Hewlett Packard Enterprise

HPE SimpliVity 380 Gen10 Server Installation and Maintenance Guide

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Chapter 1: Component identification

This section contains the following topics:

- **Server components**
- **Specifications**
- **Component upgrades**
- **Firmware revisions**

This section provides an overview of the HPE SimpliVity 380 server (components and specifications) configured for deployment into an HPE OmniStack federation.

For complete information about the server, refer to the HPE SimpliVity 380 documentation included with your server or available from the **http://www.hpe.com/support/hpesc** website.

Server components

HPE SimpliVity 380 server models are available in various configurations based on storage capacity. See the QuickSpec for detailed system configuration options.

Processor	Model	Intel® Xeon® E3 v5 family
	Processor count	1 or 2
Front SSD drives	Quantity	Extra Small, Small: 5 Medium: 9 Large: 12
	Dimension	2.5" (2.5" carrier)
	RAID type	Extra Small, Small: RAID5 Medium, Large: RAID6
Rear HDD boot drives	Quantity	2
	Capacity	300 GB
	Interface	SATA
Effective storage capacity	Total raw storage capacity without compression and deduplication effects.	Extra Small: 2.6 TB Small: 5.5 TB Medium: 9.9 TB Large: 14.4 TB
Memory options	Capacity	144 GB to 1.5 TB RAM

Power supply	Two power supplies are required to provide High Available power. Both 800 W (120-240 VAC) and 1600 W (200-240 V) options are available. Some configurations require 1600 W power supplies.
Required NIC cards	One 10 Gb FlexLOM card is required.
	NOTE:
	A 4-port 1 GbE network adapter is provided with the system.
Expansion slots	Up to 3 PCIe option cards are available. Refer to the Quick Spec for the latest supported options.
Deduplication and compression	Accelerator card
Remote server management	iLO Integrated Lights-Out processor and network port for remote, out-of-band, web-based management.

Front panel components

The front panel provides server controls, diagnostic indicators, video ports, USB connectors, and contains the data drives.
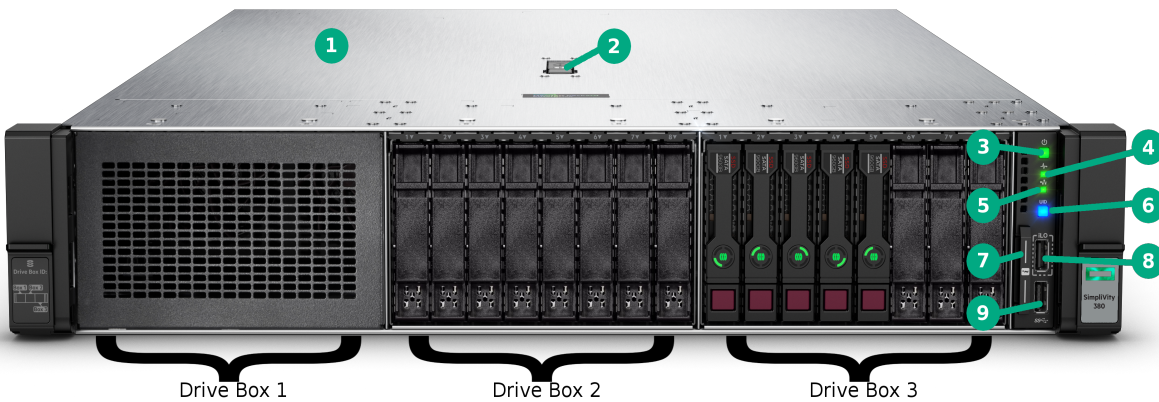
Callout	Item	Description
1	Quick access Cover	Provides access to internal components.
2	Locking cover latch	Lock/unlock the quick access cover.

Callout	Item	Description
3	Power On/Standby button and system power LED	• Solid green = System ontest • Flashing green (1 Hz/cycle per sec) = Performing power on sequence • Solid amber = System in standby • Off = No power present **NOTE:** Power LED off can indicate facility power is not present, power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.
4	Health LED	• Solid green = Normal • Flashing green (1 Hz/cycle per sec) = iLO is rebooting • Flashing amber = System degraded • Flashing red (1 Hz/cycle per sec) = System critical **NOTE:** If the Health LED indicates a degraded or critical state, review the system IML or use iLO to review the system health status.
5	NIC status LED	• Solid green = Link to network • Flashing green (1 Hz/cycle per sec) = Network active • Off = No network activity
6	UID button/LED	• Solid blue = Activated • Flashing blue: • ◦ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress. ◦ 4 Hz/cycle per sec = iLO manual reboot sequence initiated. ◦ 8 Hz/cycle per sec = iLO manual reboot sequence in progress.
7	System Information Card	Provides server identification information that might be required when contacting **Customer Support (http://www.hpe.com/support/hpesc)**.
8	USB 3.0 port	USB 3.0 port (attached to iLO)
9	USB 3.0 port	Enables you to connect a USB 3.0 device, such as a mouse or keyboard.

Callout	Item	Description
Drive boxes	Drive boxes 1-3	The server models contain these drive configurations:

The server models contain these drive configurations:

- Drive boxes are numbered 1-3 from left to right.
- Each drive box contain a maximum of 8 drive slots.
- Drive slots are number 1-24 from left to right.
- Drive box 1, slots 1-8 are unused.
- Small and Extra Small systems use Drive box 3, slots 17-21 for a total of 5 drives.

  Medium systems use Drive box 2 and 3, slots 9-17 for a total of 9 drives.

  Large systems use Drive boxes 2 and 3, slots 9-20 for a total of 12 drives.

NOTE:

When the Power, Health, NIC status, and UID LEDs flash simultaneously, a power fault has occurred. For more information, see "Power fault LEDs" in the *HPE ProLiant DL380 Gen10 Server User Guide*.

Back panel components

The back panel of an HPE SimpliVity 380 server contains the Accelerator card, network and device ports, power supplies, and boot drives.
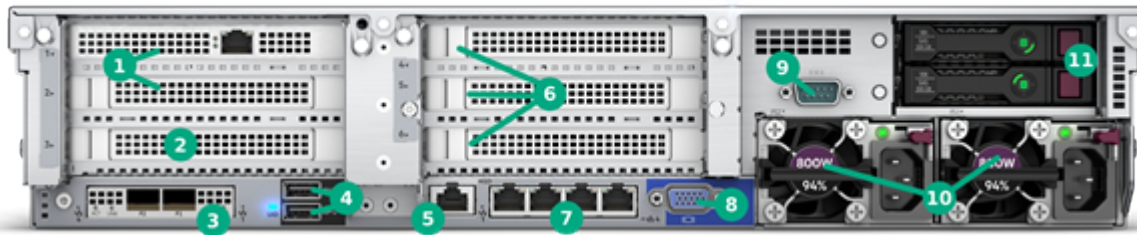
Callout	Item	Description
1	PCIe Slots 1 and 2	For all server models, the Accelerator card is installed in this slot. Both indicator LEDs on the card emit solid green continuously to indicate normal operation.
2	PCIe Slot 3	Boot Drive Controller (E208i-p).
3	10 GbE FlexLOM	10 GbE FlexLOM (SFP+ model shown).
4	USB connectors	Dual USB 3.0 connectors enable you to connect a USB device, such as a mouse or keyboard.

Callout	Item	Description
5	iLO port	Dedicated iLO5 management port.
6	PCIe Slot 4-6	Optional Secondary PCIe riser (requires second CPU).
7	4 port 1 GbE NIC	Embedded 4-port 1 GbE Network Adapter.
8	Video port	Use to connect a VGA monitor for local access.
9	Serial port	Optional serial port connector.
10	Dual power supplies	Dual Power Supplies for HA power (800 W auto-sense or 1600 W 220V).
11	Boot drives	Redundant (RAID1) 300 GB Boot drives.

