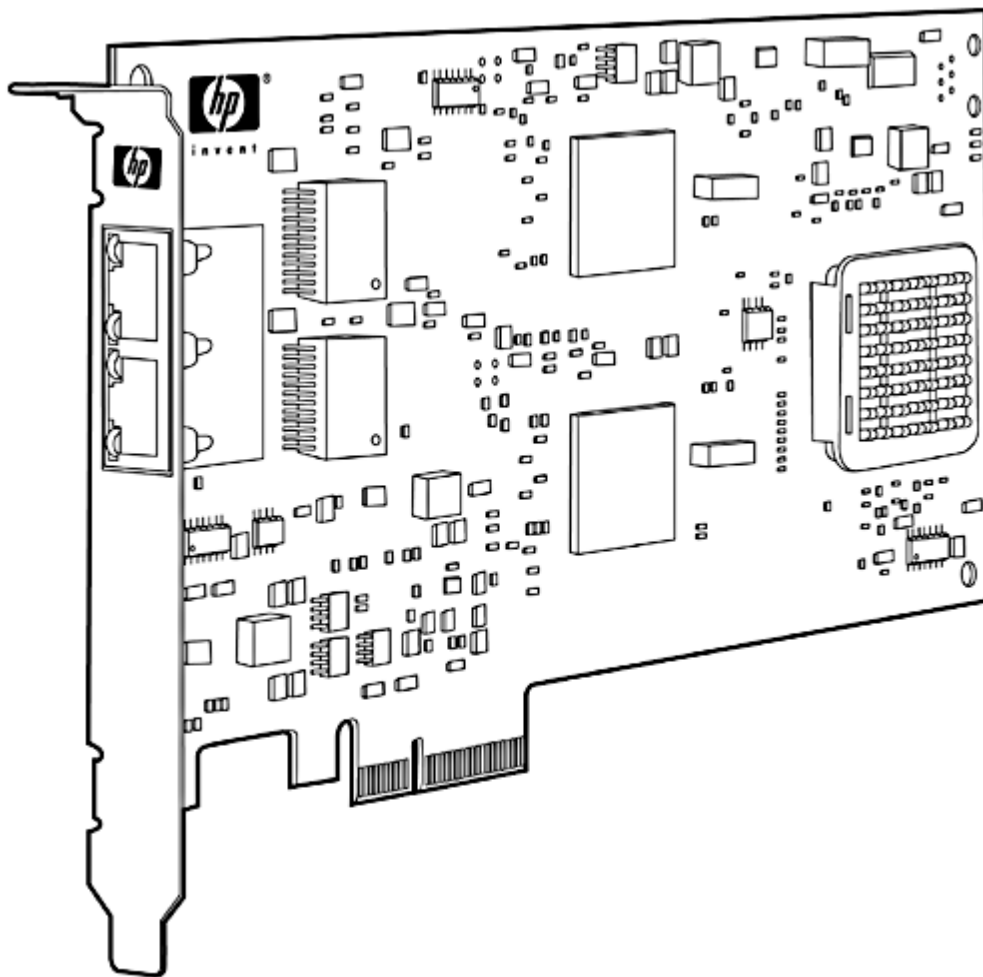## Overview

The HP NC380T server adapter is the industry's first PCI Express dual port multifunction network adapter supporting TOE (TCP/IP Offload Engine) for Windows, iSCSI (Internet Small Computer System Interface), and RDMA (Remote Direct Memory Access) over a single network connection. Each port on the NC380T is a four lane (x4) serial device designed for PCI Express slots. The NC380T comes with a total of 184KB onboard memory.

In addition to its multifunction capabilities, the NC380T ships with all the advanced server features that ProLiant customers have come to expect, such as support for failover and load balancing, Pre-Boot Execution Environment (PXE), large send offload capability, multiple VLAN tagging, and auto-negotiated 10/100/1000Mbps Ethernet speeds.

