



# Implementing Novell NetWare 6.5 on HP ProLiant servers

integration note, 3<sup>rd</sup> edition

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# Abstract

This integration note describes the level of support available for Novell NetWare 6.5:

- Supported HP ProLiant servers
- Recommended configurations
- Supported storage options and network adapters
- Installation procedures
- Known issues and workarounds

## Acronyms in text

The following acronyms are used in the text of this document.

**Table 1.** Acronyms

<b>Acronym abbreviation</b>	<b>Acronym expansion</b>
DNS	Domain Name Server/Service
DOS	Disk Operating System
GUI	Graphical User Interface
iLO	Integrated Lights-Out
IP	Internet Protocol
IPX	Internetwork Packet Exchange
NIC	Network Interface Controller
NSS	Novell Storage Services
ORCA	Option ROM Configuration for Arrays
OS	Operating System
POST	Power-On Self Test
PSP	ProLiant Support Pack
RBSU	ROM-Based Setup Utility
RILOE II	Remote Insight Lights-Out Edition II
SP	Support Pack for Novell

# Introduction to Novell NetWare 6.5

Novell NetWare 6.5, the latest release of the NetWare 32-bit operating system, is built on the Novell NetWare 6 code base. NetWare 6.5 focuses on the end user by providing OneNet access from anywhere and any device. Applications currently supported on NetWare 6 are also supported on NetWare 6.5.

## Supported configurations

Carefully review this document for the recommended system configuration and possible issues that you might encounter. Performing due diligence optimizes your resources and testing scenarios. Do not use this paper as your sole source of information. You should visit the NetWare 6.5 website, [www.novell.com/products/netware65/](http://www.novell.com/products/netware65/), for additional information regarding this product.

## Recommended system configuration

Table 2 lists the recommended system configuration established by Novell for NetWare 6.5.

**Table 2.** Recommended system configuration

Parameter	Value
Processor	550 MHz Pentium III or greater
RAM	512 MB (OS only); 1 GB (OS and all applications)
Monitor	VGA or higher resolution
Available disk space	1 GB DOS partition; 4 GB for OS and applications

**NOTE:** HP has seen installation issues occur with some server ROM versions. Prior to installation, ensure that the latest server ROM has been installed on the server. Additionally, apply firmware updates to all devices in the server such as controllers and disk drives. ROM and driver updates for all HP products can be found at [www.hp.com/cgi-bin/hpsupport/index.pl](http://www.hp.com/cgi-bin/hpsupport/index.pl).

## Server platforms

HP supports Novell NetWare 6.5 on a variety of HP ProLiant server models. The Novell NetWare Support on HP ProLiant Servers Matrix (Figure 1) identifies, by model, the ProLiant servers that have been certified for NetWare 6.5 and include support software from HP.

**Figure 1.** Snapshot of the Novell NetWare Support on HP ProLiant Servers Matrix

The screenshot shows the HP website interface for Novell NetWare support. The main heading is "Novell NetWare Support on HP ProLiant Servers". Below this, there is a section titled "Novell on ProLiant - Certified & supported versions" with instructions to click on a product for more information. A checklist indicates that HP supported, tested, and drivers are available for the listed servers. The table below lists server models and their compatibility with various NetWare versions.

NetWare					
BL series	NW 6	NW 6.5	NW SBS 6	NW SBS 6.5	OES (x86)
BL20p G2		✓			✓
BL20p G3		✓			✓
BL20p G4		✓			✓
BL25p		✓			✓
BL460c		✓			✓
NetWare					
DL series	NW 6	NW 6.5	NW SBS 6	NW SBS 6.5	OES (x86)
DL360 G2	✓	✓			
DL360 G3	✓	✓			✓
DL360 G4 SATA		✓			✓
DL360 G4 SCSI		✓			✓
DL360 G4p SAS		✓			✓
DL360 G4p SATA		✓			✓
DL360 G4p SCSI		✓			✓
DL360 G5		✓			✓
DL380 G3	✓	✓		✓	✓

To view the latest server matrix, visit <http://h71028.www7.hp.com/enterprise/cache/470230-0-0-121.html>.

Descriptions of ProLiant servers are located at [www.hp.com/go/proliant](http://www.hp.com/go/proliant).

## Supported software

HP provides utilities and drivers in the ProLiant Support Pack (PSP) for Novell NetWare to optimize Novell NetWare 6.5 on supported ProLiant servers. The PSP can be downloaded from the HP website as follows:

1. Go to the HP website, [www.hp.com](http://www.hp.com).
2. Select **Support and Drivers**.
3. Enter the ProLiant server model (for example, ProLiant DL380 G5).
4. Select the appropriate server model from the Product Search List.
5. Select **Novell NetWare 6.5** as the operating system.
6. Select **Software - Support Pack** for the quick jump selection.
7. Select **ProLiant Support Pack for Novell NetWare**.

## Supported storage options

Table 3 lists supported ProLiant tape options that support NetWare 6.5.

**Table 3.** Supported storage options

Option	Driver	Location
Smart Array 6i	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array 642	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array 641	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array 6400EM	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array 5i	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array 532	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array 5312	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array 5300	CPQRAID.HAM	NetWare 6.5 Operating System CD
Smart Array P800	HPQCISS.HAM	NetWare 6.5 Operating System CD
Smart Array P600	HPQCISS.HAM	NetWare 6.5 Operating System CD
Smart Array P400i	HPQCISS.HAM	NetWare 6.5 Operating System CD
Smart Array P400	HPQCISS.HAM	NetWare 6.5 Operating System CD
Smart Array E500	HPQCISS.HAM	NetWare 6.5 Operating System CD
Smart Array E200	HPQCISS.HAM	NetWare 6.5 Operating System CD
Smart Array E200i	HPQCISS.HAM	NetWare 6.5 Operating System CD
Dual Channel Ultra320 SCSI HBA	LSIMPTNW.HAM	NetWare 6.5 Operating System CD
HP SC11Xe Host Bus Adapter	LSIMPTNW.HAM	NetWare 6.5 Operating System CD
HP ProLiant 100 series servers 64-Bit/133-MHz Single Channel Ultra320 Adapter	LSIMPTNW.HAM	NetWare 6.5 Operating System CD

Option	Driver	Location
HP U320 64bit Single Channel SCSI Host Bus Adapter G2	LSIMPTNW.HAM	NetWare 6.5 Operating System CD
HP SC40Ge Host Bus Adapter	LSIMPTNW.HAM	NetWare 6.5 Operating System CD
HP SC44Ge Host Bus Adapter	LSIMPTNW.HAM	NetWare 6.5 Operating System CD
HP 8 Port SAS/SATA Controller with RAID	LSIMPTNW.HAM	NetWare 6.5 Operating System CD
Qlogic QLA2300 PCI Fibre Channel Adapter	QL2X00.HAM	NetWare 6.5 Operating System CD
Qlogic QLA234X PCI Fibre Channel Adapter	QL2X00.HAM	NetWare 6.5 Operating System CD
Qlogic QLE236X PCI Fibre Channel Adapter	QL2X00.HAM	NetWare 6.5 Operating System CD
Qlogic QLA246X PCI Fibre Channel Adapter	QL2X00.HAM	NetWare 6.5 Operating System CD
Qlogic QLE256X PCI Fibre Channel Adapter	QL2X00.HAM	NetWare 6.5 Operating System CD
Qlogic QLE220 PCI Fibre Channel Adapter	QL2X00.HAM	NetWare 6.5 Operating System CD
Qlogic QLA200 PCI Fibre Channel Adapter	QL2X00.HAM	NetWare 6.5 Operating System CD

## Supported network interface controllers

Table 4 lists supported ProLiant network interface controllers (NICs) and drivers supported by NetWare 6.5.