Specifications

There are optimium environment and technical specifications for the HPE SimpliVity 380. The specifications help you when planning the appropriate installation location, environmental conditions, and resources such as power and cooling. See the product QuickSpec for the latest information on system specifications.

Vibration and shock

The server configured for deployment in a HPE OmniStack federation does not exceed the vibration and shock limit specifications for a fully-configured server.

Agency compliance

An HPE SimpliVity 380 server, when configured for deployment in an HPE OmniStack federation, meets the same compliance standards as a standard HPE server.

Component upgrades

If you need to upgrade the server components, contact **Customer Support (http://www.hpe.com/support/hpesc)** .

⚠️ **WARNING:**

Never install additional options other than those approved for installation by **Customer Support (http://www.hpe.com/support/hpesc)**. Doing so will void your warranty and might cause serious server instability and potential data loss.

Firmware revisions

HPE OmniStack software requires that each supported platform is running a specific firmware revision.

To avoid compatibility issues, contact **Customer Support (http://www.hpe.com/support/hpesc)** before making any firmware changes.

NOTE:

If your server, or any management software, has automatic software updates enabled, disable this feature to avoid installing unsupported firmware revisions.

Chapter 2: Install the server components

This section contains the following topics:

- **Electrostatic discharge**
- **Shipping carton contents**
- **Components not supplied in the shipping carton**
- **Rack requirements**
- **Rack installation guidelines**
- **Install the server in a rack**
- **Connect the power cables**
- **Connect the network cables**
- **Organize the cables**
- **Power up the server**

To install the server components, you must unpack all components, install the server in a rack, connect the power and network cables, and power on the system.

Electrostatic discharge

You must protect sensitive components from electrostatic discharge (ESD).

To protect components from ESD:

- Ensure the component is fully grounded at all times to prevent damage from electrostatic discharge.
- When not installed in a rack, store server components in the original packaging or place on a sturdy surface that is protected from electrostatic discharge.
- When handling server components, always use the electrostatic wrist strap provided or a similar form of ESD protection.

Shipping carton contents

The shipping carton contains standard items and other items based on your configuration.

Part	Description
Server	Provides processing power and storage capacity.
Power cords	- Two standard power cords. - Two IEC C13/C14 (PDU) cords.
Rack-mounting hardware (optional)	Contains the left and the right rails and detailed installation documentation.
Cable Management Arm (CMA) kit (optional)	Contains the CMA assembly and installation documentation.

Part	Description
Printed documentation	• *Hardware Installation Quick Start* • *Configuration and Deployment Quick Start* • *Product Information Guide (safety and regulatory notices)* • *End User License Agreement*

Components not supplied in the shipping carton

Your network environment might require additional components not supplied in the shipping carton.

Component	Description	Application
Rack	19 inch (48.3 cm), four-post, toolless rack.	Provides easy access to the server components in your computing environment.
1 GbE data cables	Two Category 5E or Category 6 cables with RJ45 connectors. An optional third cable is required to use the IPMI port for remote console access.	Connects the 1 Gb network interfaces on each server to a 1 Gb switch. This is required only if you are connecting the 1 Gb network interfaces on each server to a switch, such as in a direct connected or switch-connected network configuration, for example.
10 GbE data cables	Two SFP+ Direct Attach cables or Cat 5e/6 cables depending on FlexLOM selection.	Connects the 10 Gb interfaces on one server to a 10 Gb switch.
Redundant network switches	Required number of switches.	Connects devices to a network. The number of switches depends on your network configuration.
Redundant Uninterruptible Power Supply (UPS)	Required number of UPS devices.	Provides temporary power to the server in the event of a complete power outage.

Rack requirements

Each server ships with rack-mounting hardware. The sliding rails allow you to fully extend the system out of the rack for service.

> ⚠️ **Caution:**
>
> See the *Rack Installation Instructions* supplied with the rack mount kit for safety and installation instructions.

The racks you use for each server must meet these requirements:

• The sliding rails support tool-free mounting in 19-inch, EIA-310-E compliant square-hole, 4-post racks, and also support tooled mounting in threaded 4-post racks.

- Each server is 2U. Ensure the rack has sufficient space for all systems.

- For full power redundancy across all servers, you need a rack with two power distribution units (PDU) feeding separate outlet strips, with sufficient vacant outlets on each strip.

- Ensure the rack is installed and stabilized or bayed according to the manufacturer's instructions.

⚠️ **WARNING:**

When servicing a server in a rack, extend only one server at a time to prevent the rack from tipping.

Rack installation guidelines

There are guidelines to help you successfully install each server in a rack.

- Follow all safety guidelines stated in the documentation that came with the rack, particularly when installing components into the locations at the top of the rack.

- Ensure the rack meets the requirements.

- Install the servers in the same rack when possible.

- Install the servers in a rack starting from the bottom of the rack.

- Always install the servers in a horizontal position, or you void your warranty and support contract.

Install the server in a rack

Before you begin

- You have read the safety instructions in the *Product Information Guide* supplied with your server.

- You have read the *Rack Installation Instructions*, included in the rack mount kit in the shipping carton, for installing the left and right rails in the rack. The rack mount kit instructions also explain how to stabilize the rack, install devices, and configure power distribution.

Procedure overview

You install the rails and, optionally, the Cable Management Arm (CMA), which are included in the shipping carton with installation instructions, at the lowest available U space in the rack. You then work up from the bottom of the rack to add additional rails. With the rails installed, you can then mount each server into the rails.

⚠️ **Caution:**

Two people are required to safely install the server hardware in a rack. The *Rack Installation Instructions* included in the rack mount kit box contains important safety and procedural information.

Procedure

1. Install the left and right inner slide rails on the server:

   a) Position the keyhole rail cutouts over the lugs on the server sides.

   b) Slide the rails toward the rear of the server to lock them in place.

2. Install the slide mounting brackets into the rack: by

   a) Align the front lugs in the appropriate rack location.

   b) Slide the rear lugs into position from the rear of the rack.

The side slide mounting brackets are stamped front left and front right. Ensure that the brackets are positioned correctly (as viewed from the front of the rack).

3. Align the server slide rails with the side slide mounting brackets and then insert the server into the rack until the rails lock in place and the server is fully inserted into the rack.

Next steps

You can now connect the power cables to the server.

Connect the power cables

Procedure overview

Each system includes two, hot plug, 800W or 1600W power supplies, numbered PS1 and PS2, from right to left. You connect both power supplies to power sources.

For high availability, you connect each power supply to a different circuit. You can also use redundant, Uninterruptible Power Supply (UPS) systems to protect against a complete power outage.

Procedure

1. Obtain the two power cables from the shipping carton.

2. Connect the power cables to power supply units on each system.

3. Connect the other end of each power cable to a power source, preferably on different circuits.

4. Use the cable strain relief on each power supply to secure the power cable and prevent an accidental disconnection.
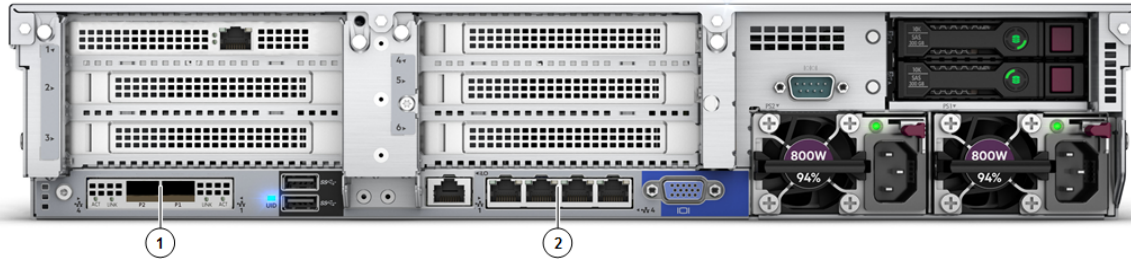
Connect the network cables

Procedure overview

The HPE SimpliVity 380 server provides 10 Gb and 1 Gb network interfaces for the HPE SimpliVity 380 Storage and Management network traffic.

