

HP NetServer LH 3/LH 3r Power Supply Upgrade Kit Installation Guide



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Audience Assumptions

This guide is for the person who installs, administers, and troubleshoots LAN servers. Hewlett-Packard Company assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

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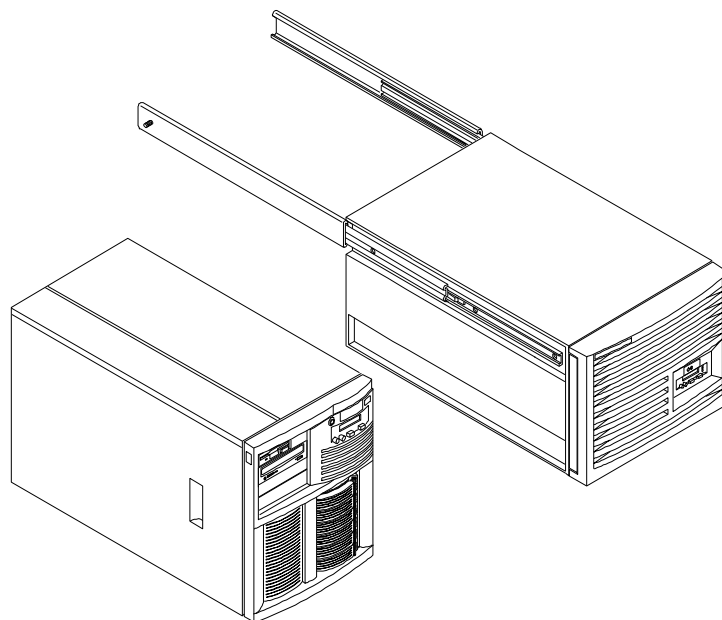
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Purpose of this Guide

This guide describes the steps you need to perform to install the HP NetServer LH 3/LH 3r Power Supply Upgrade Kit, HP Product Numbers D6093A and D6095A, into an HP NetServer LH 3/LH 3r. The kit adds a third power supply module (PSM) to the two PSMs that come standard with the server. The third PSM allows the server to keep operating should one of the original PSMs fail.

This accessory kit contains a PSM, a power supply fan module, a filler panel, and a power supply cage for the HP NetServer LH 3 or LH 3r.



HP NetServer LH 3

HP NetServer LH 3r on Rack Slides

Figure P-1. NetServer Configurations

WARNING

You must turn off power to the system and unplug power to the unit before installing the accessory kit.

Contents of this Guide

This guide includes the following topics:

- An Introduction, including verifying the contents of the shipping box
- Installation instructions for installing the cage, power supply module, and power supply fan module into the HP NetServer LH 3 or LH 3r
- Hardware warranty information

Related Documentation

The following documents describe the HP NetServer LH 3 and LH 3r:

- The *HP NetServer LH 3/ LH 3 User Guide*
- The *HP NetServer LH 3 Installation Road Map*
- The *HP NetServer LH 3r Installation Road Map*
- The Product and Service Reference Labels
- *HP NetServer LH 3 and LH 3r Technical Reference Card*
- HP NetServer LH 3 and LH 3r documentation on the *HP NetServer Online Documentation CD-ROM*

1 Introduction

Verifying Contents

The contents of the shipping box include:

- Power supply module (PSM)
- Power supply fan module
- Filler panel for the empty bay
- Power supply cage

Prepare for Installation

Gather the tools and the setup information you need to install the power supply module, cage, and fan module before removing them from their packaging.

Tools You Need

To install this accessory kit, you need the following tools:

- A slotted head screwdriver, or Torx™ screwdriver.
- An anti-static service kit (3M™ 8501/8502/8503 or equivalent). This kit includes a static-dissipating work surface, a chassis clip lead, and a wrist strap.

Installation Overview

The Power Supply Upgrade Kit installation procedure is as follows:

1. Remove the HP NetServer front bezel and covers (Chapter 1).
2. Install the cage for the redundant power supply module (Chapter 2).
3. Install the redundant power supply module (Chapter 2).
4. Install the filler panel (Chapter 2).
5. Install an additional fan module in front of the existing power supply fan module (Chapter 3).
6. Replace the HP NetServer covers (Chapter 1).

NOTE

All components of the accessory kit must be installed in order for the power supply module to function properly.

