A-GEAR World Wide Manufacturing

Product Specification

NIC-1G-4HF

Basic On INTEL® Quad-port (SX) Gigabit Ethernet PCI Express Server Adapter

1. Features

- TCP/IP/UDP checksum calculation and T segmentation tasks
- Support VMs, each port supports 8 Virtual Machine Device Queues (VMDq)
- Support direct high-level cache access (DCA)CP
- Support Intel I/O AT 2.0
- MSI and MSI-X by minimizing device I/O interrupts, interrupt support dynamic
- Receive Side Scaling to minimize CPU utilization of multiprocessor systems
- Advanced st orage architecture can reduce the delay
- Support multiple MAC address filtering
- Support the management and RMON statistics Statistics

2. Introduction

A-GEAR PCI Express x4 Gigabit Ethernet fiber optic network interface card, multi-core processor server escalating deployment, apply in the continuous demand such as high-performance computing (HPC), database clusters and video-on-demand, promote the Gigabit connectivity.

The PCI Express adapter card with four Gigabit port is designed for servers and high-end equipment. And performance is optimized so that system I/O is no longer the bottleneck of high-end network applications.

The adapter can achieve fault tolerance through teaming; communication from the failed port is routed to the other members of the same group. The adapter has an integrated hardware acceleration that performs TCP/UDP/IP checksum offload and TCP segmentation. Host processing offloads accelerators frees CPU resources to handle other applications.

The deployment of multiple network adapter cards and high-performance, mission-critical server applications and network environments the ideal solution. The adapter card is based on Intel 82580EB Gigabit Ethernet MAC + PHY (media access controller and physical interface transceiver) four-port controller.

The quad-port server adapter card, on which you can add multi-port fiber-optic connections to improve network performance, while saving valuable PCI Express server slot.in the Gigabit Ethernet fiber network connections, PCI Express is equipped with special input

and output (I / O) bandwidth to ensure superior performance, and will not take the bus bandwidth. In addition, the adapter is designed in a multi-processor system showed excellent performance. When the receiver extension with Microsoft or Linux in a scalable I/O when used together, the four-port adapter card can effectively balance multiple central processing unit (CPU) between the network load.
The Gigabit Ethernet adapter, with excellent noise immunity, also supports long-distance fiber-optic connections. The adapter supports the Intel ® PRO Intelligent Install and for Microsoft Device Manager (Device Manager) designed the new Intel ® PROSet, simplifying installation and management processes. Extensive operating system support stable high-capacity architecture Intel PROSet simplifies adapter installation procedure process.
With this program, you can simply click, configure and manage all Intel PRO Network Connections to meet your connectivity needs.

3. Key Features

Independent Fiber Gigabit Ethernet channels support Gigabit Ethernet 1000Base-SX 850nm SFP Gigabit interfaces, pluggable SFP LC Duplex connector Supports optical port and copper port.

4. Host Interface

PCI Express x4, compatible with x8 and x16 slot Support PCI Express Base Specification 2.0 (5.0GHz).

5. LAN features

- The channel capacity of l arge packet buffers, can be l ow CPU utilization
- Hardware acceleration that can offload the host processor task. The controllers can offload TCP/UDP/IP checksum calculations and TCP segmentation
- Support for virtual LANs - 802.1q VLAN tagging
- Support for virtual LANs - 802.1q VLAN tagging
- Large Frame (jumbo packets up to 16KB)
- Link aggregation and load balancing
- Multiple CPU cores adaptive load balancing (ALB)
- Adapter fault tolerance (AFT), Switch Fault Tolerance (SFT)
- Support IEEE 802.x flow control
- Support IEEE 802.1p priority of the second layer coding
- Prioritization - 802.1p layer 2 priority encoding
- LED link/activity

6. Operating System Support

- Microsoft Windows NT
- Microsoft Windows 2000
- Microsoft Windows XP
- Microsoft Windows Server 2003
- Microsoft Windows Vista
- Microsoft Windows 7
- Microsoft Windows Server 2008
- Novell Netware 5.x, 6.x
- Linux
- FreeBSD 4.x or advance
- OS 8or advance
- SCO Open Server
- UnixWare / OpenUnix 8
- Sun Solaris x86
- OS Independent

7. Cable and the operation distance

- 275m at 62.5 um
- 550m at 50 um

8. Technical Specifications

IEEE standards/network topology	Optical Gigabit Ethernet, 1000Base-SX (850nm)
Optical output power	Typical: -6.0 dBm Minimum: -9.5 dBm
Optical Receiver Sensitivity	Typical: -21.0 dBm Maximum: -17.0 dBm
Interface standard	PCI Express 2.0 (5.0GHz)
Board size	127 mm x 85 mm
PCI Express Interface card type	x4 lane with x8 and x16 slot compatible
PCI Express Voltage	+3.3V ± 9%, +12V ± 8%
Controller	Intel ® 82580EB controller
Bracket	Metal Bracket
Power consumption	5.9 W
Operating Humidity	0% – 90%, non-condensing
Operating temperature	0°C – 55°C
Storage temperature	-25°C – 85°C

9. LED/Connector Specifications

LED	1 LED per port, Link/ACT: link lights, flashing activity (green)
Connector	LC Interface

10. Ordering Information

Item	Description
A-GEAR NIC-1G-4HF	Four-port fiber (multimode) Gigabit Ethernet PCI Express Server Adapter