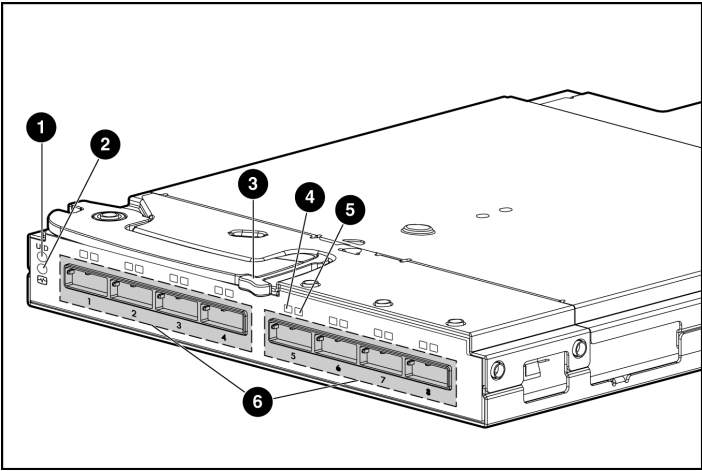# HP StorageWorks

3Gb SAS BL Switch installation instructions

This document describes procedures for installing a 3Gb SAS BL Switch in a c-Class enclosure.

Overview

This document describes procedures for installing an HP StorageWorks 3Gb SAS BL Switch (3Gb SAS Switch) in an HP c-Class enclosure. For more information about this switch, mezzanines, c-Class enclosures, and other BladeSystem components, see the HP BladeSystem website http://www.hp.com/go/bladesystem. Product pages, overviews, QuickSpecs, and user documents for all BladeSystem products are accessible from this website.

Front panel and LED definitions

1	Unit ID LED	• Off—Normal • Solid blue—Being identified • Blinking blue—Firmware is being updated
2	Health LED	• Off—Not powered up • Solid green—Healthy • Blinking amber—Error, there is a problem with the switch
3	Release button for the locking latch handle.	
4	Link LED	• Off—No link between the server and storage • Solid green—Link between server and storage is established • Blinking green—Activity on the established link
5	Fault LED	• Off—Normal • Amber—Link error, there is a problem with the port
6	SAS ports (to external storage)	

Planning the configuration

Before installing the switch, analyze the servers and storage and develop a plan for controlling access to the storage. After installing the switch, configure the switch and the storage per the plan ("Configuring the switch " on page 3).

Selecting the interconnect bay

Each c3000 and c7000 interconnect bay maps to servers via the slot in which the mezzanine cards are installed in the server blades. When selecting interconnect bays for switches, make sure that the selected bays map to the desired server blades. For information about mappings, see the user documents for your c-Class enclosure model. For information about supported mezzanines, see the 3Gb SAS Switch QuickSpecs.

> ⚠ IMPORTANT:
>
> This switch is supported for use in both single- and dual-domain environments. When used in dual-domain configurations, the two switches must be installed in the same row of the c-Class enclosure.
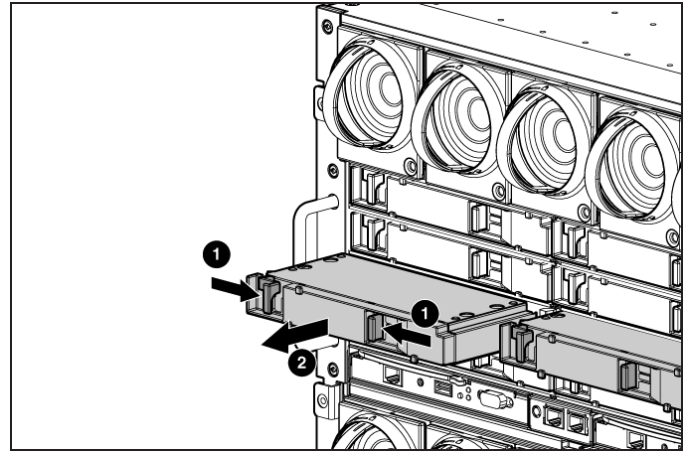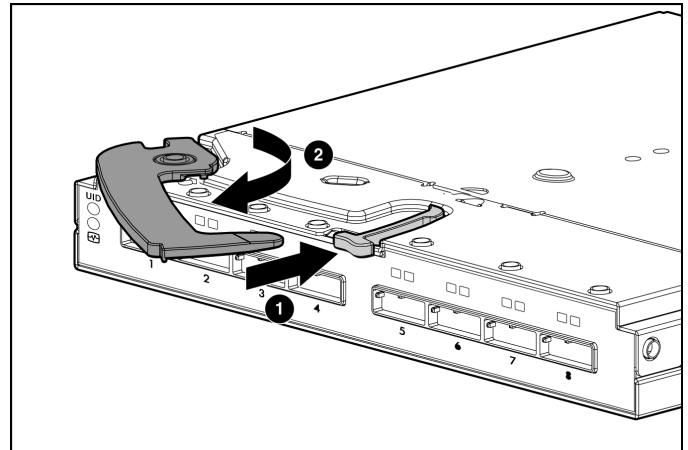
Installing the switch

> 📝 NOTE:
>
> - The 3Gb SAS Switch may be hot-installed in an operational enclosure.
> - Make sure that the mezzanine cards are installed in server mezzanine slots that map to the selected c-Class enclosure interconnect bay.
> - The 3Gb SAS Switch does not have a power on/off button. Power is automatically applied or removed when the switch is installed or removed from the enclosure. Alternatively, power can be applied or removed through the Onboard Administrator application.
> - Connect SAS cables to external storage enclosures only after confirming that the desired firmware version is installed on the switch.

