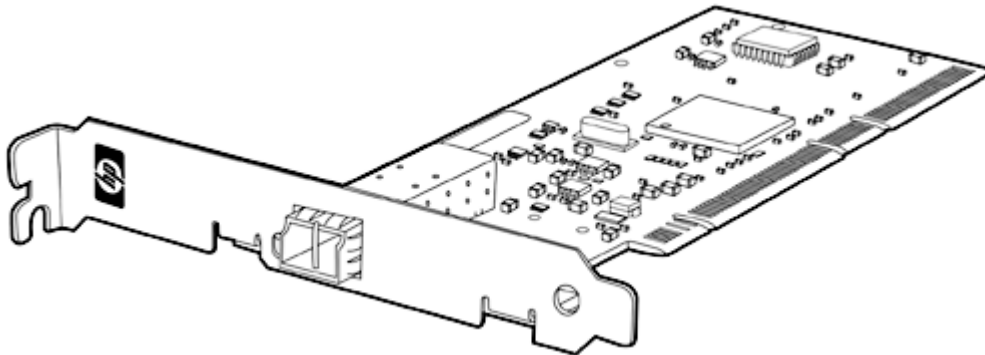


Overview

The HP NC310F server adapter is a single port 1000SX fiber-optic adapter option with 133 MHz PCI-X bus technology. Standard feature support includes network failover and load balancing, PCI hot plug capability, jumbo frames, dual address cycles (DAC), TCP offload capability, pre-boot execution environment (PXE), and more. The NC310F also supports optional HP ProLiant Essentials Intelligent Networking Pack that proactively adapts to changes in the network infrastructure.



Models

HP NC310F PCI-X 1000SX Gigabit Server Adapter

368169-B21

Kit Contents

- HP NC310F PCI-X 1000SX Gigabit Server Adapter
- CD containing drivers, user guide, installation and diagnostic utilities
- Quick install card
- Product warranty statement

NOTE: For a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: <http://h71028.www7.hp.com/ERC/downloads/4AA0-6064ENW.pdf>.

Standard Features

Server Support

ProLiant DL (rack-optimized):

- HP ProLiant DL140
- HP ProLiant DL140 G2
- HP ProLiant DL140 G3
- HP ProLiant DL145
- HP ProLiant DL145 G2
- HP ProLiant DL320 G3
- HP ProLiant DL320 G4
- HP ProLiant DL320 G5
- HP ProLiant DL360 G4
- HP ProLiant DL360 G4p
- HP ProLiant DL360 G5
- HP ProLiant DL365
- HP ProLiant DL380 G4
- HP ProLiant DL380 G4 Packaged Cluster with MSA1000
- HP ProLiant DL380 G4 Packaged Cluster with MSA500 G2
- HP ProLiant DL380 G5

Overview

- HP ProLiant DL385
- HP ProLiant DL385 Packaged Cluster with MSA500 G2
- HP ProLiant DL385 G2
- HP ProLiant DL560
- HP ProLiant DL580 G2
- HP ProLiant DL580 G3
- HP ProLiant DL580 G4
- HP ProLiant DL585
- HP ProLiant DL585 G2
- HP ProLiant DL740
- HP ProLiant DL760 G2

ProLiant ML (expansion-optimized):

- HP ProLiant ML310 G2
- HP ProLiant ML310 G3
- HP ProLiant ML310 G4
- HP ProLiant ML330 G3
- HP ProLiant ML350 G4
- HP ProLiant ML350 G4p
- HP ProLiant ML370 G4
- HP ProLiant ML370 G5
- HP ProLiant ML570 G2
- HP ProLiant ML570 G3
- HP ProLiant ML570 G4

NOTE: This is a list of supported servers. Some may be discontinued.

Performance

Gigabit Ethernet Throughput

A 1000Mbps Ethernet transfer rate delivers outstanding network performance that improves response time and removes bottlenecks.

PCI-X Data Path

PCI-X architecture currently operates at speeds up to 133Mhz providing data transfer rates above one gigabit per second. PCI-X technology also ensures hardware investment protection by retaining backward compatibility with the standard PCI bus architecture at the device and driver level. Both the PCI-X v1.0a and PCI v2.3 standards are supported.

Jumbo Frames

Jumbo frames (also known as extended frames) permit a 9K byte maximum transmission unit (MTU), which is six times the size of standard 1500 byte Ethernet frame. The NC310F supports Jumbo frames as a way to achieve higher throughput and better CPU utilization. Jumbo frames are particularly useful for database transfers and tape backups.

Interrupt Coalescence

Interrupt coalescing (interrupt moderation) groups multiple packets, thereby reducing the number of interrupts sent to the host. This process optimizes host efficiency, leaving the CPU available for other duties.

802.1Q VLANs with 802.1p QoS Tagging

IEEE 802.1Q virtual local area network (VLAN) protocol allows Each physical port of the NC310F to be separated into multiple virtual NICs for added network segmentation and enhanced security and performance. VLANs increase security by isolating traffic between users. Limiting the broadcast traffic to within the same VLAN domain also improves performance. IEEE quality of service (QoS) 802.1p tagging allows the adapter to mark or tag frames with a priority level across a QoS-aware network for improved traffic flow.

Dual Address Cycles

Dual address cycles (DAC) provide the ability to address memory above 4 GB and improve system performance by preventing the server operating system from performing a buffer copy from below 4 GB to above 4 GB.

High Availability

ProLiant Essentials Upgrade

The NC310F PCI-X Gigabit server adapter supports the optional and cost effective ProLiant Essentials Intelligent Networking Pack. This advanced network option maximizes availability and performance by proactively gathering information on the state of the network infrastructure to steer traffic to the most efficient port and by selecting the network path that provides greatest bandwidth. More information is available at the [ProLiant Essentials](#) home page.

