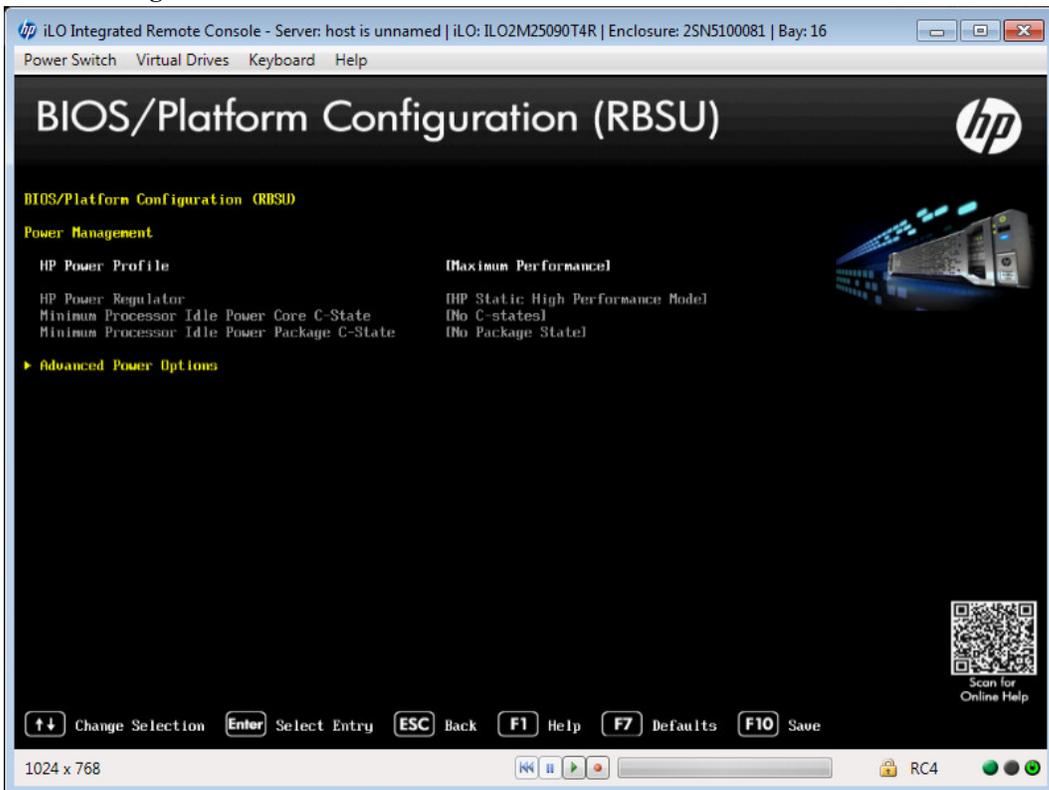
## 2. System Options > Processor Options > Intel (R) Hyperthreading Options = Disabled