For illustration purposes, the following images demonstrate installing a 3Gb SAS Switch in interconnect bay 5 of a BladeSystem c7000 enclosure.
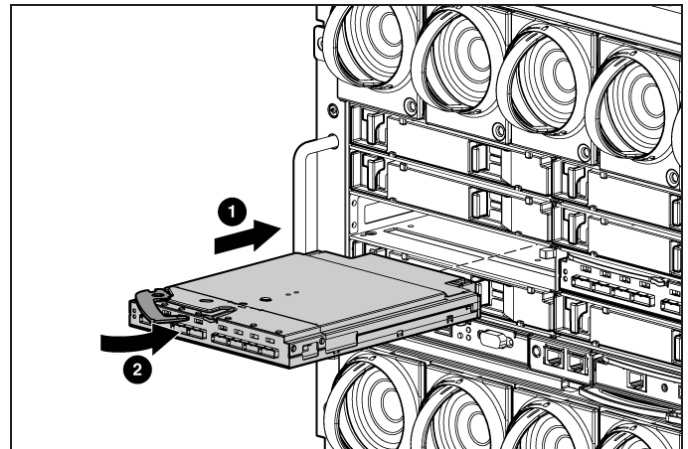
1. Remove the air baffle from the selected interconnect bay.

2. Prepare the switch.

3. Install the switch in the open interconnect bay.

When installed in an operational enclosure, the switch automatically powers up and performs a series of Power On Self Tests.

A successful installation is indicated by a green Health LED ("Front panel and LED definitions" on page 1). If the Health LED is amber or there is no power to the switch, see the "Troubleshooting" section of the HP BladeSystem enclosure setup and installation guide.

> **IMPORTANT:**
>
> Do not connect SAS cables to external storage enclosures until you have accessed the switch and confirmed that the desired firmware version is installed on the switch (Accessing the switch).

> **IMPORTANT:**
>
> When two 3Gb SAS BL Switches are installed in the same row of an enclosure, make sure that they are running the same firmware version.

Accessing the switch

The switch is configured and managed through the Onboard Administrator (OA) and Virtual SAS Manager (VSM) applications.

To access VSM:

1. Access OA.

   > **NOTE:**
   >
   > The minimum OA version offering support for the 3Gb SAS BL Switch is 2.40.

2. In the OA Systems and Devices tree, expand the Interconnect Bays, and select the 3Gb SAS BL Switch.

3. After selecting the SAS switch to manage, click **Management Console** and wait a few moments for the application to open. Then, log on to VSM using your OA username and password.

For details, see the *HP Virtual SAS Manager user guide*, available on the 3Gb SAS BL Switch manuals page http://www.hp.com/support/manuals.

Confirming the firmware version

Firmware is pre-installed on each switch in the factory, but updated, alternative, or a preferred version may be available. The following types of firmware are available for the 3Gb SAS BL Switch; choose the firmware type that is best for your environment:

- Firmware versions less than 2.0.0.0—Single open zone support.
  By default, all blade servers have access to all storage connected to the switch. This configuration is pre-configured and cannot be altered. To restrict access to the storage, use features included in your storage management software.

- Firmware versions 2.0.0.0 and higher—Multi-zone support.
  By default, for servers to access storage, switch-port or drive-bay zone groups must be created. Zone groups provide user-defined isolation within the switch.

The installed firmware version is displayed in the VSM near the center of the HP Virtual SAS Manager banner. Access the VSM and make note of the installed firmware version on each 3Gb SAS BL Switch.

As needed, update firmware on the switches to the desired version. Firmware is installed using the VSM application. For details, see the *HP Virtual SAS Manager user guide*, available on the 3Gb SAS BL Switch manuals page http://www.hp.com/support/manuals.

Cabling the switch

After confirming the firmware version, connect SAS cables between the switch and the external SAS storage enclosures.

> **NOTE:**
>
> The 3Gb SAS BL Switch uses SAS cables with mini-SAS universal connectors. For a list of supported cables, see the 3Gb SAS Switch QuickSpecs.

For detailed cabling information, see the *HP StorageWorks 3Gb SAS BL Switch user guide*, available on the 3Gb SAS BL Switch manuals page http://www.hp.com/support/manuals.

Configuring the switch

- For firmware versions lower than 2.0.0.0, no configuration tasks are available.
- For firmware versions 2.0.0.0 or higher, key configuration steps include:
  - Entering switch parameters.
  - Creating zone groups (switch-port based or drive-bay based).
  - Assigning zone groups to servers.

The switch is configured using the Virtual SAS Manager (VSM) application. For more information on zoning and configuration tasks, see the *HP Virtual SAS Manager user guide,* available on the 3Gb SAS BL Switch manuals page http://www.hp.com/support/manuals.

Regulatory notice

For details, see the HP BladeSystem enclosure setup and installation guide.

Additional information

HP BladeSystem: http://www.hp.com/go/bladesystem

HP storage: http://www.hp.com/storage

HP support: http://www.hp.com/support

HP manuals: http://www.hp.com/support/manuals