**Table 4.** Supported ProLiant NICs

NIC	Driver	Location
HP NC150T PCI 4-port Gigabit Combo Switch Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC326m PCIe Dual Port Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC325m PCIe Quad Port Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC320m PCI Express Dual Port Adapter for HP Bladestem	Q57.LAN	NetWare 6.5 Operating System CD
HP NC326i Integrated Dual Port PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC326i Integrated Dual Port PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD

<b>NIC</b>	<b>Driver</b>	<b>Location</b>
HP NC325i Integrated Dual Port PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC325i Integrated Dual Port PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC324i Integrated Dual Port PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC324i Integrated Dual Port PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC320T PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC320i Integrated Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC105i Integrated PCI Express Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7782 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7781 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7782 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7781 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7781 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7780 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7771 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7770 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP Embedded NC7761 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC7760 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC6770 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD
HP NC1020 Gigabit Server Adapter	Q57.LAN	NetWare 6.5 Operating System CD

<b>NIC</b>	<b>Driver</b>	<b>Location</b>
HP NC3163 Fast Ethernet Server Adapter	N100.LAN	NetWare 6.5 Operating System CD
HP NC3134 Fast Ethernet Server Adapter	N100.LAN	NetWare 6.5 Operating System CD
HP NC3131 Fast Ethernet Server Adapter	N100.LAN	NetWare 6.5 Operating System CD
HP NC3123 Fast Ethernet Server Adapter	N100.LAN	NetWare 6.5 Operating System CD
HP NC3122 Fast Ethernet Server Adapter	N100.LAN	NetWare 6.5 Operating System CD
HP NC3135 Fast Ethernet Module	N100.LAN	NetWare 6.5 Operating System CD
HP NC3133 Fast Ethernet Module	N100.LAN	NetWare 6.5 Operating System CD
HP NC3132 Fast Ethernet Module	N100.LAN	NetWare 6.5 Operating System CD
HP NC7132 Gigabit Module	N1000.LAN	NetWare 6.5 Operating System CD
HP NC340T PCI-X Quad-port Gigabit Server Adapter	N1000.LAN	NetWare 6.5 Operating System CD
HP NC310F PCI-X Gigabit Server Adapter	N1000.LAN	NetWare 6.5 Operating System CD
HP NC7170 Gigabit Server Adapter	N1000.LAN	NetWare 6.5 Operating System CD
HP NC7131 Gigabit Server Adapter	N1000.LAN	NetWare 6.5 Operating System CD
HP NC6170 Gigabit Server Adapter	N1000.LAN	NetWare 6.5 Operating System CD
HP NC6136 Gigabit Server Adapter	N1000.LAN	NetWare 6.5 Operating System CD
HP NC374m PCIe Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC373m PCI Express Dual Port Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP BladeSystem Dual NC370i Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP BladeSystem Dual NC370i Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD

<b>NIC</b>	<b>Driver</b>	<b>Location</b>
HP NC373T PCI Express Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC373i Integrated Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC373F PCI Express Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC371i Integrated PCI-X Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC370T Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC370F Multifunction Gigabit Server Adapter	BX2.LAN	NetWare 6.5 Operating System CD
HP NC364m Quad Port Gigabit Ethernet BL-c Adapter	N1000e.LAN	NetWare 6.5 Operating System CD
HP NC360m Dual Port Gigabit Ethernet BL-c Adapter	N1000e.LAN	NetWare 6.5 Operating System CD
HP NC364T PCI Express Quad Port Gigabit Server Adapter	N1000e.LAN	NetWare 6.5 Operating System CD
HP NC360T PCI Express Dual Port Gigabit Server Adapter	N1000e.LAN	NetWare 6.5 Operating System CD
HP NC110T PCI Express Single Port Gigabit Server Adapter	N1000e.LAN	NetWare 6.5 Operating System CD
HP NC150T PCI 4-port Gigabit Combo Switch Adapter	Q57.LAN	NetWare 6.5 Operating System CD

## Server management using iLO, iLO2, or RILOE II

Integrated Lights-Out (iLO), iLO2, or an installed Remote Insight Lights-Out Edition II (RILOE II) card can remotely manage NetWare 6.5 on any supported ProLiant server.

Detailed information on configuration and operation of each product can be found in the product user guides available at the following locations:

- For iLO and iLO2:  
<http://h18013.www1.hp.com/products/servers/management/ilo/documentation.html>
- For RILOE II:  
<http://h18013.www1.hp.com/products/servers/management/riloe2/documentation.html>

## SmartStart support

SmartStart 8.00 and later versions do not include installation support for Novell NetWare 6.5. All support software is available on the HP website for download (refer to the [Supported software](#) section for more information).

# Installation procedures

The following section contains procedures for installing NetWare 6.5 as a new installation only.

## Performing a new installation

1. Select a supported platform from the server platforms listed in the Novell NetWare Support on HP ProLiant Servers Matrix: <http://h71028.www7.hp.com/enterprise/cache/470230-0-0-0-121.html>.
2. Inspect the system to confirm that it meets the minimum RAM and disk space requirements needed for installation.
3. Use RBSU to configure the hardware for the server.
  - a. Power on the server, and press **F9** when prompted to begin RBSU setup.
  - b. In the Boot Controller Setting, choose and/or verify the boot controller.
  - c. Select the **Date/Time** option and ensure the proper time is set on the server. This setting will prevent eDirectory time synchronization problems after installation.
  - d. Press **Esc** to exit. When prompted, press **F10** to exit RBSU.
  - e. For servers with array controllers, select **F8** during the server reboot to begin the configuration of the array controller using Option ROM Configuration for Arrays (ORCA).

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### NOTE

Older array controllers do not support ORCA, and should be configured using the Array Configuration Utility (ACU) found on the SmartStart CD. Servers with SCSI controllers do not require any additional configuration.

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- f. Insert the NetWare 6.5 Operating System CD, and exit ORCA.
4. When the NetWare 6.5 Operating System CD has booted, install NetWare 6.5 as you would install NetWare 5.1 or NetWare 6, using the following procedure.

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### NOTE

After booting the NetWare 6.5 CD, if an existing NetWare installation is detected a message will appear prompting you to either "I" (Install) or "R" (Run) NetWare. Choose option "I" so that the existing installation will be replaced.