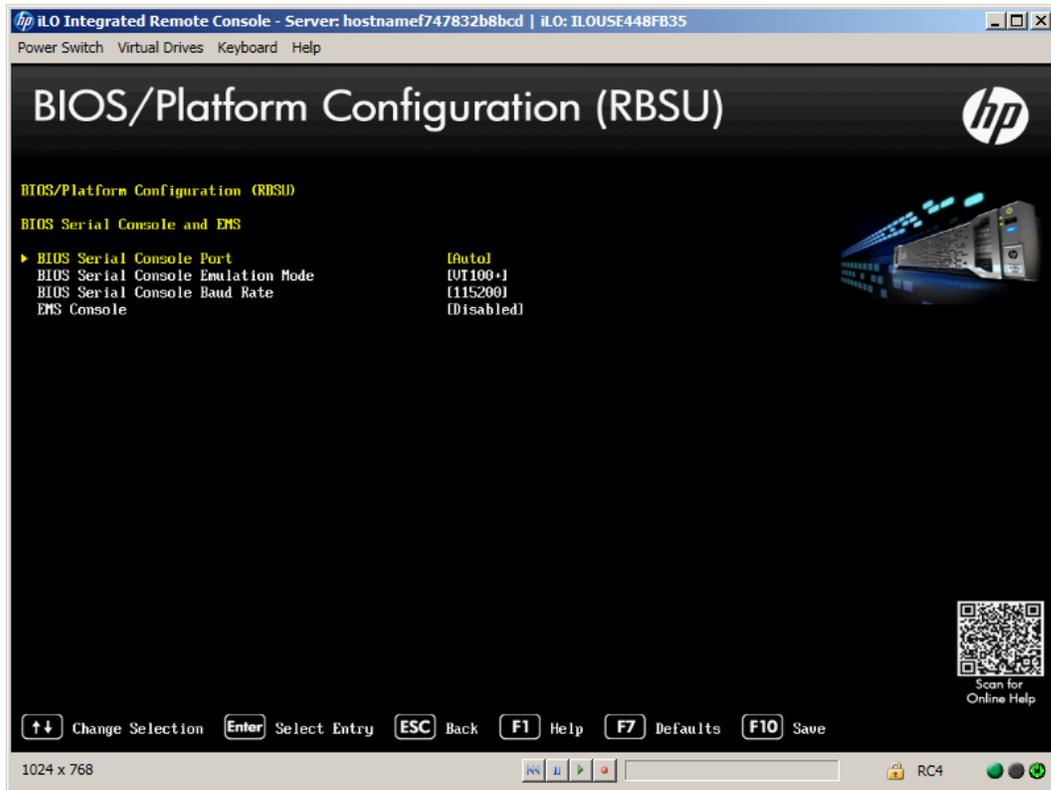
3. System Options > Processor Options > Processor x2APIC Support = Disabled



4. Power Management > HP Power Profile = Maximum Performance



### 5. BIOS Serial Console and EMS > BIOS Serial Console Baud Rate = 115200



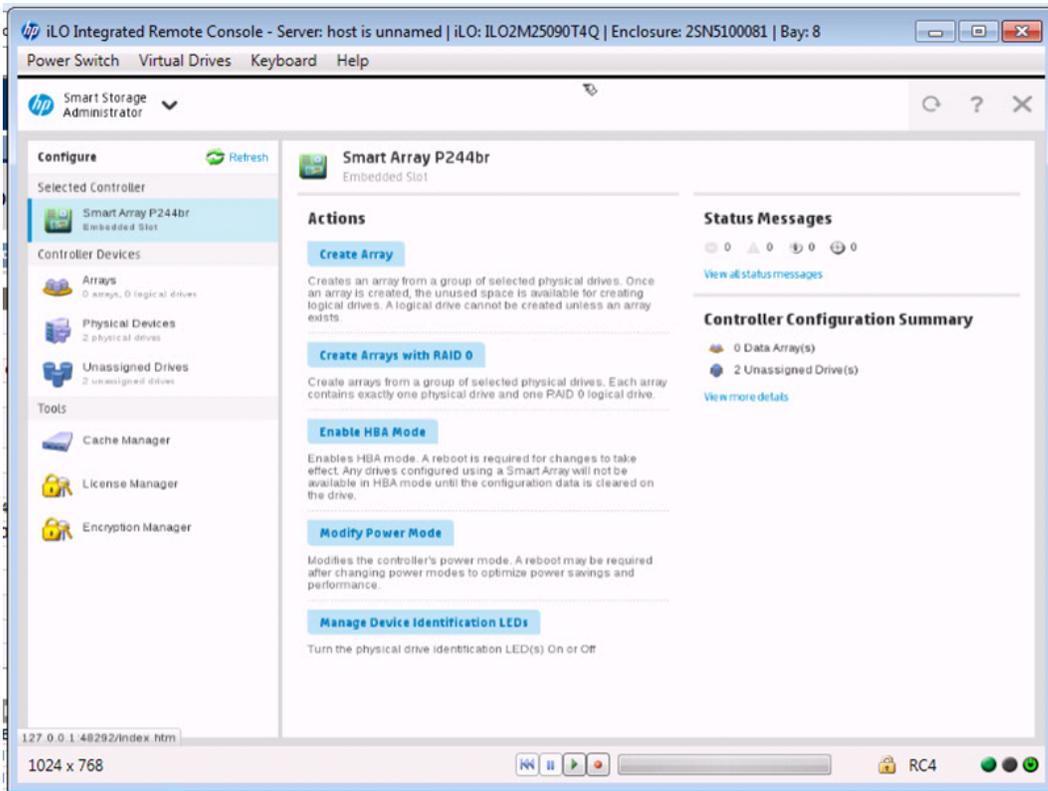
## RAID Array Configuration

Session Delivery Products require a single logical disk. If the system contains multiple physical disk drives, they must be presented to the OS as a single volume through RAID aggregation.