You can access the following network interfaces at the back of the server:

• 2-port 10 Gb interface (callout 1) used for HPE OmniStack Federation and Storage networks.

• Embedded 4-port 1 Gb interface (callout 2). You use ports 1 and 2 for the Management network. Ports 3 and 4 are available for guest virtual machine use.

Procedure

1. Connect the cables according to the guidelines for the HPE SimpliVity 380 networks only.

2. Ensure that no other network interfaces, such as optional 10 Gb interfaces, are connected to your network before deploying the server to a federation.

   Connect the optional network interfaces after deployment.

   ⚠ **Caution:**

   If the optional interfaces are connected when you deploy the server, the ports for the Federation network might not be configured correctly. For help with resolving this error, contact **Customer Support (http://www.hpe.com/support/hpesc)**.

Federation networks

There are minimum recommended network configurations for setting up a properly functioning federation.

NOTE:

A network configuration is a complex and integral part of any networked storage solution. This topic does not attempt to describe all possible network configurations.

- A federation uses the following three networks, which you can separate physically or by using VLANs:

Storage network	10 GbE network used for storage data traffic. You connect the 10 GbE network interfaces on each server in a federation datacenter or cluster to a switch. Optionally, you can connect the 10 GbE interfaces from one server in a federation datacenter or cluster to the 10 GbE interfaces on another server in the same federation datacenter or cluster to create a direct-connected configuration.
Federation network	10 GbE network used for communication between Virtual Controllers in a federation datacenter or cluster, and does not route to remote datacenters or clusters. No guest virtual machines use this network. This network requires a port group on the same network as the Storage network.
Management network	1 GbE or 10 GbE network used for federation management. This network must be accessible by the Hypervisor Management System and CLI users. If you are using a VLAN, ensure that the IP address of the Virtual Controller and the IP address of the hypervisor host can access each other.

Organize the cables

Procedure overview

Use the cable management arm (CMA) to organize the power and network cables.

NOTE:

Make sure you have sufficient slack in the cables to fully extend the server from the rack until the rails are safely locked in the extended position.
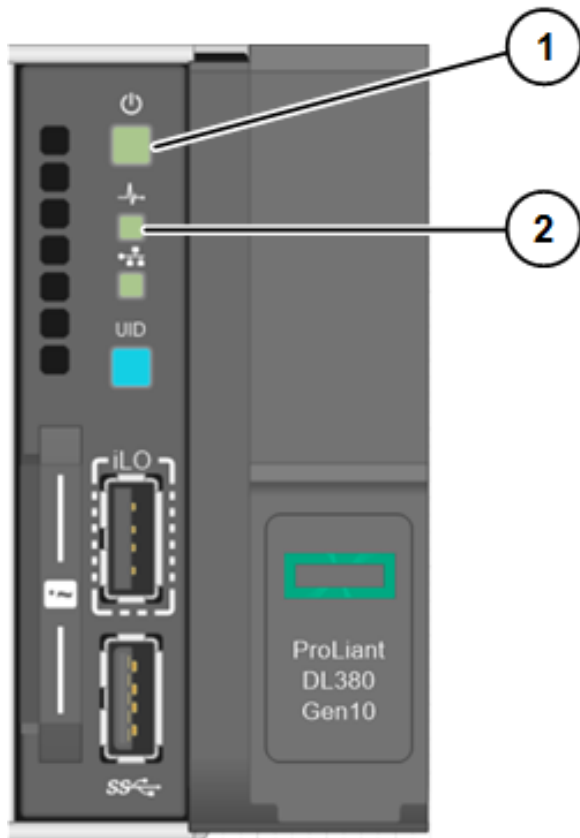
Procedure

1. Insert the outer CMA brackets on the interior sides of both rack flanges.

2. Gather the cables on each side of the server into bundles.

3. Thread the hook and loop straps through the tooled slots on the outer CMA brackets on each side of the server and secure the cable bundles.

   For more information, see the *Cable Management Arm Installation Instructions* supplied in the cable management kit.

Power up the server

Procedure overview

Procedure

1. Go to the front of the system.

2. Press the Power On/Standby button (callout 1) to power up the server.

3. Watch the health indicator (callout 2) on the front panel to make sure it changes from flashing green to steady green.

> **NOTE:**
>
> If an error occurs during server start-up, contact **Customer Support (http://www.hpe.com/support/hpesc)**.

Chapter 3: Configure the iLO port for remote management

This section contains the following topics:

- **Configure the iLO port to access the iLO remote console**
- **Connect to iLO and launch the Integrated Remote Console (IRC)**

Configure the iLO port to access the iLO remote console

Before you begin

- Your environment meets the requirements for configuring iLO (Integrated Lights-Out) for out-of-band web-based management.
- You have the following information and items:
  - A Windows client laptop computer with a Web browser. You can use a MAC or Linux OS; however, this procedure describes Windows.
  - An Ethernet cable to connect between the laptop and the iLO port on the server.
  - An IP address. The address can be static or assigned by DHCP.
  - A static address for the gateway, subnet mask, and, optionally, up to two DNS servers, which can be static or assigned by DHCP.

NOTE:

If you prefer to configure iLO at a later time, you can skip this task and deploy the server using Deployment Manager. See the *HPE OmniStack for vSphere Deployment Guide* for deployment instructions.


Procedure overview

You configure the iLO port to access the iLO console through a web browser. The iLO console provides out-of-band remote server management and access to advanced management options. Your configuration steps may include configuring IPv4, modifying the default static IP address, enabling DHCP, or changing the default user name and password.

The server is pre-configured with a default, static IP address to access iLO (`192.168.0.120`). The iLO default user name and password are found on the label attached to the top of the chassis. The user name is `Administrator` and the password is an eight-character alphanumeric string.

Procedure

1. Connect an Ethernet cable from the Ethernet port on the laptop to the iLO Ethernet port on the rear of the server.
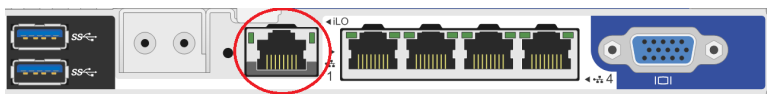
2. If necessary, change the IPv4 address of the Ethernet port on your Windows laptop:

   a) Open **Network and Sharing Center** in the Control Panel and click **Change adapter settings**.

b) Locate the icon for the Ethernet adapter, right-click it, and then select **Properties**. This is typically a Local Area Connection.

c) Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.

d) Record the current settings on the **General** tab so that you can restore them later.

e) Check the button labeled **Use the following IP address**.

f) Enter an IP address in the range 192.168.0.[0-255], excluding 192.168.0.120.

g) Enter a subnet mask of 255.255.0.0.

h) Close the dialogs and exit from **Network and Sharing Center**.

3. Enter the default iLO IP address to access the server:

   `http://192.168.0.120`

4. Use the default user name and password found on the label attached to the top of the chassis to log in.

5. If prompted to do so, change the default iLO password according to your site-specific security requirements.

6. Select **Network** > **iLO Dedicated Network Port or Network** > **Shared Network Port**.

7. Select the **IPv4** tab.

8. On the **IPv4** tab, enable DHCP or specify a static IP address, subnet mask, default gateway, and so on based on your network environment.

9. Click **Submit** to save the network settings.

10. Connect the iLO port to a switch in the rack.

Connect to iLO and launch the Integrated Remote Console (IRC)

Before you begin

Ensure you have configured the iLO port.

Procedure overview

You connect to iLO through a web browser to launch the Java Integrated Remote Console (Java IRC), which you use to manage each HPE SimpliVity 380 server remotely. You can also configure server settings.

