

HP StorageWorks

3Gb SAS BL Switch replacement instructions

This document details the procedures for replacing a failed 3Gb SAS BL Switch in a c-Class enclosure.

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About this document

For the latest documentation, go to <http://www.hp.com/support/manuals>, and select your product.

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WARRANTY STATEMENT: To obtain a copy of the warranty for this product, see the warranty information website: <http://www.hp.com/go/storagewarranty>

Before you begin

Observe the following:

⚠ CAUTION:

- Removing a module significantly changes air flow within the enclosure. All enclosure bays must be populated with a module or blanking panel for the enclosure to cool properly. If a module fails, leave it in place in the enclosure until a new module is available to install.
- Parts can be damaged by electrostatic discharge. Use proper anti-static protection. Refer to the documentation that shipped with your system for additional information.

ⓘ IMPORTANT:

In a single-switch deployment, obtain records of the switch configuration, zone groups, and assignments. After replacing the switch, all settings must be re-entered.

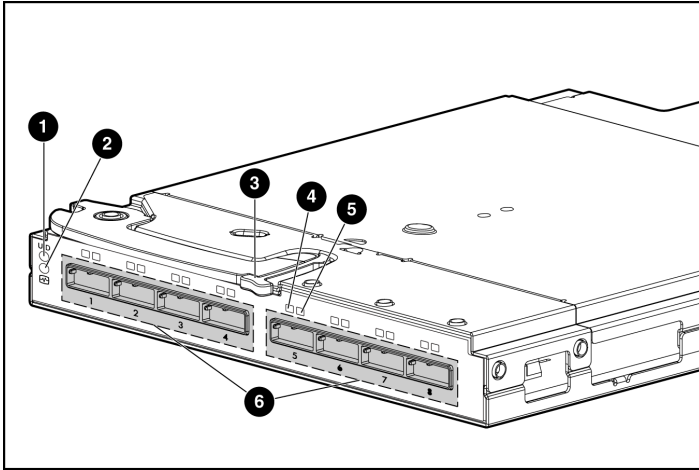
📄 NOTE:

Illustrations in this document may show a c-Class enclosure or blade devices that differ from your deployment. However, replacement procedures are the same for all enclosures that use this switch.

Verifying component failure

Before replacing a 3Gb SAS Switch, check the following and confirm with HP support that it has failed:

- Onboard Administrator—View system and device status displays for Critical, Major, Minor, and Warning icons. For more information, see the Onboard Administrator user guide.
- Switch LEDs—View the Health, Link, and Fault LEDs for error patterns.



1	Unit ID LED	<ul style="list-style-type: none"> • Off—Normal • Solid blue—Being identified • Blinking blue—Firmware is being updated
2	Health LED	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Off—Normal • Amber—Link error, there is a problem with the port
6	SAS ports (to external storage)	

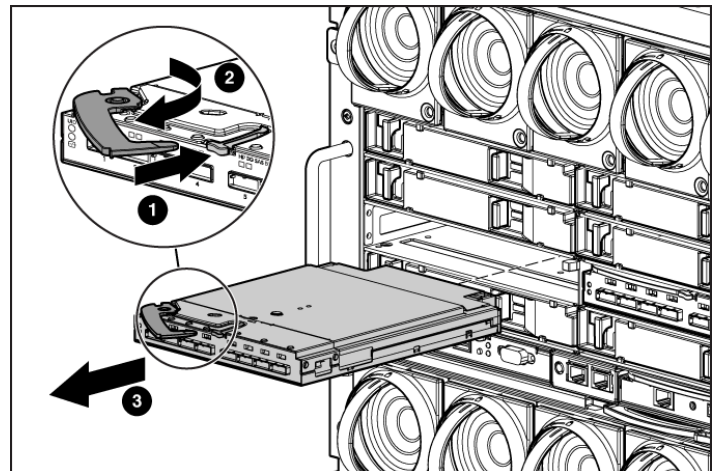
Removing the failed switch

NOTE:

- In redundant-switch environments, the 3Gb SAS Switch may be hot-replaced in an operational enclosure.
- In single-switch environments, all activity through the switch must be halted prior to the replacement.
- 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.

For illustration purposes, the following images demonstrate removing a 3Gb SAS BL Switch in interconnect bay 5 of a BladeSystem c7000 enclosure.