Configurations with more than one logical volume presented by RAID, or systems with more than one non-RAID physical disk (e.g., multiple SATA or SAS not in a RAID volume) are not supported and will result in system failure.

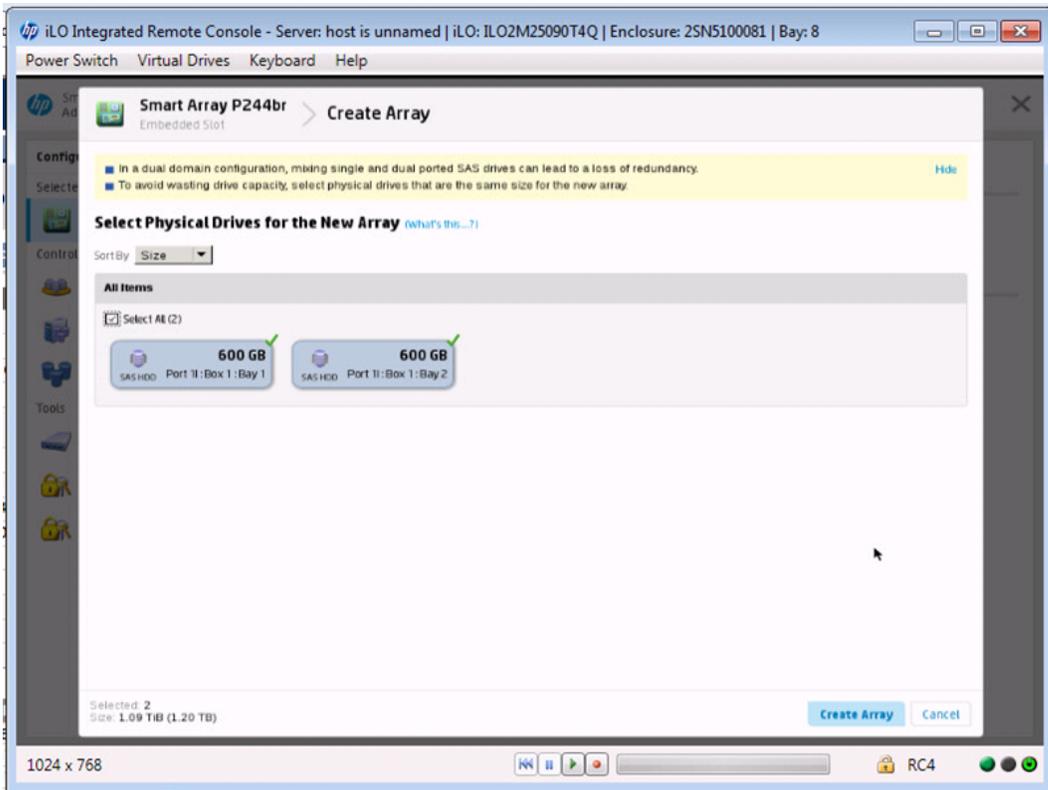
The HP Smart Storage Configuration Utility is used for creating RAID drives. It can be accessed on the HP server from either the UEFI or RBSU menu, or by booting from SPP and selecting HPSSA at the first page.