NOTE:

The Remote Console is compatible with different browsers and versions of Java. If you see errors while launching or using the Remote Console, you might need to try a different browser or Java version. iLO also provides a .NET IRC and an HPE iLO Mobile application for remote access.

Procedure

1. Log in to any computer that can access the IP address for the iLO web interface.

2. Enter the iLO IP address into your browser.

   For example: `http://192.168.0.120`

3. If you haven't changed the default settings, use the default user name and password found on the label attached to the top of the chassis to log in. If you have changed the default settings, use the user name and password you configured.

4. Select **Remote Console** > **Remote Console**.

5. Click the appropriate launch link for your system.

Chapter 4: Server troubleshooting

This section contains the following topics:

- **Diagnostic indicators**
- **Drive monitoring**
- **Power supply monitoring**
- **Accelerator card monitoring**
- **Network interface monitoring**

You can use the diagnostic indicators and LEDs to identify problems with the server hardware. For assistance with resolving hardware problems, such as a component failing, contact **Customer Support (http://www.hpe.com/support/hpesc)**.

Diagnostic indicators

The right side of the front panel on an HPE SimpliVity 380 server provides diagnostic LEDs that indicate when the server is functioning properly and when a hardware-related error occurs. The indicators can help you correct problems before they affect service levels.
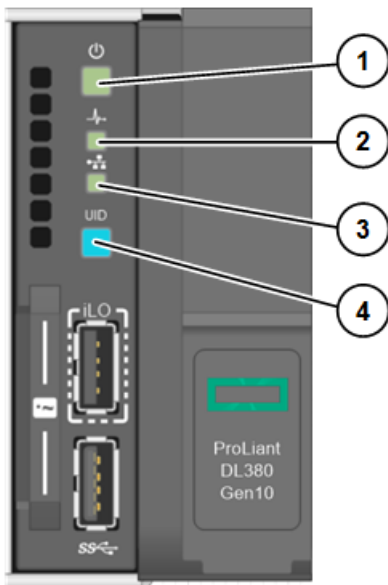
Callout	Function	LED	State
1	Power	Off	No power is present.
		Steady green	The server powered up
		Flashing green	Performing power up sequence
		Solid amber	System in standby mode

Callout	Function	LED	State
2	Health LED	Solid green	Normal operation
		Flashing green	ILO is rebooting
		Flashing amber	System degraded
		Flashing red	System critical
3	NIC status LED	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
4	UID button	Solid blue	Activated
		Flashing blue	One flash per second: Remote management or firmware upgrade in progress
			Four flashes per second: ILO manual reboot initiated
			Eight flashes per second: ILO manual reboot in progress
		Off	Deactivated

Drive monitoring

The LEDs on the front of each drive indicate when a drive has failed or is failing. If a drive fails, contact **Customer Support (http://www.hpe.com/support/hpesc)** to obtain a replacement drive of the same type, size, and speed.

The drives in the front panel store user and federation data and are protected by RAID.

• A Small, or Extra Small All Flash model can tolerate one SSD failure without data loss.

• A Medium, or Large All Flash model can tolerate two SSD failures without data loss.
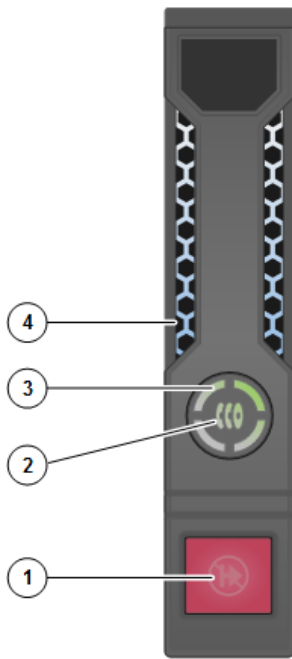
Callout	Function	LED	State
1	Drive Removal	Solid white	Drive is online and is part of a logical drive.
		Off	Drive is offline or is not part of a logical drive.
2	Drive status	Solid green	The drive is online, but may or may not be part of a logical drive.
		Flashing green	The drive is rebuilding.
		Solid amber	The drive failed.
		Off	The drive is removed from the chassis.
3	Activity ring	Rotating green	The drive is active.
		Off	The drive is not active.
4	Locate	Solid blue	The drive generated an alarm.

Table 1: Drive state events and alarms

| Firmware state	Tree view	Event example	Alarm
Failed	Failed	Physical drive S0SDNEABC01131 at slot:1 health state has changed from Healthy to Failed.	HPE SimpliVity 380 Physical Drive Health State Error
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the OmniCube fails.	HPE SimpliVity 380 SSD Array Critical
Missing	Missing	Physical drive at slot:9 is missing. Drive Set 0 in the SSD Array can tolerate the loss of 1 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 SSD Array Warning
Offline	Offline	Physical drive S0SDNEABC01153 at slot:0 health state has changed from Healthy to Offline.	HPE SimpliVity 380 Physical Drive Health State Error
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 SSD Array Critical
PredictiveFailure	Healthy	Physical drive S0SDNEABC01131 at slot:1 has experienced a high number of predictive failures. Replace it as soon as possible.	HPE SimpliVity 380 Physical Drive Predictive Failure
Rebuild	Rebuilding (with a percent complete)	Physical drive S0SDNEABC01153 at slot:0 health state has changed from Offline to Rebuilding.	HPE SimpliVity 380 SSD Array - Rebuilding the maximum number of drives
		The SSD array currently has 1 drive(s) rebuilding.	HPE SimpliVity 380 SSD Array Critical
Unconfigured, bad	Failed	Physical drive S0SDNEABC01131 at slot:1 health state has changed from Healthy to Failed.	HPE SimpliVity 380 Physical Drive Health State Error
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 SSD Array Critical
Unconfigured, good	Unconfigured	Physical drive S0SDNEABC01131 at slot:1 has a foreign configuration.	HPE SimpliVity 380 Physical Drive Health State Error

Firmware state	Tree view	Event example	Alarm
		Physical drive S0SDNEABC01131 at slot:1 health state has changed from Healthy to Unconfigured.	HPE SimpliVity 380 Physical Drive Foreign Configuration
		Drive Set 0 in the SSD Array can tolerate the loss of 0 more drive(s) before the HPE OmniStack host fails.	HPE SimpliVity 380 SSD Array Critical

Front drive numbering

The front drive bays are numbered for identification purposes.

The drive numbering sequence, which is reported by the hypervisor manager or HPE OmniStack CLI commands, enables you to identify a specific drive for troubleshooting. For information on the CLI commands, see the *HPE OmniStack for vSphere Command Reference Guide*.

Bays without a drive contain a filler and cannot be used to install additional drives.

Drive Box 1   Drive Box 2   Drive Box 3
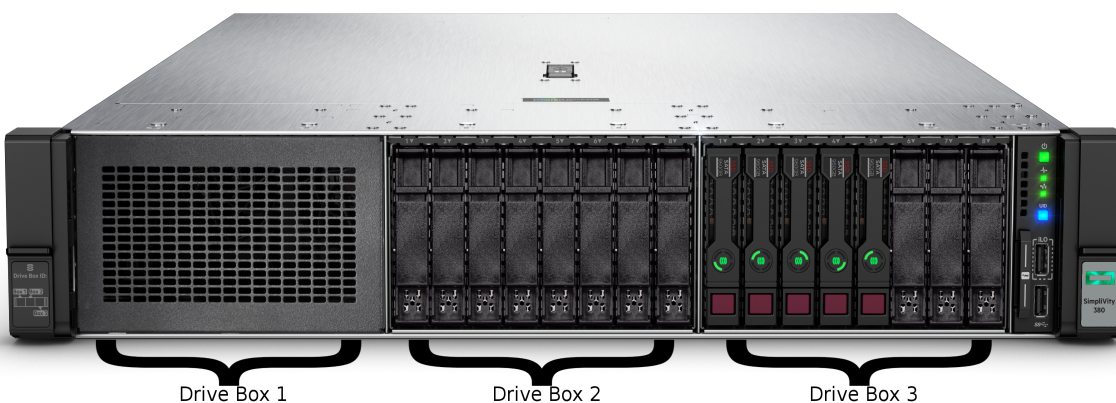
Drive type	Extra Small and Small, All Flash	Medium, All Flash	Large, All Flash
Data SSD	Drive Box 3 Slots 17-21	Drive Boxes 2 and 3 Slots 9-17	Drive Boxes 2 and 3 Slots 9-20
Boot HDD	Rear	Rear	Rear

