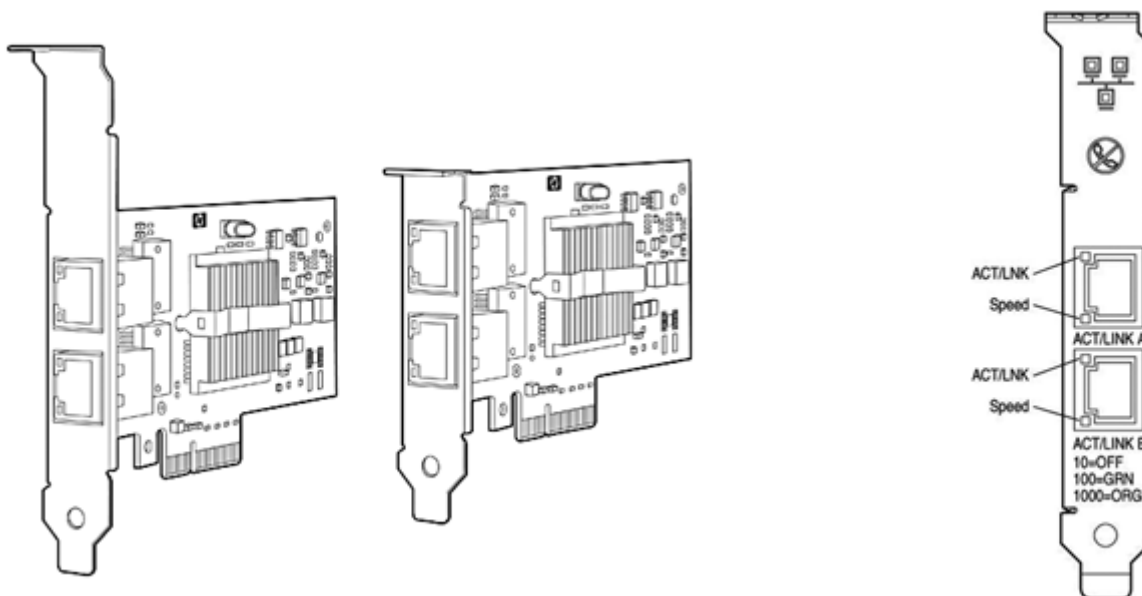## Overview

The NC360T is a high performance PCI Express (PCIe) dual port, copper, gigabit network solution for ProLiant customers who demand the latest in dual port Gigabit Ethernet bandwidth and features. It offers two ports on a single PCI Express adapter, allowing customers to save valuable I/O slots for other uses. It is based upon the high performance Intel 82571EB chipset and offers a four lane (x4) PCI Express bus.

Along with all the advanced features that HP ProLiant customers have come to expect, the NC360T includes support for Wake-on-LAN (WOL), and Pre-Boot Execution environment (PXE). Additionally, it ships with support for Jumbo Frames, Network Fault Tolerance, Load Balancing, and various offload capabilities such as Segmentation Offload and Large Send Offload (LSO) that offer further network throughput improvements. Additionally, it is easy to install in either standard or low profile slots.

Models

HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21

Kit Contents   The option kit contents consist of the following items:

- HP NC360T PCI Express Dual Port Gigabit Server Adapter PCA with a standard height bracket attached to it. (The low profile bracket is included in the clamshell that the PCA ships in.)
- Product Warranty statement and the Quick Install Card (QIC).
- CD containing Drivers, User Guide, Installation and Diagnostic Utilities, and User Guide (English only).

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):

Overview

- HP ProLiant DL120 G5
- HP ProLiant DL140 G2
- HP ProLiant DL140 G3
- HP ProLiant DL145
- HP ProLiant DL145 G2
- HP ProLiant DL145 G3
- HP ProLiant DL160 G5
- HP ProLiant DL165 G5
- HP ProLiant DL180
- HP ProLiant DL180 G5
- HP ProLiant DL320 G3
- HP ProLiant DL320 G4
- HP ProLiant DL320 G5
- HP ProLiant DL320 G5p
- HP ProLiant DL320s
- HP ProLiant DL360 G4
- HP ProLiant DL360 G4p
- HP ProLiant DL360 G5
- HP ProLiant DL365
- HP ProLiant DL365 G5
- 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
- HP ProLiant DL385 Packaged Cluster with MSA500 G2
- HP ProLiant DL385 G2
- HP ProLiant DL385 G5
- HP ProLiant DL385 G5p
- HP ProLiant DL580 G3
- HP ProLiant DL580 G4
- HP ProLiant DL580 G5
- HP ProLiant DL585 G2
- HP ProLiant DL585 G5
- HP ProLiant DL785 G5

ProLiant ML (expansion-optimized):

- HP ProLiant ML110 G4
- HP ProLiant ML110 G5
- HP ProLiant ML115
- HP ProLiant ML115 G5
- HP ProLiant ML150 G2
- HP ProLiant ML150 G3
- HP ProLiant ML150 G5
- HP ProLiant ML310 G4
- HP ProLiant ML310 G5
- HP ProLiant ML350 G4
- HP ProLiant ML350 G4p
- HP ProLiant ML350 G5
- HP ProLiant ML370 G4
- HP ProLiant ML370 G5
- HP ProLiant ML570 G3

Overview

- HP ProLiant ML570 G4

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

Performance

Gigabit Throughput Combined with Legacy Ethernet Support
10/100/1000 Mbps Ethernet transfer rate delivers outstanding network performance that improves response time and removes bottlenecks. Because the NC360T supports both 10Mbps Ethernet and 100Mbps Fast Ethernet in addition to Gigabit Ethernet, users are guaranteed end-to-end protocol support across their enterprise.

