Hewlett Packard Enterprise

HPE BladeSystem c-Class

Solutions Overview

Abstract

This document describes setup requirements and procedures for HPE BladeSystem c-Class servers. HPE assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in product with hazardous energy levels.

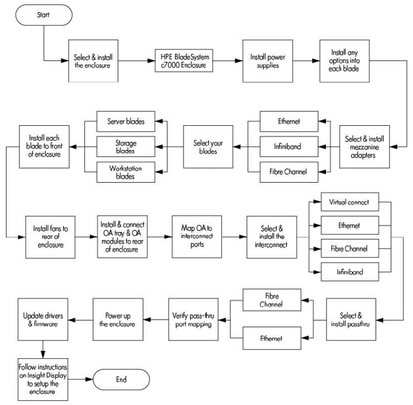
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Document overview

This document provides an overview of the complete installation process of an HPE BladeSystem c-Class solution.



In this document, the term "blade" can include sever blades, storage blades, or workstation blades.

1 Before you begin

Researching and developing a solution

To begin researching the HPE BladeSystem solution, see the HPE BladeSystem technical resources website (**http://www.hpe.com/info/blades**). The website includes white papers, technical briefs, instructions, best practices, helpful hints, useful links, and suggestions for setting up and configuring the solution.

The website includes the following tabs:

- Planning

  Use this tab to plan and learn about the information and tools required to select the optimal BladeSystem solution.

- Installing

  This tab provides procedures for completing a quick installation or for executing a comprehensive installation of your BladeSystem solution. This section also includes detailed port mapping information.

- Maintenance and Troubleshooting

  Maintenance and troubleshooting information are provided. This tab also includes useful links to HPE BladeSystem c-Class firmware and software upgrades and driver downloads.

- Functionality & Value

  Learn about the functionality and value of HPE BladeSystem technologies and the value of BladeSystem solutions.

Unpacking the system

The enclosure and components ship with hard copy installation instructions.

Compiling the documentation

The documentation, while delivered individually and in various formats, works as a system. Consult these documents before attempting installation. These documents provide required important safety information and decision-making steps for configuration.

- The enclosed documentation includes the following:
  - The printed rack template
  - This document
  - *HPE BladeSystem c7000 Enclosure Quick Setup Instructions*
- The following items are available on the HPE BladeSystem documentation website (**http://www.hpe.com/info/bladesystem/docs**):
  - Useful links to BladeSystem technical information
  - User documentation, such as user guides, quick install cards, and troubleshooting information
  - Copies of all the material included with the enclosure
  - Numerous white papers and technical briefs on various BladeSystem components
- For detailed information on ProLiant servers and software, see the HPE ProLiant Server Information Library (**http://www.hpe.com/info/proliantgen9/docs**).
- For the latest software and firmware drivers, see the HPE Service Pack for ProLiant (SPP) website (**http://www.hpe.com/info/spp/download**).

Determining power and cooling configurations

Validate power and cooling requirements, based on location and installed components.

Planning device and interconnect mappings

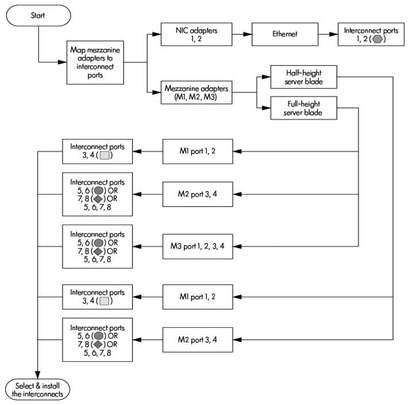
- Onboard Administrator to iLO port mappings

  The blade iLO ports and interconnect module ports can obtain IP addresses on the management network in three ways: a DHCP server, static IP address assignment, or Enclosure Bay IP Address (EBIPA). In addition, the iLO Management Engine is available on ProLiant server blades.

  For more information about Onboard Administrator, see the *HPE BladeSystem Onboard Administrator User Guide* on the HPE website (**http://www.hpe.com/support/OA_UG_en**). For more information about the iLO Management Engine, see the iLO Management Engine Information Library on the HPE website (**http://www.hpe.com/info/ilo**).

- Mezzanine slot to interconnect bay mappings

  Blade mezzanine slots correspond to specific interconnect bays. Plan mezzanine-to-interconnect mapping before installing interconnect modules and e mezzanine options.