Removing the Covers

CAUTION

Never operate this NetServer without first installing all covers. Operating the system without all covers in place reduces critical cooling airflow over some components, such as hard disk drives and processor modules. Operating the system without all covers in place may result in failure of these components.

WARNING

Before removing the covers, always disconnect the power cord and unplug telephone cables. Disconnect the power cord to avoid exposure to high energy levels that may cause burns when parts are short-circuited by metal objects, such as tools or jewelry. Disconnect telephone cables to avoid exposure to shock hazard from telephone ringing devices.

Note that the power switch does not turn off the standby power. Disconnect the power cord to turn off standby power. If the backlight on the LCD display is on, standby power is on.

CAUTION

Wear a wrist strap and use a static-dissipating work surface connected to the chassis at all times.

HP NetServer LH 3

To remove the covers:

WARNING	Turn off the HP NetServer and disconnect the power cord and telephone cord.
----------------	---

1. Unlock the bezel lock with the key from the key bag located on the rear of the HP NetServer (see Figure 1-1).
2. To remove the front bezel, pull the top of the bezel away from the chassis, and then lift the bezel up and off of the chassis.

3. Loosen the thumbscrew at the front of covers 1 and 3 and pull the covers forward, using the handle on the covers, and then lift them off the chassis (see Figure 1-1).

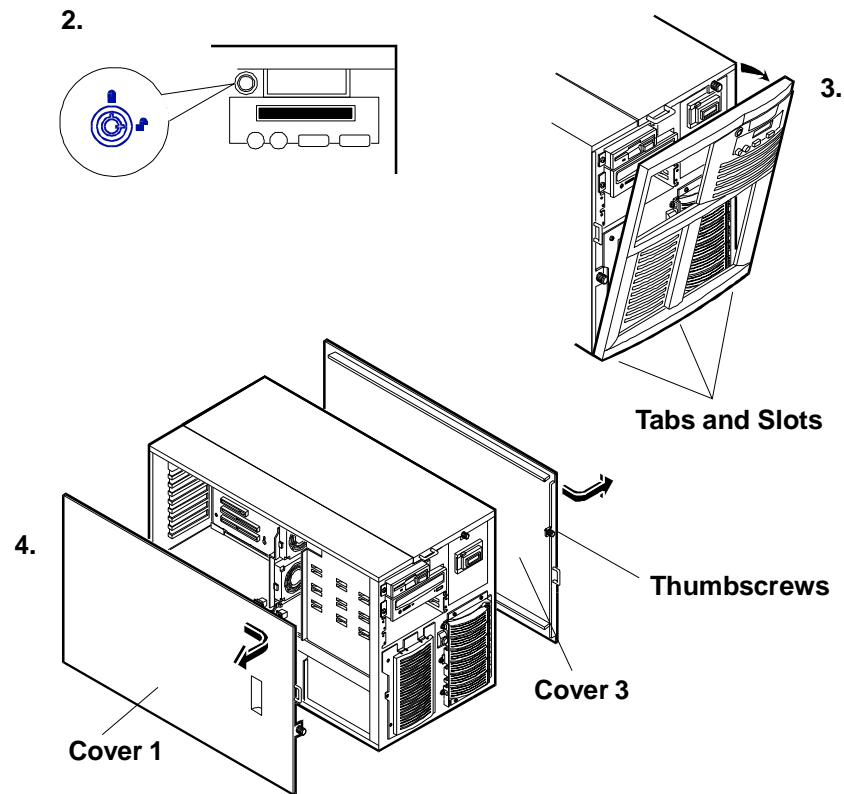


Figure 1-1. Removing the Covers (HP NetServer LH 3)

HP NetServer LH 3r

CAUTION

Do not unscrew the LH 3r until you have extended the anti-tip foot from under the front of the rack. This anti-tip device must be extended to prevent the rack and LH 3r from tipping over, which could damage the LH 3r and injure people.

To remove the covers:

1. Turn off the HP NetServer and disconnect all power and telephone cords.
2. Remove the screws securing the latch plate and the bezel hinge to the rack. Do not unscrew the entire hinge or bracket from the chassis; remove only the outer screws, so the hinge and the bracket remain attached to the LH 3r chassis. Pull the LH 3r forward from the rack until the lockout device engages with a click (see Figures 1-2 and 1-3).