1. Navigate to the Smart Storage Administrator. Click **Create Array**.



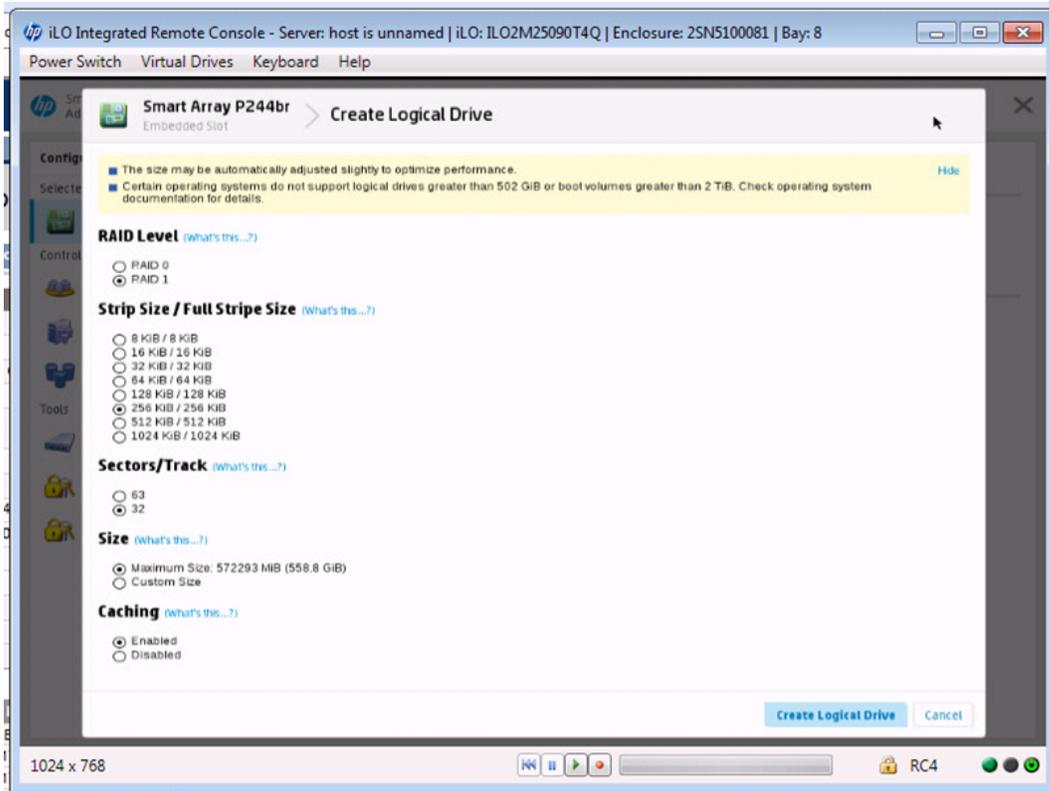
**Figure 2: HPSSA utility startup**

2. Select both drives with which to create the array. Click **Create Array**.



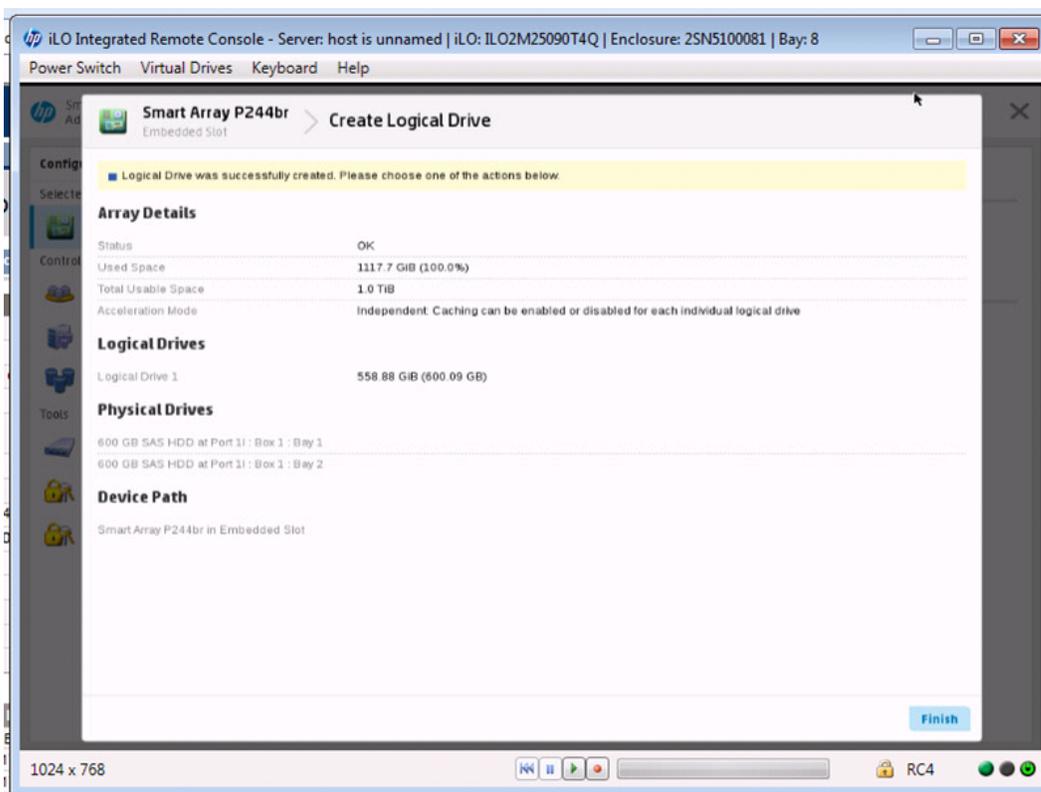
**Figure 3: Create array using both drives**