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- a. Select the proper regional settings for your location.
  - b. Accept the NetWare 6.5 and Report Runtime license agreements.
  - c. Select either **Default** or **Manual** as the installation type. The Default installation automatically detects drivers and installs the server with default settings. The Manual installation allows you to configure settings and modify detected drivers.
    - Press **F1** at this screen to see more details on both installation methods.
    - Choose the method that best suits your network environment.

- For **Default** installations, select **Continue** on the two Installation Type screens and proceed to step i below.
  - For **Manual** installations, follow steps “d” through “h.”
- d. Create a Boot Partition.
- Select **Modify** to create a boot partition.
  - Select **Free Space**, and press **Enter**.
  - Enter a DOS partition size between 500 MB and 2 GB. While a 500 MB DOS partition is typically adequate, a larger DOS partition size will allow larger NetWare Core Dumps to be created for problem analysis.
  - Wait for the DOS partition to be formatted, and then select **Continue**.
- e. Confirm the Server settings shown by selecting **Continue**.
- f. The NetWare 6.5 installation will begin the preliminary DOS file copy. When complete, select and load the proper drivers for the following subsystems:
- Platform Support Module (PSM) – ACPIDRV.PSM

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**NOTE**

CPQACPI.PSM has been discontinued for NetWare 6.5. Novell’s ACPIDRV.PSM has been modified to include the functionality from CPQACPI.PSM.

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- Hot Plug Support Module – CPQSBD.NLM (available only on servers with PCI Hot Plug support)
  - Storage Adapters – varies by server model
  - Network Adapters – varies by server model
- g. Create the SYS: volume. The default is 4 GB, which is a satisfactory size for most installation types.
- h. Once the SYS: volume has been created, the Novell Storage Services (NSS) Management Utility screen is presented where additional disk operations can be performed. This step is optional, and can be skipped by selecting **Continue Installation**. The NetWare 6.5 installation will begin the system file copy and will load the Installation GUI when complete.

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**NOTE**

Software RAID 5, although available as an option by selecting **RAID Devices**, will not be supported by Novell or HP until at least NetWare 6.5 Support Pack 1.

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- i. When the GUI loads, you have the option to choose a server type based upon the anticipated use of the server. This option is called a Pattern Deployment, which customizes certain settings during installation to optimize the server for the pattern selected. Unless one of the listed Patterns is being installed, HP recommends selecting **Basic NetWare File Server**.
- j. Review the summary screen to ensure that the minimum hardware requirements are met for the selected server pattern type, and then select **Copy Files**.

- k. When prompted, insert the NetWare 6.5 Products CD. Allow the CD ample time to mount (about 30 seconds), then select **OK** to continue the file copy process.
- l. When prompted, insert the NetWare 6.5 License diskette. The first license file required is for cryptography and will have an .NFK extension. It should be located in the \License subdirectory on the diskette.
- m. Select the Network Protocols for the installed network cards and enter the appropriate information. IP and/or IPX can be selected from the Main screen. Advanced settings can be entered by selecting the **Advanced** tab from the Main screen.
- n. If desired, enter the server DNS host name and the Name Server IP Address. This information is optional and can be skipped if DNS is not used on the network.
- o. Select the proper time zone for the server installation. Ensure that the proper time has been configured on the system prior to NetWare 6.5 installation. This setting will prevent eDirectory time synchronization issues after installation.
- p. Select the proper eDirectory installation type:
  - **Install in New Tree** – used if this is the first server on the eDirectory tree
  - **Install in Existing Tree** – used if this server will be installed into an existing eDirectory tree
- q. The base NetWare 6.5 license should already be selected. If additional licenses are to be installed, browse to the correct location on diskette and select the appropriate license.
- r. Enter the appropriate LDAP Configuration information.
  - For Clear Text, the default port is 389.
  - For SSL/TLS, the default port is 636.
- s. Enter the appropriate Novell Modular Authentication Service (NMAS) Login Method. Netware Directory Services (NDS) is the default. The NetWare 6.5 installation will present a summary screen of the installation choices.
- t. Select **Finish**, and the final file copy will begin.
- u. When prompted, remove the NetWare 6.5 media from the server CD-ROM and diskette drives. Select **Yes** to reboot the server. After the server has rebooted, the installation is complete and the server is functional.

## Upgrade procedures

### Reviewing the requirements

Upgrades to NetWare 6.5 are only supported from the following NetWare versions:

- NetWare 6 with Support Pack 3 (or later)
- NetWare 5.1 with Support Pack 6 (or later)

Upgrades to servers running NetWare 3.x, 4.x, or 5.0 can only be performed if the server is first upgraded to NetWare 5.1 with Support Pack 6 (or later) or NetWare 6 with Support Pack 3 (or later).

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**NOTE**

A comprehensive server health check is performed prior to starting the upgrade process. If the server does not meet the above requirements, the upgrade will terminate.

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## Understanding the upgrade options

There are two options available for upgrading Novell servers. NetWare 6.5 may be installed through a Standard In-Place Upgrade or through a Remote Upgrade. This integration note only covers the steps to perform an In-Place Upgrade. Complete procedures for both upgrade types can be found on the Novell documentation website at [www.novell.com/documentation/oes2/index.html](http://www.novell.com/documentation/oes2/index.html).

## Preparing the network using NetWare Deployment Manager

If this is the first server in the tree to be upgraded to NetWare 6.5, proceed to the next step. Otherwise, skip to step 5 below.

1. On a Windows NT/2000 or Windows XP Professional Workstation running the latest Novell Client, login to the target tree as a user with full Administration rights.

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**NOTE**

The NetWare 6.5 Deployment Manager can only be run in an Internet Explorer 5 or 6 browser.

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2. Insert the NetWare 6.5 Operating System CD into the workstation CD-ROM drive and run the NetWare Deployment Manager (nwdeploy.exe) located at the root of the CD.
3. In the left pane of the browser window, select Preparing the Network. This selection performs the following operations:
  - Verifies that the existing version of NDS (eDirectory) is at minimum levels, and upgrades the tree, if necessary.
  - Extends the schema to support NetWare 6.5 objects.
  - Creates GUIDs for NetWare 4.11 and 4.12 servers in the tree.

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**NOTE**

NetWare 4.10 servers cannot coexist in the same tree with NetWare 6.5 servers. If NetWare 4.10 servers are in the target tree, they must be removed before the upgrade can proceed.