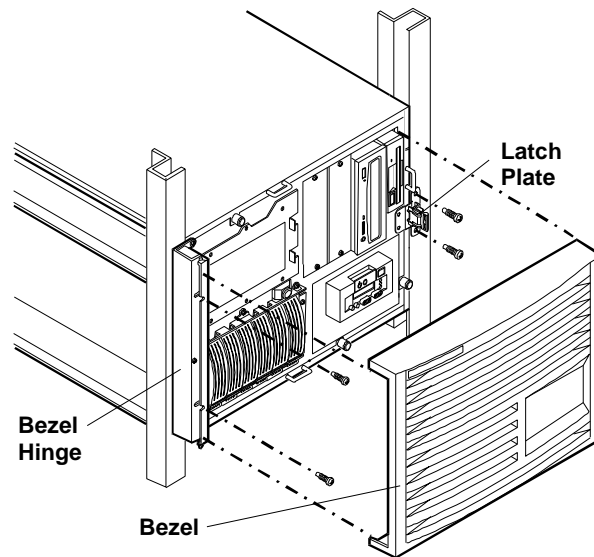


Figure 1-2. Sliding Out the NetServer From the Rack (NetServer LH 3r)

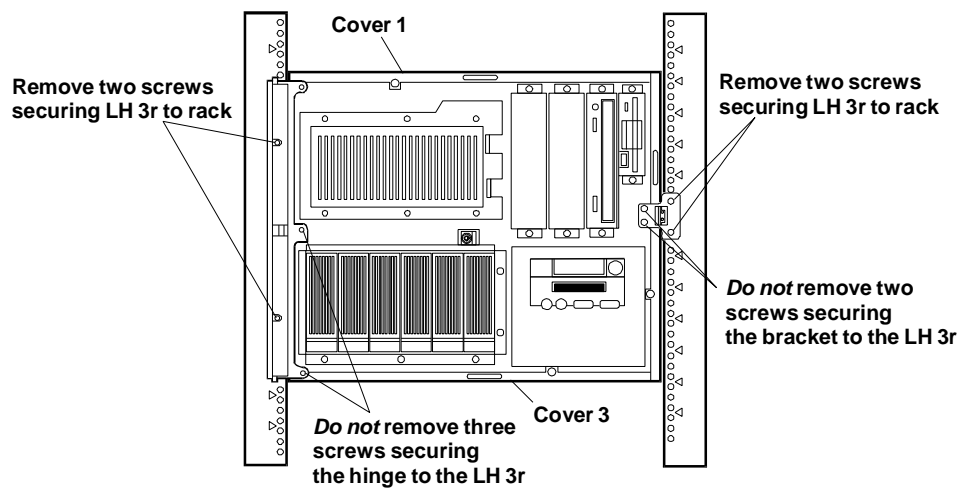


Figure 1-3. Screw and Cover Locations (LH 3r)

3. Slide out the NetServer until the rail locks "click" into place.
4. Loosen the thumbscrew at the front of covers 1 and 3 and pull the covers forward, using the handles on the covers, and then lift them off the chassis (see Figure 1-4).

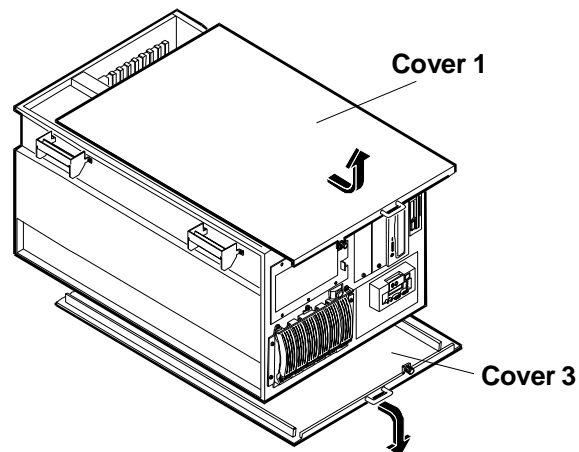


Figure 1-4. Removing the Covers (NetServer LH 3r)

2 Cage and Power Supply Installation

Introduction

This chapter shows how to mount an additional power supply cage in an HP NetServer LH 3 or LH 3r. It then describes how to install the power supply module (PSM) in the empty cage.

NOTE

Before beginning this procedure:

- Shut down the HP NetServer operating system.
 - Turn off the power switch on the front panel.
-

CAUTION

Unplug the power cord from the power supply units.