1. Stop all traffic through the failed or failing switch.
2. Use Onboard Administrator to shut down the switch. (Optional, but a best practice.)
3. Disconnect all cables from the failed switch, making sure to label each cable with its port number to facilitate re-connection.
4. Remove the failed switch.



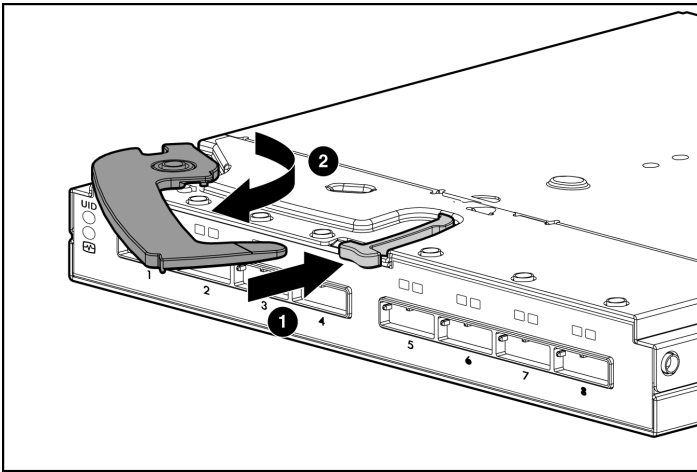
Installing the replacement switch

NOTE:

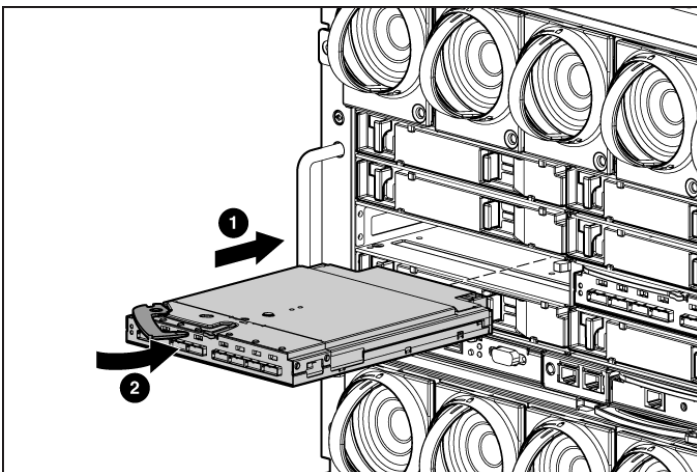
- The 3Gb SAS Switch may be hot-installed in an operational enclosure.
- The 3Gb SAS Switch does not have a power on/off button. Power is automatically applied or removed when the switch is installed or removed from the enclosure. Alternatively, power can be applied or removed through the Onboard Administrator 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 BL Switch in interconnect bay 5 of a BladeSystem c7000 enclosure.

1. Prepare the switch.



2. 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.

! 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. (See [Confirming the firmware version](#)).

Verifying proper operation

Check the following to verify that the switch is working properly:

- Switch LEDs—See [Switch LEDs](#) on page 2 and check for healthy LED patterns.
- Onboard Administrator—View system information and confirm that the device status is Normal. For more information, see the Onboard Administrator user guide.
- Virtual SAS Manager—View Status Alerts and device information for messages regarding the replacement. (See [Confirming the firmware version](#).)

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. These settings are 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. 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>.

! IMPORTANT:

- Firmware on the replacement switch may be a different version than what was installed on the failed switch. Before operating or connecting cables to the replacement switch, make sure that it is running the desired firmware version.
- When moving from single open zone firmware to multi-zone firmware, you must configure zone groups and assign them to the servers. Otherwise, the servers will not be able to access the storage. (See [Configuring the switch](#).)
- When two 3Gb SAS BL Switches are installed in the same row of the enclosure, make sure that they are running the same firmware version.

Cabling the switch

After confirming that the desired firmware is installed, connect the SAS cables to the replacement switch, making sure to connect each cable to its designated port.

Configuring the switch

If during this replacement you upgrade from single open zone firmware to multi-zone firmware, you must configure zone groups and assign them to the servers. Otherwise, the servers will not be able to access the storage.

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>.

Returning the failed component

Follow instructions shipped with the replacement part.

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>