For more information, see the appropriate HPE BladeSystem c7000 Enclosure setup and installation guide on the HPE website (**http://www.hpe.com/info/bladesystem/docs**).

Interconnect bay to physical cable mappings

Determine and acquire the appropriate number of cables, cable types, and lengths for the interconnect devices being installed. For more information, see the documentation that ships with the interconnect devices.

2 Hardware installation

Locating hardware instructions

For detailed instructions, see the HPE BladeSystem c7000 Enclosure Quick Setup Instructions, rack template, and applicable installation instructions on the HPE website (**http://www.hpe.com/info/bladesystem/docs**).

Installing the enclosure

The enclosure can be installed either in a rack or rack-free environment. For rack installations, install the rack rails, and then install the enclosure and other components.

Installing the components

Before installing front or rear components into the enclosure, review enclosure bay numbering for each component.

Install any options such as processor, memory, mezzanine card, or hard drive, into e ach blade.

Based on the total number ordered and the planned configuration, install the following components:

- Power supplies
- Blades
- Active Cool fans
- Onboard Administrator modules

For installation instructions, see the *HPE BladeSystem c7000 Enclosure Setup and Installation Guide* on the HPE website (**http://www.hpe.com/info/bladesystem/docs**).

Connecting the Onboard Administrator module cabling

Use the appropriate cables to connect each installed Onboard Administrator module to the external connections. The connectors on the Onboard Administrator module provide a connection to the iLO management network and the capability to link multiple enclosures.

IMPORTANT: For proper management of enclosure devices there must be an Ethernet connection from the Onboard Administrator module to the external management network. For information on Onboard Administrator module cabling, see the *HPE BladeSystem Onboard Administrator User Guide*.

Installing the interconnect modules and connecting cables

Install the interconnects based on the type of fabric in the configuration and the planned installation location of each mezzanine card. Use the appropriate cables to connect each installed interconnect module to the network.

Powering up the enclosure

Connect the AC or DC power cables, depending on the power configuration.

When the circuit breakers are powered, the enclosure and HPE BladeSystem Insight Display have power. By default, each installed component also powers up. Examine the HPE BladeSystem Insight Display for any errors that might prevent installed components from powering up.

3 Enclosure configuration

Locating configuration instructions

For specific instructions on configuring your enclosure, see the HPE BladeSystem Onboard Administrator User Guide on the HPE website (**http://www.hpe.com/support/OA_UG_en**).

Running the Insight Display wizard

When the enclosure is powered up for the first time, the HPE BladeSystem Insight Display launches an installation wizard to guide the rack technician through the initial configuration process.

Be sure to have the Installation Checklist available to record important information, such as the Onboard Administrator IP address, gathered while running the installation wizard. By default, the Onboard Administrator obtains an IP address using DHCP. Read the Insight Display and write the IP address for the active and standby Onboard Administrator on the checklist. This IP address is needed for remote connection and subsequent setup with a browser. If DHCP is not used, a static IP address can be configured on the Insight Display Settings screen. For specific instructions, see the HPE Blade System Onboard Administrator User Guide on the HPE website (**http://www.hpe.com/support/OA_UG_en**).

The Insight Display verifies that no installation or configuration errors exist and indicates configuration check progress. If configuration errors are indicated, then follow the on-screen instructions to correct the problem. When the screen display stays green, no configuration errors or device failures exist and hardware installation is complete.

Running the Onboard Administrator First Time Setup wizard

After all hardware is installed and the hardware configuration has been verified in the Insight Display ds to complete the enclosure configuration setup:

- Use the Insight Display to determine the address received by DHCP, and use the Onboard Administrator First Time Setup Wizard to complete the installation and configuration at the assigned address.
- If no DHCP server is present on the customer management network, do one of the following:
  - Use the Insight Display to set the address, and then use the Onboard First Time Setup Wizard to complete the installation and configuration at the assigned address.
  - Use the Onboard Administrator First Time Setup Wizard or the CLI to configure EBIPA and assign IP addresses for iLO and interconnect management ports. This method simplifies the required setup for interconnect management network settings.
- Use the Insight Display to set the IP address and complete the Onboard Administrator First Time Setup Wizard from the Insight Display. This method enables configuration without the use of an external browser.