Power Supply Cage Installation

Before installing the power supply cage, remove covers 1 and 3 as described in Chapter 1.

To install the cage, follow these steps:

1. Loosen the two Torx screws on the front panel to be removed cabinet (see Figure 2-1).
2. Remove the fan module behind the power supplies. To remove the fan module, loosen the thumbscrew, then pull the fan assembly out of the cabinet using the handle. See Figure 2-1.

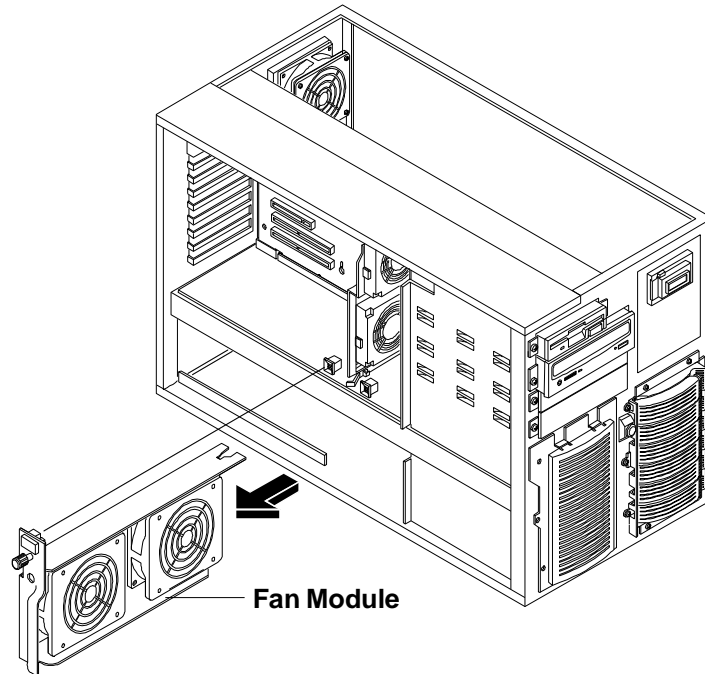


Figure 2-1. Fan Module Removal

3. Grasp the cage front panel and remove it from the cabinet (see Figure 2-2). Set it aside.

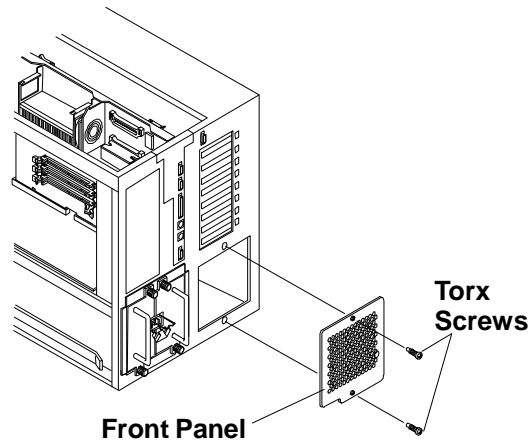


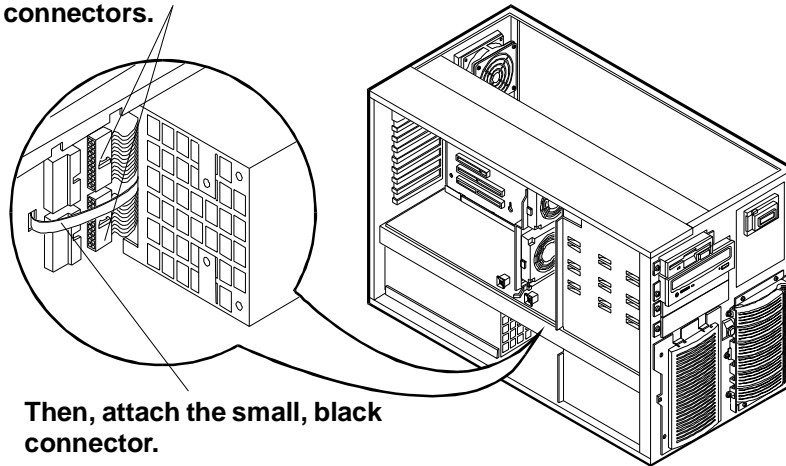
Figure 2-2. Removing the Cage Front Panel

4. Remove the power supply module from the cage, then set the new cage in the open bay.
5. Push in the cage most of the way. Align and guide the cage into the chassis slowly.
6. There are three connectors to attach to install the power supply cage: two large, white connectors that snap in place on the underside of the circuit board, and one small, black connector that routes through the rectangular slot in the circuit board and plugs into its top side.