Models

HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter   394795-B21

Overview

Kit Contents

1. HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter in an anti-static bag
2. CD containing drivers, user guide, installation and diagnostic utilities
3. Quick install card
4. Product warranty statement

Standard Features

Server Support

ProLiant DL (rack-optimized):

- HP ProLiant DL140 G3
- HP ProLiant DL145 G2
- HP ProLiant DL320 G3
- HP ProLiant DL320 G4
- HP ProLiant DL320 G5
- HP ProLiant DL360 G4p
- HP ProLiant DL360 G5
- HP ProLiant DL365
- HP ProLiant DL380 G4
- HP ProLiant DL380 G5
- HP ProLiant DL385
- HP ProLiant DL385 Packaged Cluster with MSA500 G2
- HP ProLiant DL385 G2
- HP ProLiant DL580 G4
- HP ProLiant DL585

ProLiant ML (expansion-optimized):

- HP ProLiant ML350 G4p
- HP ProLiant ML350 G5
- HP ProLiant ML370 G4
- HP ProLiant ML370 G5
- HP ProLiant ML570 G3
- HP ProLiant ML570 G4

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

Performance

Gigabit Ethernet Throughput

Up to 1000Mbps Ethernet transfer rate delivers outstanding network performance that improves response time and removes bottlenecks across the entire network.

TCP/IP Protocol Offloading

TCP/IP Offload Engine (TOE) for Windows moves the processing of data in the TCP protocol stack from the server CPU to the network card, freeing CPU cycles for other duties. The NC380T supports TOE when Windows TOE Chimney is installed. With TOE, network communications are improved, and server efficiency is increased.

Accelerated iSCSI

Accelerated iSCSI allows the NC380T to multi-function both as a network adapter and as a storage host bus adapter, thereby providing access to storage boxes and to servers over a single connection. Additionally, the NC380T offloads the iSCSI software to the hardware for improved performance.

Overview

Load Balancing Transmit Load Balancing (TLB) and Switch-Assisted Load Balancing (SLB) are two advanced features used to build a bigger pipe for improved networking bandwidth. These port bonding techniques enable users to install up to two NC380T adapters in a ProLiant server and aggregate their throughput up to a theoretical maximum of four Gigabits per second full-duplex transmission. The NC380T can be configured to work with other NC-series Ethernet server adapter teams supported on ProLiant servers.

HP ProLiant Essentials RDMA Pack for Multifunction Gigabit Server Adapter The HP ProLiant Essentials RDMA Pack enables Remote Direct Memory Access (RDMA) on an HP Multifunction server adapter. RDMA is a communications protocol that provides direct transmission of data from the memory of one computer to the memory of another with minimal demands on the host CPU. RDMA provides a high-speed, high-performance connection between servers on the same network. RDMA Pack licenses are port-based; the licensed seats are available to individual ports on the Multifunction server adapter.

Checksum and Segmentation Offloads and Interrupt Coalescing The NC380T features TCP Checksum Offloads as well as TCP Segmentation Offloads and Interrupt Coalescence. These features reduce the load on the CPU for overall improved system response. Interrupt Coalescence is a feature that groups multiple packets and issues a single interrupt to the host. This process improves host efficiency.

Scalability and Reliability

Tri-Speed Support Because the NC380T supports 10Mbps Ethernet and 100Mbps Fast Ethernet in addition to Gigabit Ethernet, users are guaranteed end-to-end protocol support across their enterprise. Like all HP server adapters, the NC380T adheres to industry open standards, insuring that it will perform seamlessly with any network devices that also support IEEE standards.

Network Fault Tolerance (NFT) Network Fault Tolerance, sometimes called "failover" or "NIC redundancy", allows for the installation of multiple NC380T server adapters or other network adapters so that the active device can be backed up by a redundant adapter to improve availability. The HP 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.

Network Management

Auto-negotiation The NC380T automatically senses 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.

Management Support Like all HP server adapters, the NC380T ships with drivers and agents that can be managed from all versions of HP Systems Insight Manager, as well as using any management application that supports SNMP.

Server Integration HP Systems Insight Manager can recognize the NC380T individually or in port-bonded teams, and can collect and report SNMP statistics on the adapter events. Additionally, Integrated Management Log (IML) support is provided by the NC380T for critical event logging on HP servers.

Overview

Configuration Utilities   Each NC380T ships with a set of utilities that allow the user to:

- Enable initial diagnostics within Windows, Linux, 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 network speed for easy troubleshooting.