3. Create the logical drive by selecting RAID 1 and retaining all other defaults. Click **Create Logical Drive** to continue.



**Figure 4: Create Logical Drive**

4. After the array is created, click **Finish** to reboot.



**Figure 5: Reboot the system**

## Booting the Server

To boot your system with the correct media installer:

1. Attach appropriate installation media to the server by either:
  - Installing the prepared USB module into any USB port.
  - Connecting a device containing the .iso media to the server.
2. Set the system to boot from the device you installed in the previous step.
3. Reboot the system.

## Logging in to the ACLI and Enabling Super User Mode

The following procedure describes how to log in to the and enter super-user mode.

Enter the context of your task here (optional).

1. After the server boots, the Password: prompt appears.
2. To enter user mode, at the Password: prompt type your password and then press Return. The Acme> prompt appears and user mode is enabled.
3. To enable super user mode, at the Acme> prompt type enable and then press Return. The Password: prompt appears. Enter the super user password and then press Return. The Acme# prompt appears and super user mode is enabled.

## Formatting the Hard Drive

---

### Capacity Requirements

The storage device format scheme is dependent on the size of the drive and the total amount of system RAM installed.

The minimum storage required for system operation is 12GB, plus either 8GB or 2xRAM GB whichever is the larger. For example:

- If RAM is 4GB, the minimum storage would be  $12+(2 \times 4) = 20\text{GB}$ .
- If RAM is 32GB, the minimum storage would be  $12+(2 \times 32) = 76\text{GB}$

For devices larger than the minimum requirements, any additional capacity can be formatted for storage of user data.

### File System Volumes

System volumes are allocated as follows:

- /boot - 2GB
- /code - 2GB
- /opt - 8GB
- /opt/crash - 8GB or 2\*RAM, whichever is larger

Note the following:

- /boot and /code (2GB each) are created during software installation when the Acme USB module is first booted.
- /opt (8GB) is primarily intended for core dumps, log files, CDRs, and HDR data.
- /opt/crash is used for crash files with an 8GB minimum, 2xRAM maximum.

Optional user data volumes can be configured as alternative storage for CDR logs and other non-system related data.

 **Note:** By default, /opt volume will use a RAM-based file system after initial installation.

We recommend formatting at least the system disk volumes, to enable persistent logging between reboots.

### Default Format Plan

The storage device format scheme is dependent on the size of the drive. With a large storage device, you can accept the file system's default partition configuration, or you can create your own scheme.

The volumes /boot and /code are stored on the hard disk. These folders are created when the USB is first booted during software installation.

By default, /opt volume will use a RAM-based file system. Therefore, there is no persistent storage for logs, crash files, or CDR logs.

The command `format hard-disk` initiates the mass storage of logs, crash files and CDR accounting records located on the hard disk /opt volume.

### Local File System

The file system consists of two essential volumes and one or more user-defined volumes.

The Acme Packet software maintains /boot and /code partitions that are each 2 GB in size. These volumes are located on internal 4GB flash drives. Once a storage device is installed in the system, the /opt and /opt/crash volumes are moved there.

- /opt is located on the first system partition and is always 8 GB. Although it can be used for many purposes, it is primarily intended for core dumps, log files, CDRs, and HDR data.
- /opt/crash is located on the second system partition. It is the remainder of the storage device with an 8GB minimum. The folder /opt/crash is used for crash files.

### Default Format Plan

When formatting a storage device larger than 40 GB, the volumes /mnt/sys and /mnt/app are created in the data partition. Their relative sizes are based on the drive size as shown here.