4 Configuration

Configuring interconnect modules

Each interconnect module ships with a default configuration. For customized configuration or advanced port mapping, see the installation instructions that ship with each interconnect module.

To configure HPE Virtual Connect modules, see the HPE Virtual Connect for c-Class BladeSystem Setup and Installation Guide on the HPE website (**http://www.hpe.com/info/bladesystem/docs**).

5 Firmware

Managing firmware

To determine recommended updates and download the latest firmware, see the HPE Service Pack for ProLiant (SPP) website (**http://www.hpe.com/info/spp/download**).

SPP is a release set that contains a comprehensive collection of firmware and system software components, all tested together as a single solution stack for HPE ProLiant servers, their options, BladeSystem enclosures, and limited HPE external storage.

SPP has several key features for updating HPE ProLiant servers. Using HPE System Update Manager as the deployment tool, SPP can be used in an online mode on a Windows or Linux hosted operating system, or in an offline mode where the server is booted to the ISO so that the server can be updated automatically with no user interaction or updated in interactive mode.

For more information or to download SPP, see the HPE website (**http://www.hpe.com/info/spp**).

If you are operating the enclosure in a VMware ESX environment, use an offline utility such as ROMPaq to update and verify the firmware. The ROMPaq utility check the system and provides a choice (if more than one exists) of available firmware revisions. For more information about the ROMPaq utility, see the HPE website (**http://www.hpe.com/support/hpesc**).

6 Operating systems

Preinstalled operating systems

If the blade has an operating system that is preinstalled, proceed to "Management software".

Choosing a supported operating system

For the latest operating system support information, see the HPE website (**http://www.hpe.com/info/supportos**).

Installing an operating system using Intelligent Provisioning

Intelligent Provisioning is a single-server deployment tool embedded in HPE ProLiant servers. Intelligent Provisioning prepares the system for installing leading operating system software and automatically integrating optimized ProLiant server support software from SPP.

To install an operating system on a single ProLiant server:

1. If needed, access Intelligent Provisioning by rebooting the server and pressing **F10**.
2. If you are running Intelligent Provisioning for the first time, in the application, complete step 1, Set Intelligent Provisioning preferences and step 2, Activation.
3. From the Home screen, click **Perform Maintenance**, and then click **Firmware Update**.
4. Ensure the latest drivers are available for installation. From the list of firmware, select **Intelligent Provisioning Software**, and then click **Update**. If the check box is not selected, the latest drivers are already installed.
5. From the Home screen, click **Configure and Install**.
6. Follow the on-screen prompts to finish the installation. To update your drivers and system software:

Intelligent Provisioning automatically integrates optimized ProLiant server support software from the SPP. For more information on using SPP, see the HPE Service Pack for ProLiant User Guide in the SPP Information Library (**http://www.hpe.com/info/spp/docs**).

7 Management software

Deploying the management software

The HP BladeSystem c7000 Enclosure ships with Insight Management, an integrated suite of software used to simplify HPE BladeSystem provisioning and management.

Use the wizard-based installer to configure and license HPE Systems Insight Manager and Insight Control software rapidly and consistently, which reduces manual procedures and enables faster production deployment of HPE BladeSystem servers.

If previous enclosures have been installed, you do not have to deploy the management software. New devices are discovered and can be managed by the previously installed management system.

Before deploying the management software and creating provisioning policies:

- Complete the Insight Management Preinstallation Checklist (**http://www.hpe.com/info/insightmanagement/docs**).
- Be sure that the HPE BladeSystem c7000 Enclosure, switches, and associated storage resources are configured.
- Verify that a supported operating system is installed. If the operating system has not been installed, see the operating system installation documentation.

Use the Insight Management installation wizard to deploy and configure HPE Systems Insight Manager and Insight Control software. After installation completes, log in to HPE System Insight Manager using the credentials supplied during the installation process, and complete configuration.

For more information, see the HPE Insight Control Management Software portfolio at the HPE website (**http://www.hpe.com/info/insightcontrol**).

8 For more information

Additional information

Other helpful information about your ProLiant server is available on the HPE website (**http://www.hpe.com/info/proliantgen9/docs**). Documents include User Guides, Setup and Installation Guides, Maintenance and Service Guides, Troubleshooting Guides, and Release Notes.

To download the latest user documentation and drivers, including safety and regulatory notices, see the HPE website (**http://www.hpe.com/support/hpesc**).

9 Documentation feedback

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