Power supply monitoring

The LED on the front of each power supply indicates the status of the power supply and when there is a problem, such as a failed power supply. You can also view power supply status in your hypervisor manager. If a power

supply fails, contact **Customer Support (http://www.hpe.com/support/hpesc)** for a replacement of the same type and wattage.
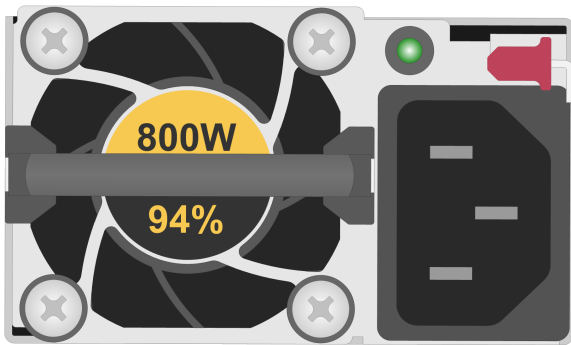
Each power supply has a status LED that indicates whether power is present or whether a power fault has occurred. The status LED is located to the left of the red latch lever.

LED State	Description
Off	System off or power supply failed
🟢 Steady green	Normal operation

Accelerator card monitoring

The LEDs on an Accelerator card indicate when there is a problem with the card. If an Accelerator card fails, contact **Customer Support** to have it replaced.
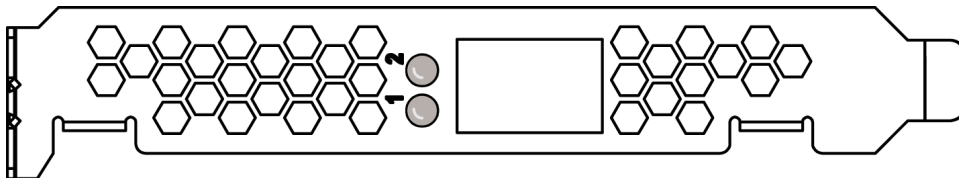
An Accelerator card has two LEDs:

- LED 1 solid green or yellow or flashes green or yellow.
- LED 2 solid green or red or flashes green or red.

Server state	LED 1	LED 2	Description
Power up	⚪ Off	⚪ Off	PCIe 12 V power is not present.

Server state	LED 1	LED 2	Description
	Off	Solid red	Configuration Programmable Logic Device (CPLD) detected power failure or CPLD is not configured.
	Off	Flashing red (1 on, 1 off)	Field Programmable Gate Array (FPGA) configuration error detected or configuration failed.
	Off	Solid green	FPGA configuration is complete.
	Off	Flashing red (2 on, 2 off)	Firmware is not responding to health check.
POST	Flashing yellow	Solid green	Power-on self test (POST) is executing.
	Solid yellow	Solid red	POST failed.
	Solid green	Solid green	Normal operation (passed POST).
State save	Solid yellow	Flashing green	NVRAM state save is in progress.
State restore	Flashing yellow	Flashing green	NVRAM state restore is in progress.
Upgrade	Flashing green	Flashing green	Firmware upgrade is in progress.
HostCtrl	Flashing yellow	Flashing red	Not in service. Contact **Customer Support (http://www.hpe.com/support/hpesc)** for a replacement.

Accelerator card not detected

If the server is unable to detect or communicate with an Accelerator card after you power on the server or perform a server firmware upgrade, you see error conditions.

LED number	Initial state	Error state (Host Ctrl)	
		After power up	After software upgrade
1	Off	Solid green	Off

LED number	Initial state	Error state (Host Ctrl)	
2	⬤ Off	🟡 Solid yellow	☀ Flashing yellow

A firmware load error on the Accelerator card might have caused the problem. You can try to correct this problem:

1. Shut down the server.

2. Wait three minutes for the server to fully shutdown.

3. Restart the server.

This prompts the Accelerator card to revert to its backup firmware.

Revert an Accelerator card to its backup firmware

Procedure overview

A firmware load failure on the Accelerator card can prevent the card from communicating with the HPE OmniStack server. You can try to correct this problem by reverting to the backup firmware. Shutting down the server, waiting 3 minutes for the server to fully shutdown, and then restarting the server, prompts the Accelerator card to fail and use its backup firmware. If both LEDs on the Accelerator card are not solid green or the server fails to return to normal operation, contact **Customer Support (http://www.hpe.com/support/hpesc)**.

Procedure

1. In your hypervisor management interface, locate the HPE OmniStack host with the problem Accelerator card.

2. Shut down and power off the server as explained in the *HPE OmniStack for vSphere Administration Guide*.

3. Wait three minutes until both LEDs are not illuminated, which indicates that the capacitors on the Accelerator card have fully discharged.

4. Power up the server.

5. Wait for the server to fully boot.

6. Verify that both LEDs on the Accelerator card are solid green.

7. Verify that there are no error conditions reported for the host in the hypervisor management interface.

Network interface monitoring

An HPE SimpliVity 380 server provides six network interfaces used for network communication and optional guest VM networks.
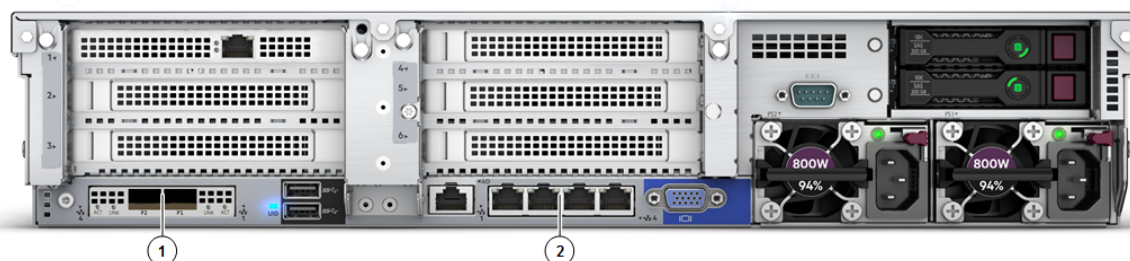
Callout	Type	Port ID	Network
1	10 Gb	1 and 2 (numbered from right to left)	HPE OmniStack Storage, Federation, and, optionally, Management
2	1 Gb	1 and 2 (numbered left to right)	HPE OmniStack Management
		3 and 4	Guest VM data (optional)

NOTE:

For minimum configurations, you can use only the 10 Gb interfaces to provide a single redundant path for all three networks: Storage, Federation, and Management. However, you must use VLANs to separate the networks as described in the *HPE OmniStack for vSphere Client Administrator Guide*.

Interface	LED	State
10 Gb Activity	⬤ Off	No network activity
	☀ Flashing green	Connection active
10 Gb Link	⬤ Off	No network activity
	🟢 Solid green	Link connection active
1 Gb Activity	⬤ Off	No link detected (cable disconnected)
	🟢 Solid green	Connection active
1 Gb Link	⬤ Off	No link detected (cable disconnected)
	🟢 Solid green	Link connection active

Chapter 5: Drive maintenance

This section contains the following topics:

- **Drive maintenance guidelines**
- **Remove a drive**
- **Install a drive**

If a disk drive fails, replace it as soon as possible to avoid data loss.