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- Runs a comprehensive health check on the server to be upgraded to verify that it meets minimum requirements. When the health check completes, review the log file for any warning messages that may be present. Warnings will not prevent the upgrade from proceeding but are noted so that you are aware of items that may be below the recommended guidelines. If any items are marked as "Failed," the upgrade cannot proceed. The following items must pass or the upgrade cannot proceed:
  - 550 MHz Pentium III or faster processor
  - 512 MB of RAM

- Vol SYS size of 2000 MB with 400 MB free (3800 MB with 1500 MB free recommended)
  - DOS Partition size of 100 MB with 30 MB free (200 MB with 50 MB recommended)
- Runs a cluster health check (on clustered servers only).
  - Provides steps to verify that the host CA object is running Novell Certificate Server version 2.0 or later.
  - Provides preparation steps for implementing Novell's Universal Password.
  - Provides preparation steps for enabling Common Internet File Services (CIFS) (Microsoft Windows native network workstations) and AFP (Apple Macintosh native network workstation) users to log into the network.
4. After the target system has passed the health check, exit Deployment Manager on the workstation and remove the CD from the CD-ROM drive.
  5. Insert the NetWare 6.5 Operating System CD into the target server's CD-ROM drive, and wait for the CD volume to automount. If the CD volume does not automount, type `load cdrom` at the target server console.
  6. Switch to the server GUI screen, select **Novell**, and then select **Install** from the menu.
  7. When the Installed Products page appears, select **Add**.
  8. When the Source Path page appears, browse to the root of the OS CD, select the Product.ni file, and select **OK**.
  9. Verify that the correct path is entered to the Product.ni file in the Source Path page, and select **OK**.
  10. When the NetWare 6.5 and JReport runtime license agreements appear, accept each agreement by selecting **I Accept** on each page.
  11. At this point, the NetWare Deployment Manager performs the server health check mentioned earlier.
  12. Determine if a backup of the old server boot files is desired. If so, specify the backup location in the provided box. HP recommends accepting the default option of Yes, and the default backup file location.
  13. Determine if you want the server to reboot automatically after the installation completes. HP recommends accepting the default option of Yes.
  14. Determine if you want to allow unsupported drivers to be installed. HP recommends accepting the default option of No, because HP does not provide support for unsupported driver installations.
  15. Select either a Default or Manual upgrade by clicking the radio button next to the desired choice.
    - The Default upgrade automatically detects drivers and then upgrades the server to NetWare 6.5 with default settings.
    - The Manual upgrade lets you manually configure your drivers and the default settings used in the Default upgrade.

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#### NOTE

HP recommends selecting **Manual**, as there is a driver that may need to be changed during the upgrade.

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16. Select **Next** to begin the file copy.

17. After the file copy completes, the Components page displays, allowing you to choose any additional NetWare 6.5 products for installation. To see a description of a product, place the cursor over the product name.
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**NOTE**

Because you are performing an upgrade, several components are already selected. These are the components currently installed on the server. Leaving the installed components checked reinstalls the products. Unchecking an installed component does not uninstall the product.

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18. Select **Next**, and review the Summary screen for accuracy of products to be installed. If you are satisfied with the products listed, select **Copy Files**. Otherwise, select **Back** and make any necessary changes.
19. The upgrade process copies files for a few minutes. When the file copy completes, the system reboots. Do not remove the Product CD from the CD-ROM drive at this time.
20. If you selected **Default** in step 16, skip to step 23. Otherwise, proceed with the next step.
21. The device drivers are detected and you are presented with a screen or screens where you can modify these settings.
- If you do not want to modify the settings:
    - a. Select **Continue**.
    - b. Press **Enter**.
  - If you want to modify the settings:
    - a. Select **Modify**.
- 

**NOTE**

For NetWare 6.5, the base functionality in CPQACPI.PSM and CPQMPK.PSM has been incorporated into Novell's ACPIDRV.PSM. You may need to modify the existing loaded PSM in this step so that ACPIDRV.PSM will be loaded. CPQACPI.PSM and CPQMPK.PSM are not supported on NetWare 6.5. Although both PSMs will load and run, unpredictable results may occur.

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- b. Press **Enter**.
    - c. Make any desired changes.
    - d. Select **Continue**.
    - e. Press **Enter**.
22. The file copy continues, and the GUI portion of the installation process begins.
23. When prompted, login to eDirectory (NDS) as a user with Admin rights. After successfully logging in, eDirectory upgrades to the latest version. Select **Next** when complete.
24. If this is the first NetWare 6.5 server in the tree, insert a license diskette, when prompted. Insert the diskette, browse to the location of the NLF file, and select **OK**.

25. Select **Next** at the license screen. If this is not the first NetWare 6.5 server in the tree, the existing license(s) displays. You have the option to install additional licenses or to accept the existing license and continue.
26. The NMAS installation screen appears. Select the desired login methods that you want to use for installing into eDirectory. When you select a login method, a description of the component appears in the Description box. The NDS login method is installed by default and is adequate for most installations.
27. Select **Next** to continue.

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**NOTE**

The NMAS client software must be installed on each client workstation where you want to use the NMAS login methods. The NMAS client software is included on the Novell Clients Software CD (July 2003).

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28. At this time, eDirectory is upgraded with Volume information, and the selected NMAS login methods are installed. After these steps complete, the final file copy automatically begins.
29. When prompted, remove the NetWare 6.5 Product CD and license diskette (if present) and select **OK** to reboot the server. When the server successfully reboots, NetWare 6.5 is functional and ready for user login.

## Post upgrade tasks

### Updating NSS Volumes

If you upgraded from a NetWare 5.1 server with NSS volumes, you must complete the following procedure to update NSS volumes.

1. When prompted at the end of the upgrade, reboot the computer.
2. Make sure that all processes related to the NetWare 6.5 upgrade have completed.
3. At the server console, enter the following command:

```
NSS /ZLSSVOLUMEUPGRADE=ALL
```

The NSS volumes can now be mounted on the NetWare 6.5 server.

## Installing or Updating Novell Client Software

If you are running Novell Client software, upgrade your existing workstations at this time. You can also choose to run workstations without additional software using Novell Native File Access Protocols.

For more information, see the Novell Client documentation at [www.novell.com/documentation/index.html](http://www.novell.com/documentation/index.html).

## Installing Product Updates

For best performance, download and install the latest updates available at Novell Support and Downloads: <http://support.novell.com/>.

# Troubleshooting

This section details the known issues with running Novell NetWare 6.5 on ProLiant servers and provides information about resolving them.