First, attach the two large, white connectors. Attach the inner white connector (farthest from you) first, then attach the outer white connector. Make sure both connectors "click" into place and that the plastic locks are secure.

Push the cage in all the way. Bring the small, black middle connector up through the slot in the board above the power supply cage until the connector "clicks" and the plastic lock is in place. Check to make sure that the connector is secure. See Figure 2-3.

First, attach the two large, white connectors.



Then, attach the small, black connector.

Figure 2-3. Attaching the Power Supply Connectors

7. Fasten the cage in place with one screw on the side, lower rear. Fasten the two screws into the rear chassis.
8. Reinstall the fan module.

Power Supply Installation

To install a power supply module (PSM) in the empty power supply cage, follow these steps:

CAUTION	When lifting a PSM, be prepared to support its weight. Hold the PSM with two hands.
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1. Set the new PSM in the open bay (see Figure 2-4). The power supply can go into either side of the cage.

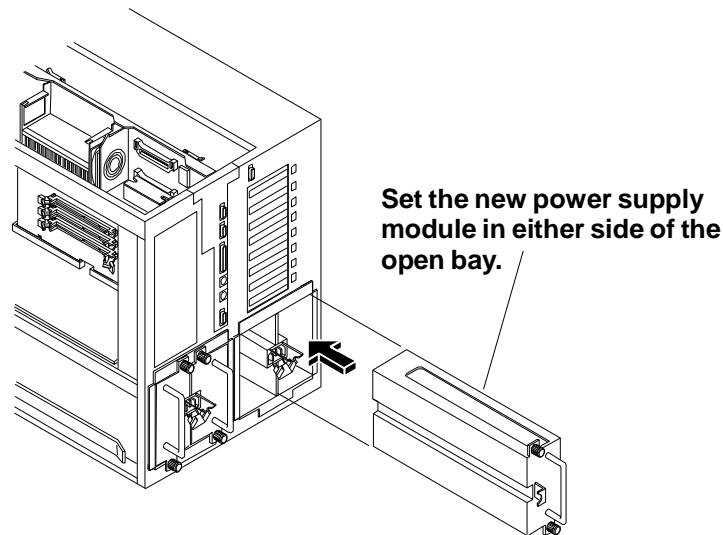


Figure 2-4. Setting the New Power Supply in the Open Bay

2. Push in the PSM, seat it firmly, and tighten the thumbscrews.
3. The new PSM fills only half the cage. Cover the other half with the filler panel from the Upgrade Kit. Fasten the panel in place with its thumbscrews.

The PSM is now installed. However, do not turn on the server until you install the fan module from the Upgrade Kit. See Chapter 3.

3 Installing the Fan Module

Installing Fan Module

Once the power supply cage and module are installed in the server, install the fan module from the Power Supply Upgrade Kit. Server power should still be off, and the covers 1 and 3 should be off the NetServer. The module includes two fans. It mounts directly in front of the existing power supply fan module.

1. Slide the fan module that you removed back into place.
2. Slide the new fan module into place in front of the existing power supply fan module.
3. Fasten the fan module in place and secure it with its thumbscrew. See Figure 3-1.