Drive maintenance guidelines

- You can replace a single failed or failing drive without disrupting operations.
- Do not remove a drive until you are ready to replace it.
- Replace drives only with drives of the same size, speed, and type. For information on supported replacement drives and the required firmware revision, contact **Customer Support (http://www.hpe.com/support/hpesc)**.
- Store drives properly. Store replacement drives in the packaging in which they were shipped. Do not stack drives or place anything on top of a drive.
- Protect drives from electrostatic discharge. Wear an electrostatic wrist strap when handling a drive, unless it is protected from electrostatic discharge.
- Handle drives carefully. Hold a drive only by the plastic part of the carrier or the handle. Do not drop or jolt a drive or force a drive into a drive slot.
- Do not leave a drive slot empty. Each drive slot must contain a drive or a blank carrier. Operating the server with an empty drive slot voids your warranty and support contract.
- Do not remove a drive from its carrier unless instructed by **Customer Support (http://www.hpe.com/support/hpesc)**.
- Keep shipping material. Return a failed drive to **Customer Support (http://www.hpe.com/support/hpesc)** in the packaging in which the replacement drive was shipped. Shipping drives in unauthorized packaging may void your warranty.

Drive replacement requires a RAID rebuild, which might take some time to complete on a server that contains many GB or TB of data. The rebuild might proceed faster if you complete these tasks:

- Quiesce I/O or do the replacement operation at a time when I/O is minimal.
- Shut down VMs.
- Migrate VMs to an alternate host.

NOTE:

You can use the LEDs to monitor the RAID rebuild status.

For more information about how to complete the tasks, see the *Hewlett Packard Enterprise HPE OmniStack Administrator Guide*.

Remove a drive

Before you begin

You have completed these tasks:

- Obtained a replacement drive of the same type, speed, and capacity of the drive you are removing.

- Read the guidelines for maintaining disk drives.

- Read the guidelines for protecting components from electrostatic discharge (ESD).

Procedure overview

You remove a solid state drive (SSD) that has failed, or is failing, to replace it with a new drive. Replace a problem drive as soon as possible.

- Do not leave a drive slot empty. Do not remove a failed drive unless you have a replacement drive or blank carrier ready to install.

- If the server (host) is in a federation, using incompatible drives might cause your federation to function incorrectly. Also, performance might be degraded while a drive is defective or missing.

Procedure

1. Examine the drive LEDs to identify the failed drive.

2. Press the red release latch at the bottom of the drive to release the drive handle.

3. Pull the handle outward to disengage the drive from the slot.

4. Grasp the edge of the plastic drive carrier and then slowly remove the drive from the slot.

5. Place the drive on a surface that is protected from electrostatic discharge.

6. Install the replacement drive or a drive filler.

Install a drive

Before you begin

You have completed these tasks:

- Removed the failed drive from the server.

- Obtained a replacement drive of the same type, speed, and capacity of the drive you are removing.

- Read the guidelines for maintaining disk drives.

- Read the guidelines for protecting components from electrostatic discharge.

- Verified that no backup operations are running.

Procedure overview

You install a drive to replace a failed, or failing, solid state drive (SSD). The replacement drive must be of the same type, speed, and capacity of the drive you are replacing. You can also install a filler panel, since the drive bay cannot be empty after the failed drive is removed.

- Do not leave a drive slot empty. Do not remove a failed drive unless you have a replacement drive or blank carrier ready to install.

- If the server (host) is in a federation, using incompatible drives might cause your federation to function incorrectly. Also, performance might be degraded while a drive is defective or missing.

Procedure

1. Carefully remove the replacement drive, or filler panel, from its packaging.

2. Hold the drive by the edge of the plastic drive carrier.

3. Press the red release latch to release the drive handle.

4. Rotate the handle outward.

5. Align the drive with the guide rails in the drive bay.

6. Gently push the drive into the bay until you feel resistance.

7. Simultaneously rotate the handle downward and press the drive completely into the slot.

8. Examine the LEDs and event messages to ensure the disk drive is operational.

Chapter 6: Power supply maintenance

This section contains the following topics:

- **Power supply maintenance guidelines**
- **Remove a power supply**
- **Install a power supply**

Each server has two hot plug power supplies. If a power supply fails, replace it as soon as possible.

Power supply maintenance guidelines

Follow these guidelines for maintaining power supplies:

- You can replace a power supply without disrupting operations if an alternate, functioning power supply is installed and connected to power.
- For proper cooling, do not leave a power supply slot open. Do not remove a power supply until you are ready to replace it.
- A server can operate with only one functioning power supply. However, replace a failed or failing power supply as soon as possible.
- Replace a power supply only with a power supply of the same type and wattage. Contact **Customer Support (http://www.hpe.com/support/hpesc)** for replacement power supplies.

Remove a power supply

Before you begin

You have completed these tasks:

- Obtained a replacement power supply of the same type and wattage.
- Read the guidelines for maintaining power supplies.
- Read the guidelines for protecting components from electrostatic discharge.

Procedure overview

You replace a failed, or failing, power supply as soon as possible.

> ⚠️ **WARNING:**
>
> Do not leave a power supply slot empty. Do not remove a failed power supply unless you have a replacement power supply that is ready to install.

Procedure

1. Identify the failed power supply.
2. Power down the server.
3. Disconnect the power cable from the power source and the power supply.
4. Push the red locking handle to the left and then gently pull the power supply handle to remove the power supply from the slot.

Install a power supply

Before you begin

You have completed these tasks:

- Obtained a replacement power supply of the same type and wattage.
- Removed the failed power supply from the server.
- Read the guidelines for maintaining power supplies.
- Read the guidelines for protecting components from electrostatic discharge.

Procedure overview

You install a power supply, or filler panel, to replace a failed or failing power supply.

Procedure

1. Carefully remove the replacement power supply from its packaging.
2. Slide the power supply into the empty bay until the red latch engages.
3. Ensure that the power supply is fully inserted and locked in place by the red, spring-loaded clip.
4. Connect and secure the power cable to the new power supply and to the power source.
5. Ensure that the power cables are fully inserted at both ends.
6. Power up the server.
7. Examine the LEDs and event messages to ensure the power supply is operational.

Chapter 7: Network cabling options

This section contains the following topics:

- **10 Gb-only network configuration**

- **Direct-connected network configuration**

- **Switch-connected network configuration**

There are different options for cabling the 10 GbE and 1 GbE interfaces used for the HPE OmniStackStorage, Federation, and Management networks. You select the configuration that best meets the needs of your environment.

10 Gb-only network configuration

The minimum network configuration for a federation with two HPE SimpliVity 380 servers uses redundant 10 GbE connections to two 10 GbE switches. It uses VLANs to separate the HPE OmniStack Storage, Federation, and Management networks. This configuration does not use the 1 GbE ports for the management network.