**Table 5.** Known issues

Issue 1	<b>ABEND in CPQSCSA.NLM May Occur When Setting ALLOC MEMORY CHECK FLAG = ON to Troubleshoot a NetWare 6.5 Issue on an HP ProLiant Server</b>
<b>Description</b>	<p>When setting ALLOC MEMORY CHECK FLAG = ON to troubleshoot a NetWare 6.5 issue on an HP ProLiant server, the server may ABEND in the HP SCSI Subsystem Agent (CPQSCSA.NLM) when AllocSleepOK detects a free memory block that is corrupt.</p> <p><b>NOTE:</b> Novell typically requests that administrators set the ALLOC MEMORY CHECK FLAG = ON to facilitate troubleshooting an unrelated issue.</p> <p>Applies to any HP ProLiant server running NetWare 6.5 and CPQSCSA.NLM.</p>
<b>Workaround</b>	<p>To avoid the ABEND, unload CPQSCSA.NLM before setting ALLOC MEMORY CHECK FLAG = ON. This will allow the troubleshooting process to continue without the ABEND, although the functionality of CPQSCSA.NLM will be temporarily unavailable. When finished with the troubleshooting, set ALLOC MEMORY CHECK FLAG = OFF and reload CPQSCSA.NLM.</p>
<b>Solution</b>	<p>This will be corrected in a future version of CPQSCSA.NLM. When more information becomes available, the advisory will be updated: <a href="http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c01300145">http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c01300145</a>.</p>
Issue 2	<b>HP ProLiant ML350 G5 Server Series - HPQCISS.HAM in Novell NetWare 6.5 Service Pack 6 (SP6) Causes Server to Freeze</b>
<b>Description</b>	<p>The server freezes, and after the server is restarted, it reports HPQCISS.HAM invalid Slot. This prevents the server from restarting.</p> <p>Review the HP Support Customer Advisory c01118819: <a href="http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=c01118819&amp;lang=en&amp;cc=us&amp;taskId=101&amp;prodSeriesId=1157688&amp;prodTypeId=329290">http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=c01118819&amp;lang=en&amp;cc=us&amp;taskId=101&amp;prodSeriesId=1157688&amp;prodTypeId=329290</a>: NetWare Storage Agent May Become Unresponsive When HPQCISS.HAM Is Unloaded and Reloaded with the "\SLOT" Option on an HP ProLiant Server Configured with Two or More HP Smart Array SAS/SATA Controllers to determine if it is applicable.</p>
<b>Solution</b>	<p>Replace the system board using Spare Part Number 413984-001. After the part replacement, install the Overlay CD (NW65SP6). The HPQCISS.HAM V1.06.02 dated June 19, 2006 ran on the server without issue for more than three days.</p> <p>Upgrade the drivers using PSP V7.90, which in turn upgrades the HPQCISS.HAM to version 1.10 dated October 2, 2006. This resolves the issue.</p>

<b>Issue 3</b>	<b>Continuous Beeps and CDM Driver Error Messages May Occur After Rebooting HP ProLiant Server Running NetWare 6.5 SP5 (or Later) With Failed Logical Drive(s) Configured on HP Smart Array SAS/SATA Controller</b>
<b>Description</b>	<p>After rebooting a ProLiant server configured with one of the HP Smart Array SAS/SATA Controllers listed in the Scope section (below) and running NetWare 6.5 SP5 (or later), high-pitched beeps and console error messages from the Compaq SCSI Custom Device Module for NetWare (CPQSHD.CDM) similar to the following may repeatedly occur after a logical drive has failed:</p> <p>CPQSHD: The HP Smart Array controller Slot 4 LUN 1 disk device failed to initialize. This device will be deactivated.</p> <p><b>OR</b></p> <p>A scheduled work to do took over one minute to be run.</p> <p>Note: When the above scheduled work error message appears, the server will be unresponsive because of a time-out condition on the Smart Array SAS/SATA Controller.</p> <p>When the server reboots with failed logical drives, an event is generated which the HP Smart Array SAS/SATA Controller Hardware Abstraction Module for NetWare (HPQCISS.HAM) is unable to correctly process. This results in a time-out condition on the Smart Array Controller.</p> <p>Any ProLiant server configured with one of the HP Smart Array SAS/SATA Controllers listed below and running NetWare 6.5 SP5 (or later) when a logical drive has failed:</p> <ul style="list-style-type: none"> <li>• Smart Array P800 Controller</li> <li>• Smart Array P600 Controller</li> <li>• Smart Array P400/P400i Controller</li> <li>• Smart Array E200/E200i Controller</li> </ul>
<b>Workaround</b>	<p>To stop the continuous beeps and CDM driver error messages, replace the failed drive(s). The beeps and messages will stop after repairing the failed logical drive(s).</p>
<b>Solution</b>	<p>The continuous beeps and CDM driver error messages will be corrected in a future version of HPQCISS.HAM. When more information becomes available, the advisory will be updated: <a href="http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c00943073">http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c00943073</a>.</p>

<b>Issue 4</b>	<b>NetWare Peripheral Architecture (NWPA) Page Fault Processor Exception ABEND (Error Code 00000000) on HP ProLiant Servers Configured with HP 8 Internal Port SAS HBA with RAID and Running NetWare 6.5 SP5 and LSIMPTNW.HAM</b>
<b>Description</b>	<p>HP ProLiant servers configured with the HP 8 Internal Port SAS Host Bus Adapter (HBA) with RAID and running NetWare 6.5 SP5 and the HP U320 SCSI Adapter and SAS HBA with RAID Driver for NetWare (LSIMPTNW.HAM) may encounter the following NWPA Page Fault ABEND:</p> <p><i>Page Fault Processor Exception ABEND (Error Code 00000000)</i></p> <p>Additional information:</p> <p>The CPU encountered a problem executing code in NWPA.NLM.</p> <p>Stack pointer:</p> <p>(NWPA.NLM Send_Adapter_Failed_Notification+0)</p> <p>This occurs when the NetWare Peripheral Architecture module (NWPA.NLM) references an invalid memory location while processing a failure event notification from LSIMPTNW.HAM for the 8 Internal Port SAS HBA with RAID.</p> <p>Any HP ProLiant server that is configured with HP 8 Internal Port SAS HBA with RAID adapter and running NetWare 6.5 SP5 and LSIMPTNW.HAM.</p>
<b>Solution</b>	<p>To prevent this ABEND, upgrade to the NWPA.NLM version dated September 26, 2006, in NetWare 6.5 SP6, which is available for download on the Novell website at <a href="http://www.novell.com">www.novell.com</a>.</p>
<b>Issue 5</b>	<b>NetWare 6.5 SP5 Installation on HP ProLiant ML570 G3 Server May Halt with "No Logical Drive Found" Message</b>
<b>Description</b>	<p>Attempts to install NetWare 6.5 SP5 on an HP ProLiant ML570 G3 server may halt with the following message:</p> <p>No logical drive found</p> <p>This is a hardware discovery issue described by Novell at the following Novell URL. To locate the description, type "2974251" in the "Technical Information Search" screen, click the "Search by TID ID" and "Documentation" check boxes, then click the "Search" button.</p> <p><a href="http://support.novell.com">http://support.novell.com</a></p> <p>Any ProLiant ML570 G3 server that is installing NetWare 6.5 SP5.</p>
<b>Solution</b>	<p>To successfully install NetWare 6.5 SP5 on a ProLiant ML570 G3 server, upgrade to the NetWare Bus Interface module (NBI.NLM) Version 5A, which is available from Novell at the following Novell URL:</p> <p><a href="http://support.novell.com">http://support.novell.com</a></p> <p><b>NOTE:</b> To locate NBI.NLM Version 5A (nw65nbi5a.exe), select "Downloads - Patches" then search for NBI.NLM. The link to the patch is entitled "2974251: Updated NBI on HP hardware discovery issue."</p>

**Description**

The Advanced Configuration and Power Interface (ACPI) power management features do not function as expected on HP ProLiant DL385 G2 servers running NetWare 6.5 SP5, as shown in the following examples:

- All available processors may not be recognized and subsequently not utilized.
- The NetWare console commands DOWN and SHUTDOWN do not shut the server down as expected. Instead, they exit the console to the DOS prompt (C:\NWSERVER directory).
- Pressing the server power button may abruptly power the server off when NetWare is running.