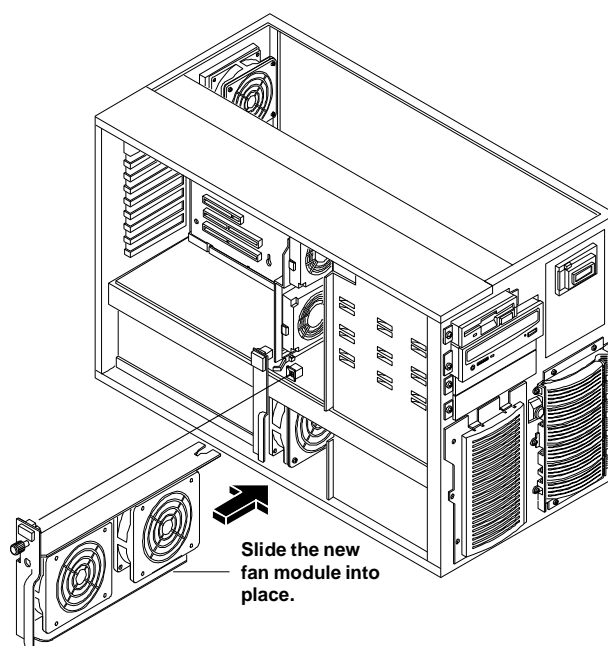


Figure 3-1. Installing the Fan Module

4. Replace covers 1 and 3. See "Replacing the Covers," in this section, for details.
5. Remove the yellow tamper evident plug (not pictured) from the power supply. Then plug in the power supply cord. The power cord retainer holds the plug in place. To attach the power cord retainer, push up on the metal piece underneath and secure it with the locking mechanism. See Figure 3-2.

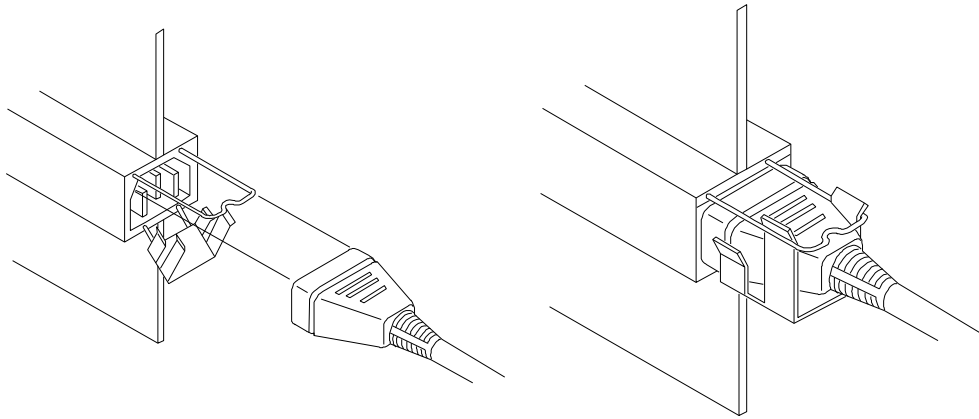


Figure 3-2. Power Cord Retainer

6. Check that the green LED at the front of each power supply is on. The LED confirms that the power supply is functioning.

Replacing the Covers

After installing the power supply and fan module, replace the covers and bezel.

HP NetServer LH 3

1. Insert the tabs inside cover 1 into the slots in the chassis and slide the side cover toward the rear. Tighten the thumbscrew at the front of the cover. Repeat this step for cover 3.
2. To replace the bezel, insert the tabs at the bottom of the bezel into the slots at the bottom of the chassis front and press the top of the bezel to the chassis until it snaps into place. Lock the bezel lock with the key provided.
3. Replace all power, telephone, and I/O cables.
4. Push the anti-tip foot in.

HP NetServer LH 3r

1. Insert the tabs inside Cover 1 into the slots in the chassis and slide the cover toward the rear. Tighten the thumbscrew at the front of the cover. Repeat this step for Cover 3.
2. Unlock the rail locks and slide the NetServer back into the rack chassis.
3. Reinstall the latch plate, bezel hinge, and bezel (see Figure 1-2).
4. Replace all power, telephone, and I/O cables.

4 Warranty and Support

The hardware warranty below applies to components purchased as accessories. If your component was factory installed as part of an HP NetServer model, refer to the warranty statement provided with your system documentation.

Hardware Warranty

This HP NetServer accessory is covered by a limited hardware warranty for a period of one year from receipt by the original end-user purchaser.

Once installed in an HP NetServer, this accessory may carry the longer of either a one-year warranty or the remainder of the warranty period for the HP NetServer in which it is installed.

This accessory may be serviced through expedited part shipment. In this event, HP will prepay shipping charges, duty, and taxes; provide telephone assistance on replacement of the component; and pay shipping charges, duty, and taxes for any part that HP asks to be returned.

The customer may be required to run HP-supplied configuration and diagnostic programs before a replacement will be dispatched or an on-site visit is authorized.

Refer to the warranty statement provided with your original HP NetServer system documentation for the warranty limitations, customer responsibilities, and other terms and conditions.

HP Repair and Telephone Support

Refer to the *Service and Support* section of your HP NetServer system documentation for instructions on how to obtain HP repair and telephone support.

A Regulatory Information

For regulatory information pertaining to this HP accessory, please refer to the regulatory section of the user guide for the NetServer in which this accessory is installed.

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