Intelligent Networking Pack (INP)   The NC380T supports the ProLiant Essentials Intelligent Networking Pack (INP). INP is a software upgrade that improves the reliability and performance of ProLiant servers by enabling them to adapt to and change the network path in their infrastructure. INP can detect and analyze network bottlenecks or broken network linkages, and then steer traffic to the optimum route based on network conditions.

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 NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC320T PCI Express 1000T Gigabit Server Adapter	367047-B21
	HP NC340T PCI-X 4-port Gigabit Server Adapter	391661-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC370F PCI-X Multifunction Gigabit Server Adapter	374193-B22
	HP NC370T PCI-X Multifunction Gigabit Server Adapter	374191-B22
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-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 Low Profile Dual Port 1000T Gigabit Server Adapter	383738-B21
	HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21
Combo Switch Adapter	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
10 Gigabit Server Adapter	HP NC510C PCIe 10 Gigabit Server Adapter **NOTE:** A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.	414129-B21
	HP NC510F PCIe 10 Gigabit Server Adapter **NOTE:** A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510F adapter.	414126-B21
ProLiant Essentials	HP ProLiant Essentials RDMA Pack for Standup Multifunction Gigabit Server Adapters, 1 License **NOTE:** For additional ProLiant RDMA License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12573_div/12573_div.HTML	407481-B22
	ProLiant Essentials Intelligent Networking Pack - single server license	436225-B21
	ProLiant Essentials Intelligent Networking Pack - flexible license	436227-B21
	ProLiant Essentials Intelligent Networking Pack - tracking license	372951-B21
	ProLiant Essentials Intelligent Networking Pack - single server license	436229-B21
	ProLiant Essentials Intelligent Networking Pack - flexible license	436231-B21
	ProLiant Essentials Intelligent Networking Pack - tracking license	397006-B21

Technical Specifications

Compliance	IEEE 802.3-2002, 802.3ab, 802.3ad, 802.1Q		
	PCI Express ver 1.0a		
	ACPI ver 2.0		
General Specifications	Communications Processors	Broadcom 5706 (two)	
	On-board memory	184KB	
	Data path	PCI Express, four lanes (x4)	
	Interrupt levels	INTA	
	Connectors	RJ-45 (two)	
	Distance	Up to 328 ft (100 m)	
	Wiring	Category 5 or better UTP	
	Dimensions (L x W)	7.44 x 4.37 in (18.9 x 11.1 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	-40° to 185° F (-40° to 85° C)
		Humidity	5% to 95% non-condensing
	Power requirement	Operating Voltage: 12V +/- 8% Maximum: 1.05A @ 12V(DC)	
	Emissions Classifications	FCC Class B	
	Agency Approvals	USA	FCC (CFR 47 part 15) and UL 60950
		Canada	ICES-003 and CSA60950
Operating System Support	Standard Gigabit Ethernet	• Microsoft® Windows 2000 Server • Microsoft Windows Server 2003, Standard, and Enterprise • Microsoft Windows Server 2003 x64 edition,, Standard and Enterprise • Microsoft certified miniport and teaming drivers • Red Hat Enterprise Linux 3 and 4 for AMD64/EM64T • Red Hat Enterprise Linux 3 and 4 for x86 • SUSE LINUX Enterprise Server 9 for AMD64/EM64T • SUSE LINUX Enterprise Server 9 for x86 • SCO OpenServer 6.0.0 • SCO UnixWare 7.1.3 • SCO UnixWare 7.1.4 • Solaris 9 • Solaris 10 • NDIS 2 for DOS unattended operating system install (43K or less in size)	
	TCP/IP Offload	• Microsoft Windows Server 2003, Standard and Enterprise • Microsoft Windows Server 2003 x64 edition,, Standard and Enterprise • Microsoft certified miniport and teaming drivers	
	Accelerated iSCSI	• Microsoft Windows 2000 Server • Microsoft Windows Server 2003, Standard, and Enterprise • Microsoft Windows Server 2003 x64 edition,, Standard and Enterprise • Microsoft certified miniport and teaming drivers	

Technical Specifications