Overview

Models

HP 361T PCIe Dual Port Gigabit NIC C3N37AA

Introduction

The HP 361T PCIe Dual Port Gigabit NIC is a high performance PCI Express (PCIe) Gen 2.1 dual port, copper, gigabit network solution for HP Z-Workstation 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® Ethernet Controller I350 and offers a four lane (x4) PCI Express bus.

The 361T includes support for Wake-on-LAN (WOL). Pre-Boot Execution environment (PXE) is disabled as a default. 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 with support for IPv6 packet transmit and receive.

361T offers support for the latest power management technologies such as Energy Efficient Ethernet (EEE) and DMA Coalescing. This latest dual-port adapter comes with IEEE 1588 Precision Time Stamping feature.

The HP 361T is positioned as the follow-on to the HP NC360T.

Performance and Features

10/100/1000 Mbps Ethernet transfer rate delivers outstanding network performance that improves response time and removes bottlenecks. Because the HP 361T supports both 10Mbps Ethernet and 100Mbps Fast Ethernet in addition to Gigabit Ethernet, users are guaranteed end-to-end protocol support across their enterprise.

- Dual port bandwidth, Gigabit PCI Express 2.1 NIC, with full height or low profile bracket
- New fully integrated (bridgeless) Intel® Ethernet I350 Controller, optimized for the new Integrated I/O and Data Direct I/O technologies
- Supports the IEEE 1588 Precision Time Stamping protocol and 802.1AS implementation
- Supports latest virtualization features including VMware NetQueue and Microsoft VMQ, plus power management technologies such as IEEE 802.3az and DMAC
- Support for 9.5K Jumbo Frames, TCP/IP Checksum Offload (TCO) & large send offload (LSO)
- Intel® Integrated I/O and Data Direct I/O for increased performance and reduced latency
- IPv6 packet transmit and receive (excluding all offload capabilities); IPv6 aware SNMPv1 agent for Windows
- The HP 361T supports cable runs up to 100 meters (328 feet).
- Support for Preboot eXecution Environment (PXE) is disabled as a default. Contact HP Technical Support for instructions to enable PXE.

Compatibility

The HP 361T PCIe Dual Port Gigabit NIC Card is PCIe 2.1 compliant and compatible with HP Z220, Z420, Z620 and Z820 Workstations.

Overview

Service and Support

Your Option Limited Warranty is a one (1) year (HP Option Limited Warranty Period) parts replacement warranty on any HP-branded or Compaq-branded options (HP Options). If your HP Option is installed in an HP Hardware Product, HP may provide warranty service either for the HP Option Limited Warranty Period or the remaining Limited Warranty Period of the HP Hardware Product in which the HP Option is being installed, whichever period is the longer but not to exceed three (3) years from the date you purchased the HP Option.

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 HP 361T features a high performance Intel® Ethernet Controller I350 and offers a four lane (x4) PCI Express bus based on the PCIe v2.1 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 HP 361T 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 9.5K byte Maximum Transmission Unit (MTU), which is approximately six times the size of traditional Ethernet frames. Like all HP ProLiant server adapters, the HP 361Tsupports 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.

Power Management

The 361T supports latest power management technologies such as Energy Efficient Ethernet & DMA coalescing:

- Energy Efficient Ethernet: Compliant with IEEE 802.3az, featuring advanced power savings features throttles power usage with network load activity.
- DMA Coalescing: Supports DMA Coalescing, the incoming data packets and interrupts associated with these DMA calls are intelligently batched to keep the system devices in lower power states.

Auto-negotiation

The HP 361T 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.

Wake-on-LAN

The HP 361T 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.

PXE Boot

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, network activity, and speed on each port for easy troubleshooting.

Technical Specifications

Connector	Two RJ-45
Controller	Intel® Ethernet I350 Controller
Data Rates Supported	10/100/1000 Mbps, Half- and full-duplex
Compliance	802.3, 802.3u, 802.3x, 802.3ab, 802.3ad, 802.1p, 802.1Q, 802.3az, IEEE 1588 PCIe v2.0 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)
Data Path Width	Four lane (x4) PCI Express compatible with x4, x8, and x16 PCI Express slots
Power Requirement	4.1W idle without EEE link partner 3.2W idle with EEE link partner 4.2W maximum
Network Transfer Rate	10BASE-T (half-duplex) 10 Mb/s 10BASE-T (full-duplex) 20 Mb/s 100BASE-TX (half-duplex) 100 Mb/s 100BASE-TX (full-duplex) 200 Mb/s 1000BASE-T (full-duplex) 2000 Mb/s
Operating Temperature	32° to 131°F (0° to 55° C)
Operating Humidity	10% to 95% non-condensing
Dimensions (H x W x D)	5.3 x 2.5 in (13.50cm x 6.4 cm) (without brackets)
Operating System Driver Support	Windows 7 Professional 32-bit and 64-bit. Red Hat Enterprise Linux(RHEL) WS4, 5, 6 Desktop/Workstation Novell SLED 10 & SLED 11
Kit Contents	HP 361T PCIe Dual Port Gigabit NIC 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).