This occurs because the APCIDRV.PSM driver is not being installed correctly during the NetWare 6.5 SP5 installation. When this occurs, the following error message appears:

ACPIDRV.PSM-FATAL: Error initializing the ACPI subsystem.

Any HP ProLiant DL385 G2 server running Netware 6.5 SP5, which includes ACPIDRV.PSM Version 1.05g (October 3, 2005). ACPIDRV.PSM and the associated modules from SP5 are listed below:

**Table 6a.** Affected ACPIDRV.PSM Driver and Associated Modules

Module Name	Version	Date
ACPIDRV.PSM	1.05g	October 3, 2005
ACPIASL.NLM	1.05d	October 3, 2005
ACPICA.NLM	1.05c	October 3, 2005
ACPICMGR.NLM	1.05c	October 3, 2005
ACPIPWR.NLM	1.05c	October 3, 2005

**Solution**

To gain ACPI power management support after this issue occurs, install the updated version of ACPIDRV.PSM, which is available from Novell as ACPI PSM module update for NetWare 6.5 SP5 - TID2974107 at the following Novell URL:

<http://support.novell.com/cgi-bin/search/searchtid.cgi?2974107.htm>

This update contains the following versions of ACPIDRV.PSM and associated modules:

**Table 6b.** Updated ACPIDRV.PSM Driver and Associated Modules

Module Name	Version	Date
ACPIDRV.PSM	1.05q	August 18, 2006
ACPIASL.NLM	1.05n	August 18, 2006
ACPICA.NLM	1.05n	August 18, 2006
ACPICMGR.NLM	1.05n	August 18, 2006
ACPIPWR.NLM	1.05n	August 18, 2006

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**Issue 7**      **Using HP Gigabit Ethernet NIC Teaming Driver (QASP.LAN) in a NetWare 6.5 Clustering Environment May Result in Discarded "Gratuitous ARP" Packet and Lost Communications After Cluster Resource Failover**

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**Description**      On ProLiant servers running Novell Cluster Services and the HP Gigabit Ethernet NIC Teaming Driver (QASP.LAN), a cluster resource failover from one cluster node to another may result in transmission of an invalid MAC address (FF FF FF FF FF FF) in a "Gratuitous ARP" packet to the router. When this occurs, the router will discard the ARP packet it receives and the ARP information for that IP address will not be updated in the router table, causing lost communication when the router attempts to send information to the original MAC address associated with the IP address.

Note: A "Gratuitous ARP" packet is generated during a failover from a cluster resource to update the Address Resolution Protocol (ARP) cache in the router with the new MAC address for the IP address of the cluster resource.

This issue, which is not specific to HP, has been documented by Novell in TID 10095608: Clients Lose Connection with Cluster Resource After Migration<sup>1</sup>.

Any ProLiant server running Novell Cluster Services and the HP Gigabit Ethernet NIC Teaming Driver (QASP.LAN).

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**Solution**      To recover from the lost communications if they occur, reboot the server to clear the ARP table.

To avoid the lost communications, reconfigure NetWare to use the Novell Virtual Teaming Driver instead of QASP.LAN. Instructions for configuring NIC teaming can be found in the Novell TCP/IP Administration Guide for NetWare 6.5, which is available at

[www.novell.com/documentation/nw65/tcpipenu/data/hc7znq4j.html](http://www.novell.com/documentation/nw65/tcpipenu/data/hc7znq4j.html).

At the above URL, make the following selections:

1. Configuring Protocols
  2. NIC Teaming Solution
  3. Configuring Teaming Using INETCFG
- 

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<sup>1</sup> TID 10095608 can be viewed at [www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10095608&sliceId=&dialogID=17284484&statId=0 0 17286963](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10095608&sliceId=&dialogID=17284484&statId=0 0 17286963).

<b>Issue 8</b>	<b>Installation of NetWare 6.5 SP5 Halts on HP ProLiant DL385 G2 Server While Loading IDECD.CDM Driver</b>
<b>Description</b>	<p>An installation of NetWare 6.5 SP5 on an HP ProLiant DL385 G2 server will halt while loading the Novell ATA/IDE CD/DVD Custom Device Module (IDECD.CDM) driver. The installation cannot proceed at this point and the server must be powered down.</p> <p>This occurs because the Novell ATA/IDE/ATAPI/SATA Host Adapter Module (IDEATA.HAM) does not support the Broadcom/Serverworks HT-1000 chipset in the server and therefore cannot initialize the default DMA features. As a result, IDECD.CDM is unable to bind to the CD-ROM device, causing the installation to stop responding.</p> <p><b>NOTE:</b> This has been documented by Novell in TID 3725177.<sup>2</sup></p> <p>Any ProLiant DL385 G2 server that is installing NetWare 6.5 SP5.</p>
<b>Solution</b>	<p>The installation issue has been corrected in an updated version of IDEATA.HAM, which is available in the Novell NetWare 6.5 Support Pack 5 Install Hangs While Loading IDECD.CDM advisory<sup>3</sup>.</p> <p><b>NOTE:</b> The instructions for updating IDEATA.HAM during the installation are included in the referenced advisory.</p>
<b>Issue 9</b>	<b>HP System Management Homepage (SMH) Does Not Display Physical Drive Information for Hard Drives Connected to HP 8 Internal Port SAS Host Bus Adapter with RAID Configured in an HP ProLiant ML570 G3 or ProLiant ML570 G4 Server Running NetWare 6.5</b>
<b>Description</b>	<p>Physical drive information is not displayed on the HP System Management Homepage (SMH) for hard drives attached to an HP 8 Internal Port SAS Host Bus Adapter with RAID configured in an HP ProLiant ML570 G3 or ProLiant ML570 G4 server running NetWare 6.5. Version 7.60 (and earlier) of the HP Insight Management Storage Agents does not provide this information to the SMH (or similar software applications) because version 7.60 (and earlier) of the agents does not fully support this server configuration running NetWare 6.5. Therefore, all physical drive information is displayed as Unknown.</p> <p>Any HP ProLiant ML570 G3 or ProLiant ML570 G4 server running NetWare 6.5 and the HP Insight Management Storage Agents Version 7.60 (or earlier) and configured with an HP 8 Internal Port SAS Host Bus Adapter with RAID.</p>
<b>Workaround</b>	<p>As a workaround, physical drive information may also be obtained from the LSI Logic Configuration Utility, which is accessed by pressing the F8 key during Power-On Self-Test (POST).</p>
<b>Solution</b>	<p>The physical drive information for hard drives will be displayed in the SMH in a future version of the Storage Agents. When more information becomes available, this advisory will be updated.</p>

<sup>2</sup> TID 3725177 is available at [www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3725177&sliceId=SAL\\_Public&iaLogID=1558374&stateId=1\\_0\\_1560022](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3725177&sliceId=SAL_Public&iaLogID=1558374&stateId=1_0_1560022).