PCI Express Interface
HP was an early champion of PCI Express bus technology and has played a key role in the development and industry adoption of the PCI Express specification. The NC360T features a high performance Intel 82571EB chipset and offers a four lane (x4) PCI Express bus based on the PCIe v1.0a standard, yielding faster transmissions with lower CPU utilization than earlier solutions.

Load Balancing
Transmit Load Balancing (TLB) and Switch-assisted Load Balancing (SLB) are two advanced features that customers can use to build a bigger pipe for improved networking bandwidth. These port bonding techniques enable users to install up to four dual-port NC360T adapters (total of 8 ports) in a HP ProLiant server and aggregate their throughput up to a theoretical maximum of 16 Gigabits per second full-duplex transmissions.

Jumbo Frames
Jumbo Frames (also known as Extended Frames) offer a 9K byte Maximum Transmission Unit (MTU), which is six times the size of traditional Ethernet frames. Like all HP ProLiant server adapters, the NC360T supports jumbo frames as a way to achieve higher throughput and better CPU utilization when deployed in a network infrastructure that supports them. Jumbo frames are particularly useful for database transfers and tape backups.

Scalability and Reliability

Dual Ports
Two Gigabit ports allow users to save slots in situations where their servers are slot-constrained. HP has long been an advocate of dual port adapters for servers; the NC360T is the latest in our legacy of best-of-breed dual port devices for HP ProLiant servers.
NOTE: Port enumeration on the NC360T is from the top down, i.e. the port near the top of the adapter is port #1 and the port closest to the gold teeth is port #2

Network Fault Tolerance (NFT)
Network Fault Tolerance, sometimes called "failover" or "NIC Redundancy," allows for the installation of multiple server adapters so that the active device can be backed up by a redundant adapter to improve availability. HP's teaming utility also allows users to specify that when a failed adapter is fixed and replaced, the original adapter resumes its function as the primary network connection.

Distance capabilities
The NC360T supports cable runs up to 100 meters (328 feet).

Network Management

Auto-negotiation
The NC360T automatically senses and configures itself to the speed of the device to which it is attached. It also automatically configures for half or full duplex, depending on the duplex mode of the switch, hub, or router at the other end of the cable.

Performance

Wake-on-LAN

The NC360T provides Wake-on-LAN (WOL) support through the PCI Express bus. A system that supports Wake on LAN can remain available to a systems administrator during its normal downtime. Once the machine is awakened, the systems administrator can remotely control, audit, debug, or manage the machine.

Management Support

Like all HP ProLiant server adapters, the NC360T ships with drivers and agents that can be managed from all versions of Systems Insight Manager. Additionally, it supports any management application that supports SNMP.

Server Integration

The SmartStart configuration utility includes setup support for the NC360T so that the adapter can be configured as part of the SmartStart configuration process. Insight Manager can recognize the NC360T individually or in a port-bonded team, and it can collect and report SNMP statistics on the adapter events. Integrated Management Log (IML) support is provided by the NC360T for critical event logging on HP ProLiant servers.

Configuration Utilities

Each NC360T 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.

LED Indicators

Bracket LED indicators show link integrity, network activity, and speed on each port for easy troubleshooting.

Warranty

Maximum: The remaining warranty of the HP product in which it is installed (to a maximum three-year, limited warranty).
Minimum: One year limited warranty.
See Internet address http://www.hp.com for overall information on HP.

Performance

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 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
	NOTE: Supported on a full length-full height slot only.	
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	313881-B21

10 Gigabit Server Adapter	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		● 802.3, 802.3u, 802.3x, 802.3ab, 802.3ad, 802.1p, 802.1Q
		● PCIe v1.0a standard
		● RoHS (6 of 6)
		● FCC (U.S. only) Class B
		● DOC (Canada) Class B
		● CE EN 55024, EN55022 Class B
		● VCCI Class II
		● UL 1950
		● CSA 950
		● EN 60950
		● CE
		● ACPI 1.1a
		● MicroSoft WHQL (Windows Hardware Quality Labs)

General Specifications	Communications Processor	Intel 82571EB	
	On-board memory	96 KB	
	Data rate	10/100/1000 Mbps, Half- and full-duplex	
	Data path	Four lane (x4) PCI Express compatible with x1, x4, x8, and x16 PCI Express slots	
	Interrupt levels	Automatically configured	
	Cable Connector	Two RJ-45	
	Bus Connector	PCI Express	
	Distance and Wiring	Up to 328 feet/100 m with Category 5 (or better) twisted-pair cabling	
	Card Dimensions (without brackets) (L x W)	5.1 x 2.7 in (12.95 x 6.8 cm)	

Power and Environmental Specifications	Operating	Temperature	32° to 131° F (0° to 55° C)
		Humidity	10% to 95% non-condensing
	Non-operating	Temperature	-40° to 85° F (-40° to 185° C)
		Humidity	-5% to 95%
	Power requirement	1280 mA @ 3.3V typical	
	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, ACA Class B	
	Safety Compliant	UL, Canada UL, EN60950	

Operating System Support	● Microsoft® Windows Server 2003, x64 Edition, and Windows 2000
	● Microsoft Windows Server 2008
	● Novell NetWare 6.x Server
	● SCO UnixWare 7.1.3
	● SCO UnixWare 7.1.4
	● SCO OpenServer 5.0.7
	● SCO OpenServer 6.0.0
	● Red Hat Enterprise Linux
	● SUSE Linux Enterprise Server
	● Solaris 10 8/07
	● MS-DOS Client for unattended installation

Technical Specifications

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
NOTE: For more OS support & certification information, please visit the NIC driver download web
pages at this location: http://h18004.www1.hp.com/support/files/networking/us/index.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 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.