Volume Number	Volume Name	Volume Size
system partition	/opt	8GB
system partition	/opt/crash	2 x RAM size (to less than 8 GB)
data partition	/mnt/sys	20% remaining space
data partition	/mnt/app	80% remaining space

### Custom Format Plan

You can customize the format plan when a storage device larger than 40 GB is installed in your system. Before formatting the storage device, plan the number of volumes, volume names, and relative percentage of storage device disk space. A maximum of four volumes in the data partition are allowed.

Volume Number	Volume Name	Volume Size
system partition	/opt	8GB
system partition	/opt/crash	2 x RAM size (to less than 8 GB)
data partitions 1-4	/mnt/<user-label>	user-defined percentage of remaining space

### Formatting Procedure

The format command requires one of the following arguments:

- system-disk — formats and creates these two system partitions: /opt and /opt/crash
- data-disk — formats and creates one or more data partitions with the default (/mnt/sys and /mnt/app) or user-defined volumes
- hard-disk — formats and creates both the system partition and data partition

After the drive(s) are formatted, the system mounts the newly created partitions.

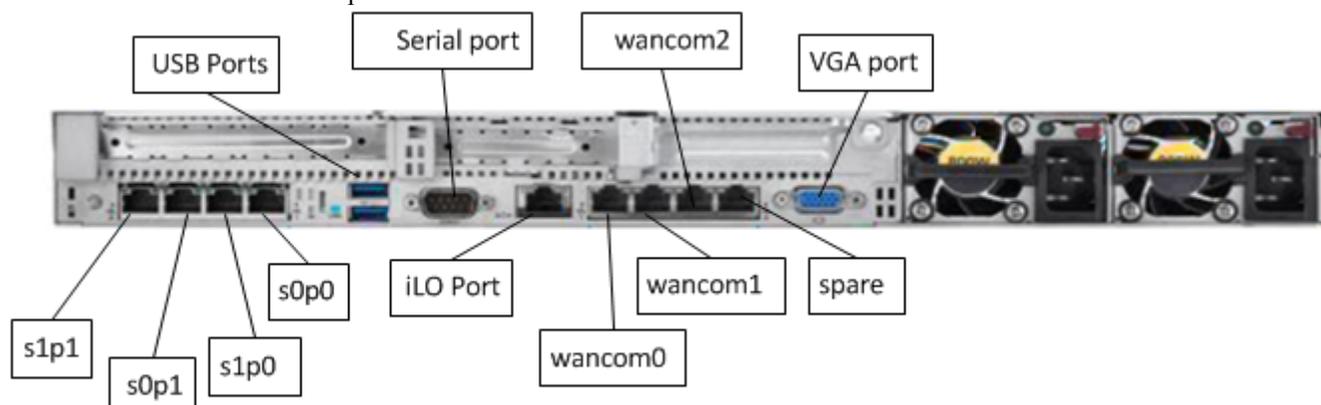


## Server Cabling Reference

This appendix describes how to cable your HP servers, with respect to Oracle Communications Session Delivery Product software.

### HP DL360 Gen9 Cabling

After mounting the HP DL 360p Gen9 in an equipment rack and installing all components into it, connect all appropriate data cables to the ports before powering the system up and configuring it. This section describes the location and enumeration of all ports



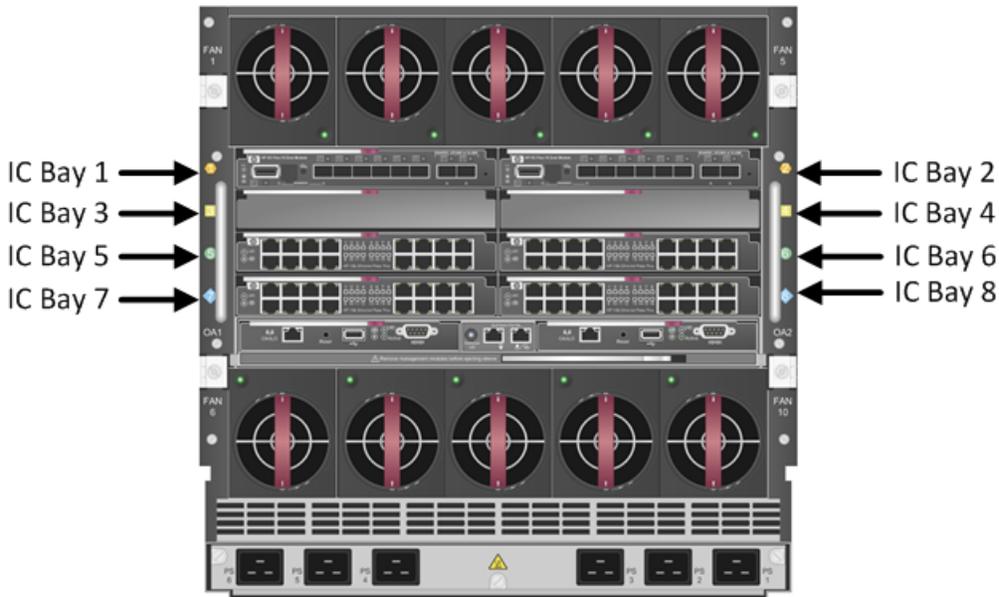
 **Note:** 2x dual PCIe, or 1x quad FLOM are both supported.