<sup>3</sup> This advisory is available at [www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3725177&sliceId=SAL\\_Public&iaLogID=1558374&stateId=1\\_0\\_1560022](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=3725177&sliceId=SAL_Public&iaLogID=1558374&stateId=1_0_1560022).

<b>Issue 10</b>	<b>NetWare 6.5 Hangs During Install on HP ProLiant ML370 G4 servers</b>
<b>Description</b>	During NetWare installation, the ML370 G4 server would experience hangs with the NW65SP5 Overlay CD. No CD-ROM device was detected in this system. Loaded the appropriate driver (HAM).
<b>Solution</b>	Change IDE option cable select to primary master for the CDROM and the issue will resolve
<b>Issue 11</b>	<b>NetWare 6.5 SP5 ACPI Power Management Features Do Not Function as Expected on HP ProLiant Servers Based on Intel Dual-Core Xeon 5100 Series Processors</b>
<b>Description</b>	<p>The ACPI power management features do not function as expected on HP ProLiant servers that are based on Intel Dual-Core Xeon 5100 Series processors and running NetWare 6.5 SP5. For example, the NetWare console commands DOWN and SHUTDOWN do not shut the server down; instead, these commands return the console to the DOS prompt (C:\NWSERVER directory). Additionally, pressing the server power button will abruptly power the server off when NetWare is running.</p> <p>This occurs because the APCIDRV.PSM driver is not being installed during the NetWare installation, preventing the ACPI power management features from becoming available to NetWare.</p> <p>Any of the following ProLiant servers that are configured with Intel Dual-Core Xeon 5100 Series Processors and running NetWare 6.5 SP5:</p> <ul style="list-style-type: none"> <li>• ProLiant DL350 G5</li> <li>• ProLiant DL360 G5</li> <li>• ProLiant DL370 G5</li> <li>• ProLiant DL380 G5</li> <li>• ProLiant BL20p G4 Server Blade</li> <li>• ProLiant BL460c Server Blade</li> </ul> <p><b>NOTE:</b> The servers listed above are NOT affected if configured with Intel Dual-Core Xeon 5000 Series.</p>
<b>Solution</b>	To avoid the issues with ACPI power management, upgrade to the updated version of APCIDRV.PSM, which is available from Novell through a link in the Technical Information Document, <i>ACPI PSM module update for NetWare 6.5 SP5 - TID2974107</i> , which is available at <a href="http://support.novell.com/cgi-bin/search/searchtid.cgi?2974107.htm">http://support.novell.com/cgi-bin/search/searchtid.cgi?2974107.htm</a> .
<b>Issue 12</b>	<b>"CPU Hog Detected by Timer" ABEND May Occur when Installing or Running NetWare 6.5 on an HP ProLiant DL380 G5 Server if a PCI-Express Adapter Is Configured in Slot 3</b>
<b>Description</b>	<p>NetWare may ABEND with a CPU Hog Detected by Timer message when installing or running NetWare 6.5 SP5 on an HP ProLiant DL380 G5 server with a System ROM (P56 family) dated 30 May 2006 if a PCI-Express Adapter is configured in Slot 3 of the PCI-Express Riser Cage. When this occurs, the server stops responding and the message, Please Wait appears while the network adapter driver is loading, followed by the ABEND.</p> <p>This occurs because the interrupt for Port 2 of the Embedded Dual NC373i Multifunction Gigabit Network Adapter is shared with Slot 3 in the ACPI table.</p> <p>Any HP ProLiant DL380 G5 server installing or running NetWare 6.5 SP5 with a System ROM (P56 family) dated 30 May 2006 and configured with a PCI-Express Adapter in Slot 3 of the PCI-Express Riser Cage.</p>

	<b>Workaround</b>	As a workaround until the updated System ROM is available, move the controller to a slot OTHER than Slot 3 of the PCI-Express Riser Cage.
	<b>Solution</b>	The CPU Hog Detected by Timer ABEND has been corrected in an updated version of the System ROM for the ProLiant DL380 G5 server. When this System ROM becomes available, this advisory will be updated: <a href="http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c00727551">http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c00727551</a> .
<b>Issue 13</b>	<b>System Management Homepage Displays Information for Only One Port of an HP NC320m Dual Port PCI Express Gigabit Server Adapter Installed in an HP ProLiant BL20p G4 Server Blade Running Novell NetWare 6.5 SP5</b>	
	<b>Description</b>	<p>HP System Management Homepage (SMH) displays information for only one port of an HP NC320m Dual Port PCI Express Gigabit Server Adapter installed in an HP ProLiant BL20p G4 server blade running Novell NetWare 6.5 SP5 when the operating system is installed using an HP SmartStart Release 7.51 Assisted Installation.</p> <p>This condition occurs because SmartStart Release 7.51 Assisted Installation does not use the Q57.LAN driver for the NC320m adapter because the PCI information for this adapter is not available in the Q57.LDI file. Instead, the B57.LAN driver is loaded and results in this behavior.</p> <p>Any HP ProLiant BL20p G4 server blade configured with an HP NC320m Dual Port PCI Express Gigabit Server Adapter and running Novell NetWare 6.5 SP5 installed using an HP SmartStart Release 7.51 Assisted Installation.</p>
	<b>Workaround</b>	<p>To view NC320m adapter information using the System Management Homepage, use INETCFG and select the Q57.LAN driver to load for the NC320m adapter. Additional information on INETCFG is available at the following URL:</p> <p><a href="http://www.novell.com/documentation/oes/index.html?page=/documentation/oes/utlr/fenu/data/hnbvotqk.html#hnbvotqk">www.novell.com/documentation/oes/index.html?page=/documentation/oes/utlr/fenu/data/hnbvotqk.html#hnbvotqk</a></p>
	<b>Solution</b>	<p>The SmartStart Release 7.51 Assisted Installation does not use the Q57.LAN driver for the NC320m adapter because PCI information is not available in the Q57.LDI file. Instead, the B57.LAN driver is loaded and results in this behavior. This condition will be corrected in a future release of SmartStart or ProLiant Support Pack. This advisory will be updated when additional information becomes available:</p> <p><a href="http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c00711917">http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&amp;cc=us&amp;objectID=c00711917</a>.</p>
<b>Issue 14</b>	<b>HP ProLiant ML310 G3 Server with Integrated Lights-Out 2 (iLO 2) That Is Booting or Installing NetWare 6.5 May ABEND with CIOS Error Message</b>	
	<b>Description</b>	<p>An HP ProLiant ML310 G3 server that is either booting or installing NetWare 6.5 with SP4 (or earlier) and Integrated Lights-Out 2 (iLO 2) firmware version 1.00 may ABEND with the following error message, which references the NetWare Consolidated Input / Output Subsystem (CIOS):</p> <p>P01: CIOS Invalid or corrupted memory returned to PlatFree</p> <p>This occurs because the USB driver in NetWare 6.5 SP4 (or earlier) does not support iLO 2.</p> <p>Any HP ProLiant ML310 G3 server that is either booting or installing NetWare 6.5 with SP4 (or earlier) and Integrated Lights-Out 2 (iLO 2) firmware version 1.00.</p>

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**Solution** To prevent the CIOS ABEND on a ProLiant ML310 G3 server, upgrade to BOTH the following:

- NetWare 6.5 SP5, which is available on the Novell website at <http://support.novell.com/servlet/downloadfile?file=/sec/pub/nw65sp5.exe/>

AND

- iLO 2 Firmware Version 1.01 (or later)  
To download, go to [www.hp.com/support](http://www.hp.com/support) and select the country and language.
  - Select the **Download drivers and software (and firmware)** radio button.
  - Type the name of the server in the window and press **ENTER**.
  - Select **Novell NetWare 6.5** as the operating system.
  - Select **Firmware – Lights-Out Management** as the quick jump location.
  - Click **Download**.