The following figure shows a sample configuration with rear boot drives. On your model, additional cards may have been added to the secondary PCIe riser.
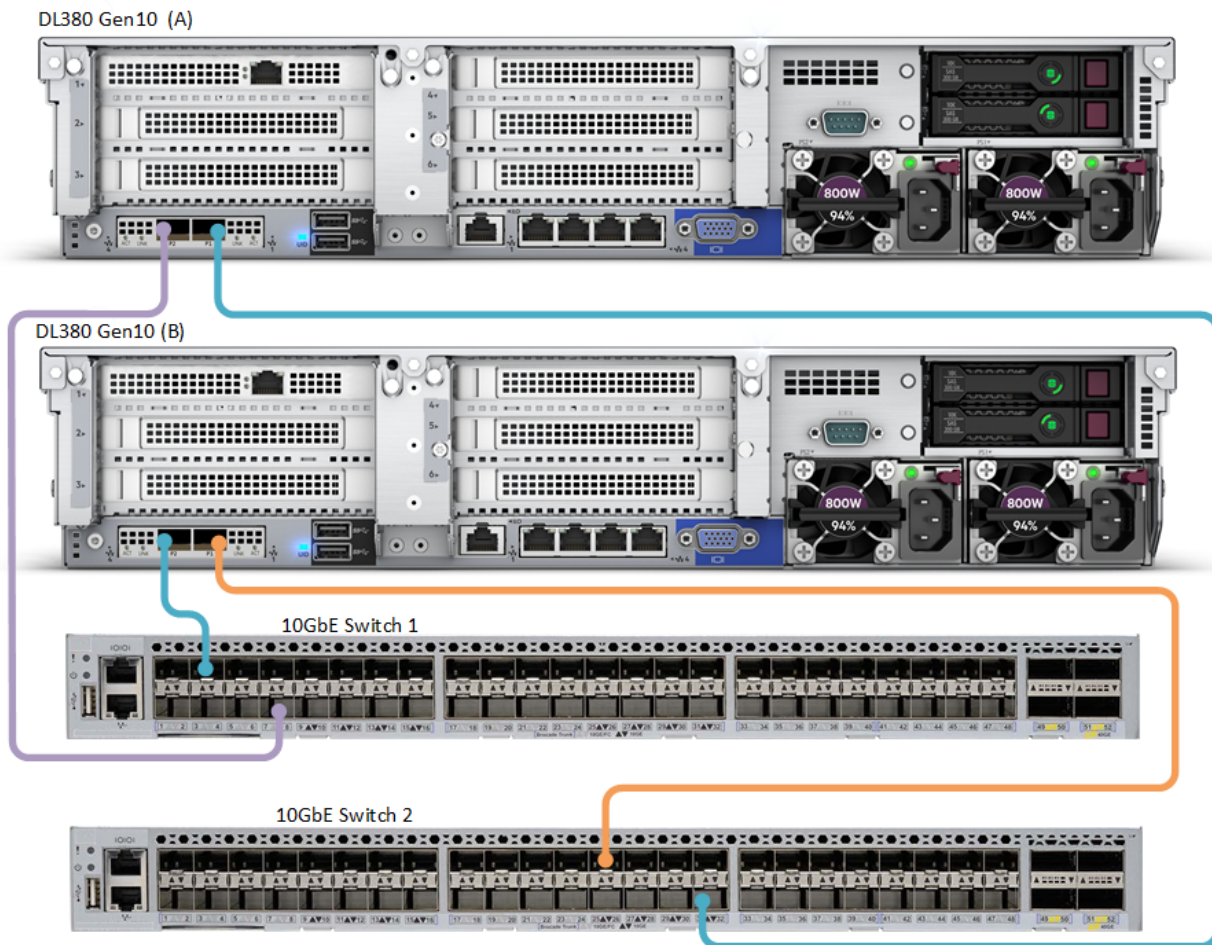
Configuration guidelines for each server:

- Connect the 10 GbE FlexLOM ports to different 10 GbE switches.
- Use VLANs on each switch according to the network separation rules specified in the *HPE OmniStack for vSphere Client Administrator Guide*.

Direct-connected network configuration

A direct-connected network configuration for a federation with two HPE SimpliVity 380 servers uses the 10 GbE connections for the HPE OmniStack Storage and Federation networks. Redundant 1 GbE connections to 1 GbE switches provide the Management network.

The following figure shows a sample configuration with rear boot drives. On your model, additional PCIe cards may be installed in the secondary PCIe riser.

NOTE:

You cannot use direct connections for the 10 GbE ports if you have three or more systems in a datacenter.

Configuration guidelines for each server:

- Directly connect the 10 GbE network interfaces.
- Connect the 1 GbE network interfaces to different 1 GbE switches.

Switch-connected network configuration

The switch-connected network configuration for a federation with two HPE SimpliVity 380 servers uses redundant connections to 10 GbE switches for the HPE OmniStack Storage and Federation networks. It uses redundant 1 GbE connections to 1 GbE switches for the Management network.
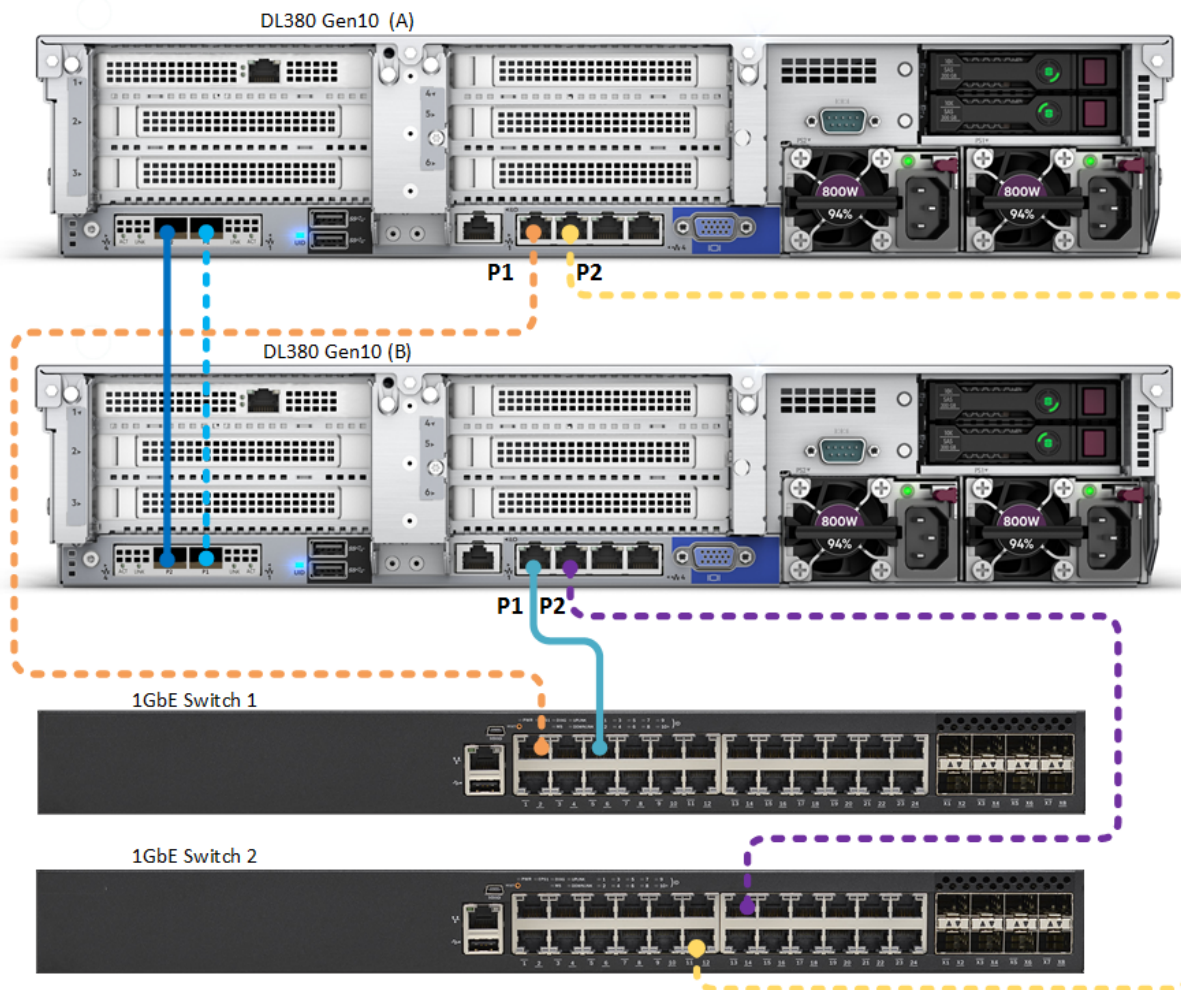
The following figure shows a sample configuration with rear boot drives. On your model, additional PCIe cards may be installed in the secondary riser.
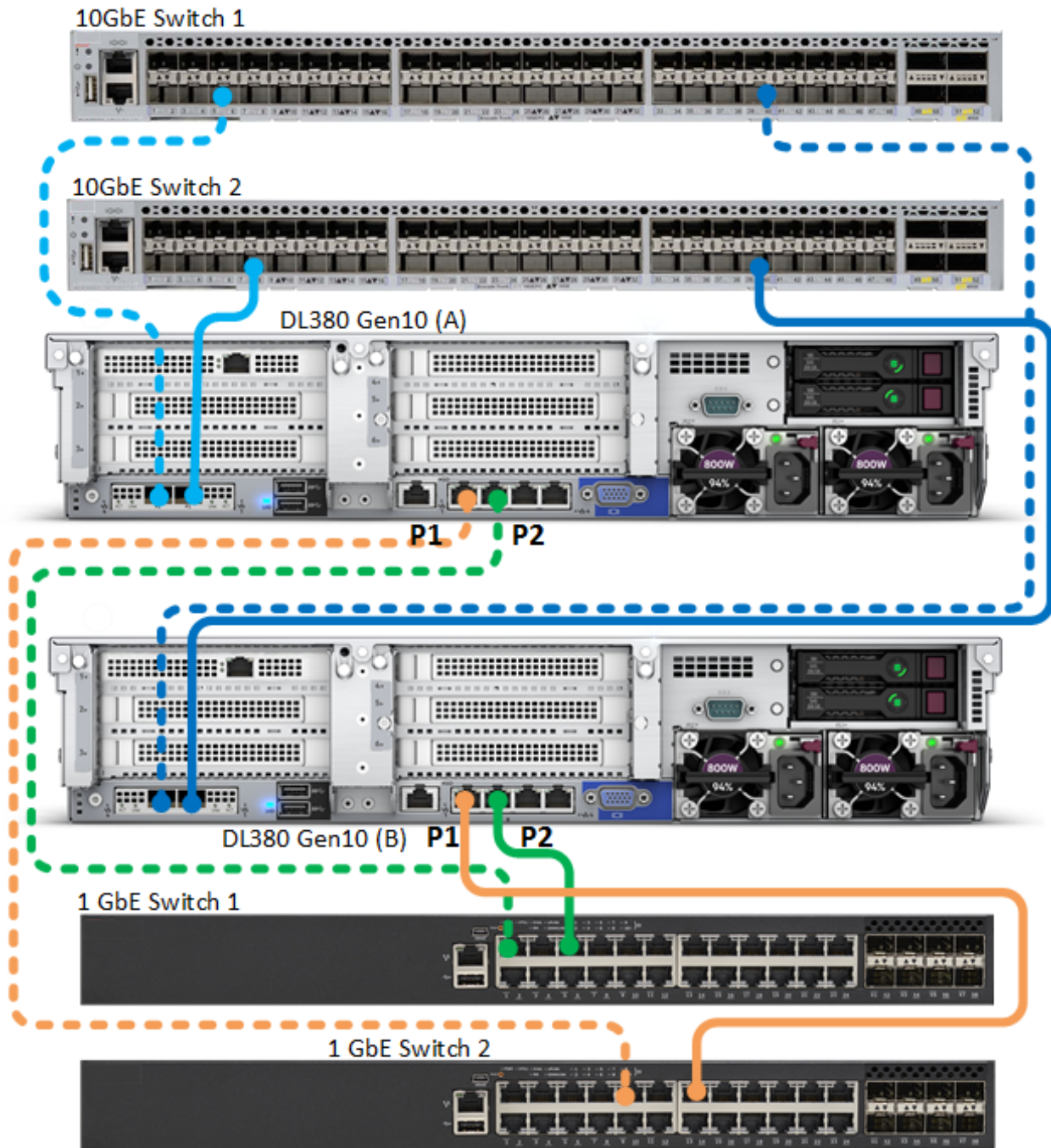
Configuration guidelines for each server:

- Connect the 10 GbE network interfaces to different 10 GbE switches.
- Connect the 1 GbE network interfaces to different 1 GbE switches.

Appendix A: Support and other resources

This section contains the following topics:

- **Support and other resources**
- **HPE SimpliVity terminology**
- **Documentation feedback**

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

  http://www.hpe.com/assistance

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

  http://www.hpe.com/support/hpesc

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:
  - Hewlett Packard Enterprise Support Center

    http://www.hpe.com/support/hpesc
  - Hewlett Packard Enterprise Support Center: Software downloads

    http://www.hpe.com/support/downloads
  - Software Depot

    http://www.hpe.com/support/softwaredepot
- To subscribe to eNewsletters and alerts:

  http://www.hpe.com/support/e-updates

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center page titled "More Information on Access to Support Materials":

  http://www.hpe.com/support/AccessToSupportMaterials

  NOTE:

  Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HP Passport set up with relevant entitlements.

Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

http://www.hpe.com/support/selfrepair

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information

HPE Get Connected	**http://www.hpe.com/services/getconnected**
HPE Proactive Care services	**http://www.hpe.com/services/proactivecare**
HPE Proactive Care service: Supported products list	**http://www.hpe.com/services/proactivecaresupportedproducts**
HPE Proactive Care advanced service: Supported products list	**http://www.hpe.com/services/proactivecareadvancedsupportedproducts**

Proactive Care customer information

Proactive Care central	**http://www.hpe.com/services/proactivecarecentral**
Proactive Care service activation	**http://www.hpe.com/services/proactivecarecentralgetstarted**

Warranty information

To view the warranty for your product, see the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products document, available at the Hewlett Packard Enterprise Support Center:

http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional warranty information

HPE ProLiant and x86 Servers and Options	**http://www.hpe.com/support/ProLiantServers-Warranties**
HPE Enterprise Servers	**http://www.hpe.com/support/EnterpriseServers-Warranties**
HPE Storage Products	**http://www.hpe.com/support/Storage-Warranties**
HPE Networking Products	**http://www.hpe.com/support/Networking-Warranties**

Regulatory information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

http://www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

http://www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

http://www.hpe.com/info/environment

HPE SimpliVity terminology

The following table contains HPE SimpliVity terms and definitions.

Term	Definition
Accelerator	A custom PCI card that provides non-volatile memory, accelerated compression, and cryptographic hashing. The Accelerator card communicates with the HPE OmniStack software.
Arbiter	HPE OmniStack software that runs on the computer hosting the hypervisor management server or a different Windows computer that the HPE OmniStack hosts can access. It is required in every federation. The Arbiter provides the tie-breaking vote when a cluster contains an even number of HPE OmniStack hosts. For example, if a cluster contains two HPE OmniStack hosts and one of those HPE OmniStack hosts loses connectivity with the cluster, the Arbiter acts as the tie breaker. (Note that an Arbiter must not run on any host within a cluster for which it is acting as a tie breaker.)
cluster	A collection of HPE OmniStack hosts that share resources and provide high availability and load-balancing services.

Term	Definition
datastore	A container for virtual machine files, including compute and storage resources. For more information, refer to your hypervisor documentation.
failure domain {internal}	A collection of HPE OmniStack hosts that serve as potential high availability failover targets for each other for purposes of high availability and disaster recovery.
federation	A collection of HPE OmniStack hosts managed in a single globally-unified management domain.
guest operating system	The operating system that runs inside a virtual machine.
host	A generic term referring to either an HPE OmniStack host or a standard host.
HPE OmniStack host	A host (server) containing an Accelerator card that communicates with the HPE OmniStack software and some supported virtualization software. An OmniStack host uses a dedicated virtual machine called the Virtual Controller, which runs the HPE OmniStack software.
HPE OmniStack software	The software running on the Virtual Controller.
OmniCube host	See HPE OmniStack host.
Virtual Controller	A virtual machine dedicated to the HPE OmniStack host that runs the HPE OmniStack software.
virtual machine (VM)	A virtual computer environment that runs a guest operating system and associated application software. Multiple virtual machines can operate concurrently on the same physical host machine.

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**mailto:docsfeedback@hpe.com**). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.