### Cabling the HP BL 460c Gen8

Installed on the front side of the mid-plane chassis, the HP BL 460c Gen8 uses physical network interfaces inserted in interconnect bays on the rear side for service access. Although each HP BL 460c Gen8 module includes management interface on the face of the module, Onboard Administrative modules on the rear side of the chassis provide iLO management access, which can simplify cabling.

**Interconnect Bay Numbering**

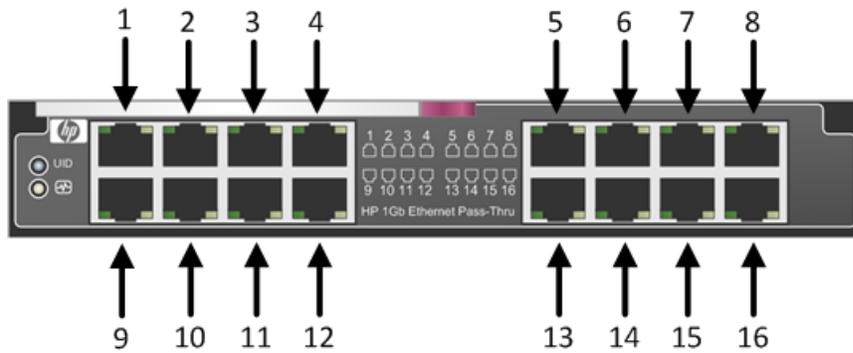
Interconnect modules mounted on the rear of the chassis include the 1GB Ethernet Pass-Thru Module and the Virtual Connect Flex-10 10GB Ethernet Module. The rear panel interconnect bays are numbered in the illustration below and their content is specified in the following table.



Item	Description
IC Bay 1	Virtual Connect Flex-10 10GB Ethernet Module
IC Bay 2	Virtual Connect Flex-10 10GB Ethernet Module
IC Bay 3	Device Bay Blank
IC Bay 4	Device Bay Blank
IC Bay 5	1 GB Ethernet Pass Thru Module
IC Bay 6	1 GB Ethernet Pass Thru Module
IC Bay 7	1 GB Ethernet Pass Thru Module
IC Bay 8	1 GB Ethernet Pass Thru Module

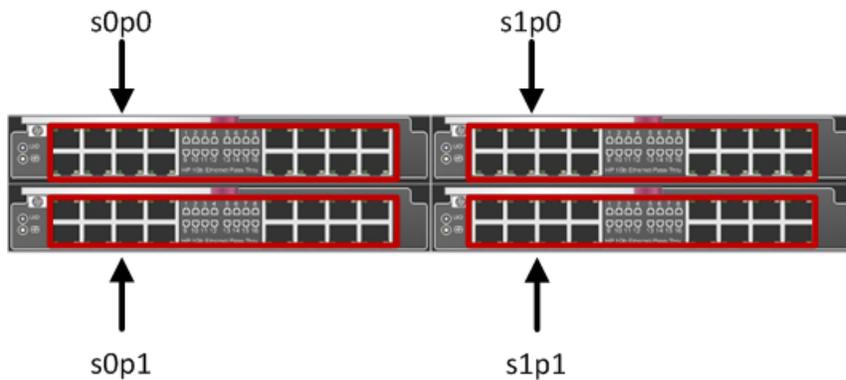
**1Gb Ethernet Pass-Thru Module**

Each of four 1GB Ethernet Pass-Thru Modules provides transparent, 1:1 port connectivity between each HP BL 460c Gen8 and an external switch. Located on the rear of the chassis in interconnect bays 5, 6, 7 and 8, each Ethernet Pass-Thru Module contains 16 Ethernet signaling ports. Each port on each Ethernet Pass-Thru Module, numbered 1 through 16, is shown in the following figure. These 16 ports provide access to the corresponding 16 service module bays on the front of the chassis, in which an HP BL 460c Gen8 may be installed.