Network Adapter Teaming ProLiant Network Adapter Teaming provides fault tolerance and load balancing across a team of two or more network adapters. The team of adapters works together as a single virtual adapter. Support for several different types of teaming is included. Optional advanced teaming capabilities are further supported through the ProLiant Essentials Intelligent Networking Pack.

The teaming options offer IT professionals an easy, efficient, and cost-effective way to provide network fault tolerance and increased network bandwidth. For more information, see the [ProLiant Network Adapter Teaming](#) home page.

Performance

PCI Hot Plug PCI Hot Plug support enables the NC310F to be replaced or added to a PCI Hot Plug compatible server without powering down the system.

Network Management

Server Integration The NC310F is a completely integrated, tested, and validated solution that is optimized for HP servers. HP integrates, tests, and validates major operating systems drivers with the full suite of web-based enterprise management utilities and ProLiant Essentials (including SmartStart and HP Systems Insight Manager) that simplify network management. This approach provides a more robust and reliable networking solution than offerings from other vendors. Furthermore, users have a single point of contact for both their servers and their network adapters.

SNMP Support The NC310F includes drivers and agents that can be managed from all versions of HP Systems Insight Manager and other SNMP-based management systems. HP Systems Insight Manager can recognize the NC310F individually or in NFT, TLB, and SLB teams, and can collect and report SNMP statistics on the adapter events. Integrated Management Log (IML) support is provided by the NC310F for critical event logging on HP servers.

Configuration Utilities Each NC310F ships with a set of utilities that allow the user to:

- Enable initial diagnostics within Windows, Linux, Netware, and DOS operating systems.
- Configure network adapter teaming in a Windows environment. The Windows adapter teaming configuration utility includes a patented teaming GUI for Microsoft Windows 2000 and 2003 operating systems. Support for scripted installations of teams in a Microsoft Windows environment allow for unattended OS installations.

PXE Support for pre-boot execution environment (PXE) enables automatic deployment of computing resources remotely from anywhere. It allows a new or existing server to boot over the network and download software, including the operating system, from a management/ deployment server at another location on the network. Additionally, PXE enables decentralized software distribution and remote troubleshooting and repairs.

LED Indicators Bracket LED indicators show link integrity and network activity for easy troubleshooting.

Service and Support, HP Care Pack, and Warranty Information

Warranty

Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Support Services

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 ours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call-To-Repair.
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials, and VMware-based IT solutions helping to deliver high level of application availability. Response times ranging from 30 minutes for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution

NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

NOTE: Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Related Options

Additional Gigabit Server Adapters	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	NOTE: Does not support Windows 2000.	
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	NOTE: Does not support Windows 2000.	
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
	HP NC1020 PCI 1000T Gigabit Server Adapter	353377-B21
HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	313881-B21	
HP NC7170 PCI-X Dual Port Low Profile 1000T Gigabit Server Adapter	383738-B21	
HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21	
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10 Gigabit Server Adapters	HP NC510C PCIe 10 Gigabit Server Adapter	414129-B21
	NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.	
	HP NC510F PCIe 10 Gigabit Server Adapter	414126-B21
	NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510F adapter.	

Technical Specifications

Compliance	IEEE 802.3z, 802.3x, Dynamic 802.3ad, 802.1p, 802.1Q PCI-X 1.0a PCI 2.3	
General Specifications	Communications Processor	Intel® 82545GM
	On-board memory	64 KB
	Data rate	1000 Mb/s, full-duplex
	Bus type	PCI-X/PCI
	Bus width	32- or 64-bit
	Bus speed (MHz)	33/66/100/133
	Interrupts supported	Automatically configured
	Connector	Low profile LC
	Distance and wiring	Up to 1,804 ft/550 m with multimode fiber (50µm/125µm) Up to 705 ft/220 m with multimode fiber (62.5µm/125µm)
	Dimensions (LxW)	6.39 x 2.5 in (16.23 x 6.35 cm) (without bracket)
Power and Environmental Specifications	Operating	Temperature 32° to 131° F (0° to 55° C) Humidity 10% to 90% non-condensing
	Non-operating	Temperature -85° to 185° F (-65° to 85° C) Humidity 5% to 95%
	Power requirement	480 mA @ 5V maximum
	Emissions standards	FCC Class B, VCCI Class B, BSMI Class A, CISPR 22 Class B, EN 55022 Class B, EN55024-1, ICES-003 Class B, MIC Class B
	Safety compliance	CE Mark, UL, Canada UL, EN60950
Operating System Support	<ul style="list-style-type: none">● 32-bit Windows<ul style="list-style-type: none">○ Microsoft Windows Server 2003 Standard, Web, Small Business, and Enterprise Editions○ Microsoft Windows 2000 Server and Advanced Server● 64-bit Windows<ul style="list-style-type: none">○ Microsoft Windows Server 2003 Standard and Enterprise Editions● Microsoft certified miniport and teaming drivers● Red Hat Enterprise Linux● SUSE Linux Enterprise Server● Novell NetWare 6, 6.5● Novell Open Enterprise Server x86● SCO UnixWare 7.1.3● SCO UnixWare 7.1.4● SCO OpenServer 5.0.7● SCO OpenServer 6.0.0● Solaris 9● Solaris 10● NDIS 2 for DOS unattended operating system install (43K or less in size)	

NOTE: For more Linux OS support & certification information, please visit our the ProLiant & BladeSystem Server Linux matrix: <http://h18004.www1.hp.com/products/servers/linux/hpLinuxcert.html>

Environment-friendly
Products and Approach

End-of-life Management
and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to



Technical Specifications

<http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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