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**Issue 15**    **HP Integrated Lights-Out 2 (iLO 2) Advanced Features Do Not Function on ProLiant Servers with iLO 2 Running NetWare 6.5**

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**Description** On a ProLiant server with HP Integrated Lights-Out 2 (iLO 2) running NetWare 6.5 with SP4 (or earlier), the mouse and keyboard will not function when using the iLO 2 Advanced features Remote Console and Virtual Media. This is caused by an incompatibility between iLO 2 USB devices and the NetWare 6.5 USB driver, which results in the following console error:

\*\*\* UHCI Advisory: Port Enable failed to set PORTENABLE bit: regValue =0x83

Any ProLiant server with HP Integrated Lights-Out 2 (iLO 2) that is running NetWare 6.5 with SP4 (or earlier).

**NOTE:** Currently, iLO 2 is integrated on ProLiant ML310 G3 and ProLiant DL320 G4 servers. For an updated list of ProLiant servers with iLO 2, refer to the Remote Management - Integrated Lights-Out Products Web page at the following URL:

<http://h18013.www1.hp.com/products/servers/management/remotemgmt.html>

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**Solution** To enable the mouse and keyboard when using Remote Console or Virtual Media, upgrade to iLO 2 Firmware Version 1.01 AND NetWare 6.5 SP5, which are available at the following URLs:

- iLO 2 Firmware Version 1.01 (or later)  
To download, go to [www.hp.com/support](http://www.hp.com/support) and select the country and language.
  - Select the **Download drivers and software (and firmware)** radio button.
  - Type the name of the server in the window and press **ENTER**.
  - Select **Novell NetWare 6.5** as the operating system.
  - Click **Firmware – Lights-Out Management** as the quick jump location.
  - Click **Download**.

AND

- NetWare 6.5 Support Pack 5 (SP5), which contains an updated NetWare Universal Host Controller Interface (UHCI) driver. NetWare 6.5 SP5 is available on the Novell web site at the following URL:  
<http://support.novell.com/servlet/downloadfile?file=/sec/pub/nw65sp5.exe/>
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**Issue 16**    **ProLiant Server with AMD Opteron Processor Running NetWare 6.5 SP3 (or Later) May Stop Responding When Manually Loading ACPIDRV.PSM or When Unloading the HAM Module Managing the Boot Partition (Drive C:)**

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**Description**

HP ProLiant servers that are based on the AMD Opteron processor (listed in the Scope section below) and running NetWare 6.5 SP3 (or later) may stop responding with the messages listed below when one of the following occurs:

- When manually loading the Advanced Configuration and Power Interface Platform Support Module for NetWare (ACPIDRV.PSM), after starting NetWare with the "SERVER -NS" command, the server may stop responding and display the following error message:

*Error reading from load file*

**NOTE:** This is documented on the Novell website in TID #10098673 at the following URL:

<http://support.novell.com/cgi-bin/search/searchtid.cgi?10098673.htm>

OR

- When loading or unloading the Compaq Unified RAID Host Adapter Module Driver for NetWare (CPQRAID.HAM), the Compaq SCSI Custom Device Module for NetWare (CPQSHD.CDM), or the Novell NetWare SCSI Hard Drive Custom Device Module (SCSIHD.CDM), the server may stop responding and display a Java Exception message.

**NOTE:** This is documented on the Novell website in TID #10098673 at the following URL:

<http://support.novell.com/cgi-bin/search/searchtid.cgi?10098673.htm>

OR

- When running NetWare 6.5 SP3 on a server with multiple AMD Opteron processors, the server may stop responding and display the following error message:

*Error 0X00001105 Starting Processor 1 .*

*Processor 1 activation failed.*

Any HP ProLiant DL145, ProLiant DL145 G2, or ProLiant DL385 server that is running NetWare 6.5 SP3 (or later).

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**Solution**

To avoid the server unresponsiveness, perform one of the following:

- On an AMD Opteron based ProLiant server, add the "-FB" parameter to the ACPIDRV.PSM load command when manually loaded or in STARTUP.NCF. This will force the interrupts to go into Virtual Wire Mode B (when ACPI relinquishes interrupt control).

OR

- On an AMD Opteron based ProLiant server with multiple processors, start NetWare 6.5 SP3 with the following command:

`SERVER -NNX`

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**Issue 17**    **HP ProLiant Server Configured with 512 MB RAM and Running NetWare 6.5 May ABEND When Deactivating SYS Volume or When Unloading SYS Volume Driver**

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**Description**    An HP ProLiant server running NetWare 6.5 may intermittently ABEND when deactivating the SYS volume or when unloading the SYS volume driver. This may also occur when the server is being rebooted or forcibly shut down (e.g. by the SHUTDOWN command or a critical fan failure). This is more likely to occur on a server configured with approximately 512 MB RAM, as described in Novell TID #10099897, "NetWare Servers abend when deactivating the SYS volume or unloading the driver," which is located at the following URL:  
<http://support.novell.com/cgi-bin/search/searchtid.cgi?10099897.htm>

When this occurs, a Page Fault Processor Exception may result in an ABEND, or a message may appear on the logger screen indicating a Java Exception with "insufficient server memory to execute the class."

The following drivers are examples of those that might be unloaded by NetWare to deactivate the SYS Volume (resulting in the ABEND or Java Exception):

- IDEATA.HAM
- HPQCISS.HAM
- CPQRAID.HAM
- AACRAID.HAM
- LSIMPTNW.HAM

**NOTE:** This is not an HP-specific issue and is documented by Novell in TID #10099897 on the Novell website.

Any HP ProLiant server running NetWare 6.5.

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**Workaround**    To avoid the ABEND, do not deactivate the SYS volume OR unload the driver that supports the SYS volume.

To prevent the ABEND from occurring, upgrade the server memory to a minimum of 1024 MB.

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**Solution**    When more information becomes available, the advisory will be updated:  
<http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&cc=us&objectID=c00587074>.

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## For more information

For additional information, refer to the resources listed below.

**Table 6.** Web resources

Source	Hyperlink
HP and Novell Partnership site	<a href="http://www.hp.com/go/novell">www.hp.com/go/novell</a>
Novell website	<a href="http://www.novell.com">www.novell.com</a>

## Call to action

Send comments about this paper to: [TechCom@HP.com](mailto:TechCom@HP.com).