### 1Gb Ethernet Pass-Thru Module Signaling Interfaces

Each HP BL 460c Gen8 connects to external SIP and Diameter interfaces through signaling interfaces on the 1 GB Ethernet Pass-Thru Modules. The signaling interfaces are referred to using the format sxy (where x is the slot and p equals the port). The signaling interface name for each 1 GB Ethernet Pass-Thru Module is shown below and detailed in the table.



For example, converging the information in the two diagrams above identifies the s0p0 interface for the HP BL 460c Gen8 installed in bay 1 on the front side of the chassis as the top left interface in the diagram above.

Signaling Interface	1 GB Ethernet Pass-Thru Module in Interconnect Bay Number
s0p0	5
s0p1	6
s1p0	7
s1p1	8

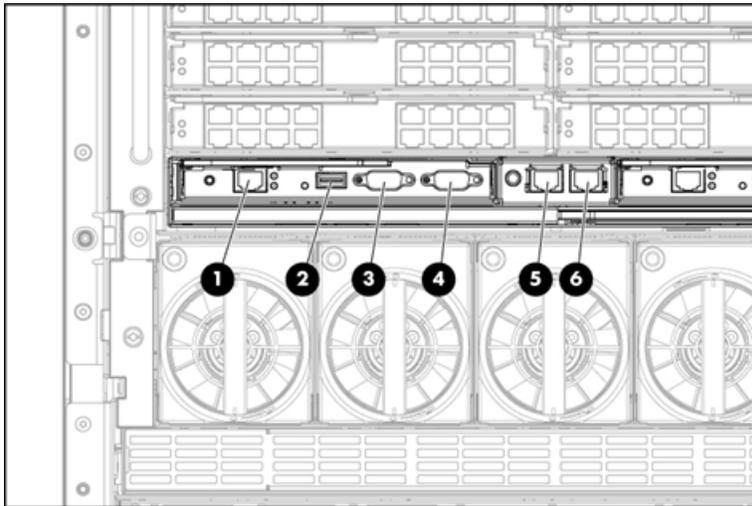
### Onboard Administrator Module (OA) Cabling Installation

Each OA module allows connection to the chassis for many different purposes such as: accessing OA and iLO on each blade, the Acme command line interface (ACLI) or KVM menu; inter-chassis/inter-blade communications, and connection of USB devices/computers/monitors/keyboards.

 **Note:** You must connect an RJ-45 cable between the OA and your OAM&P management network.

Each of the port connection on the OA is numbered in the following illustration and referenced and defined in the table below.

## Server Cabling Reference



Item	Connector	Description
1	OA/iLO	Ethernet 1000BaseT RJ45 connector, which provides Ethernet access to the OA and the iLO on each blade. Also supports interconnect modules with management processors configured to use the Chassis management network. Autonegotiates 1000/100/10 or can be configured to force 100Mb or 10Mb full duplex.
2	USB	USB 2.0 Type A connector used for connecting supported USB devices such as DVD drives, USB key drives, or a keyboard or mouse for Chassis KVM use. To connect multiple devices, a USB hub (not included) is required.
3	Serial	Serial RS232 DB-9 connector with PC standard pinout. Connect a computer with a null-modem serial cable to the Onboard Administrator command line interface (CLI).
4	VGA	VGA DB-15 connector with PC standard pinout. To access the KVM menu or Onboard Administrator CLI, connect a VGA monitor or rack KVM monitor for Chassis KVM
5	Chassis Link Down	Not Supported - Connects to the Chassis link-up port on the Chassis below with a CAT5 patch cable.
6	Chassis Link Up	Not Supported - Connects to the Chassis link-down port on the Chassis above with a CAT5 patch cable. On a stand-alone Chassis or the top Chassis in a series of linked Chassis, the top Chassis link-up port functions as a service port.