



Intel® PRO/1000 PT Dual Port Server Adapter

Two Gigabit Copper Server Connections in a Single PCI Express* Slot

- Two high-performance PCI Express 10/100/1000 Mbps connections for slot-constrained servers
- Multi-Gigabit scalability and increased uptime through advanced server features
- Built on Intel® lead-free¹ technology



Connectivity You Can Count On

Conserve valuable PCI Express (PCIe*) server slots while adding multi-port Gigabit Ethernet capability with the Intel® PRO/1000 PT Dual Port Server Adapter. The dedicated input/output (I/O) bandwidth of PCIe ensures priority performance on each port—without bus sharing—for Gigabit Ethernet connectivity in Category-5 networks. Additionally, the Intel PRO/1000 PT Dual Port Server Adapter is designed to provide high performance in multi-processor systems by efficiently balancing network loads across multiple Central Processing Units (CPUs) when used with Receive-Side Scaling from Microsoft or Scalable I/O on Linux*.

The Intel PRO/1000 PT Dual Port Server Adapter represents the fifth generation of Intel® network adapters for Gigabit Ethernet, and features 10/100/1000 Mbps self-configuration for compatibility with mixed-speed network devices. For easy installation and management, all Intel® PRO Network Connections are supported by Intel® PRO Intelligent Install and the new Intel® PROSet Utility for Microsoft* Device Manager. Intel PROSet simplifies adapter installation and gives you point-and-click power to configure and manage all your Intel PRO Network Connections for connectivity you can count on.

Features

Intel® 82571GB Gigabit Controller
Load balancing on multiple CPUs
Interrupt moderation
Compatible with x4, x8, and x16 full-height ² PCI Express* slots
Support for most network operating systems (NOS)
Remote management support
Category-5 unshielded twisted pair (UTP), 4-pair cabling
RoHS compliant ³ ; lead-free ¹ technology
Intel® PROSet Utility for Microsoft* Device Manager
Advanced cable diagnostics
Intel backing

Benefits

• Enables two Gigabit connections in a single adapter, delivering increased bandwidth for slot-constrained servers and providing high performance, reliability, and low power use in a single, integrated, dual port PCI Express Gigabit Ethernet controller chip
• Increases performance on multi-processor systems by efficiently balancing network loads across CPU cores when used with Receive-Side Scaling from Microsoft or Scalable I/O on Linux*
• Delivers increased performance while significantly reducing CPU utilization
• Allows dual-port operation in almost any PCI Express server slot, except x1 slots, and allows each port to operate without interfering with the other
• Enables widespread deployment
• Reduces support costs with remote management based on industry-wide standards
• Uses existing 4-pair cabling and saves re-wiring costs
• Compliant with the new European Union directive (effective July 2006) to reduce the use of hazardous materials
• Provides point-and-click power over individual adapters, advanced adapter features, connection teaming, and virtual local area network (VLAN) configuration
• Dynamically tests and reports network problems (error rate, cable length) and automatically compensates for cable issues (cross-over cable, wrong pin-out/polarity)
• Backed by an Intel® limited lifetime warranty, 90-day money-back guarantee (U.S. and Canada), and worldwide support

Specifications: Intel® PRO/1000 PT Dual Port Server Adapter

General

Product code	PCIe-8233
Connectors	Two RJ-45
IEEE standards/network topology	10BASE-T, 100BASE-TX, 1000BASE-T
Wiring	Category-5, unshielded twisted pair (UTP), 4-pair

Adapter Product Features

Intel® PROSet Utility and Intel® PRO Intelligent Install for easy installation	•
Intel® lead-free* technology	•
Plug and play specification support	Standard
Auto-negotiation, full-duplex capable	•
Integrated media access control (MAC) and physical layer (PHY)	•
Includes a full-height bracket	•
Cable distance	100 m in Category-5 for 100/1000 Mbps; and Category-3 for 10 Mbps

Network Management

Wired for Management (WfM) baseline v2.0 enabled for servers	•
DMI 2.0 support, Windows Management Instrumentation (WMI) and SNMP-manageable SMBus support	•
Remote Installation Services (RIS)	•
Diagnostics (loopback, testability, PHY register access)	•
Advanced configuration and power interface (ACPI) 1.0 power management	•
Wake on LAN* support over PCI Express*	•
PXE 2.0 enabled through boot read-only memory (ROM)	•

Network Operating Systems (NOS) Software Support

Microsoft Windows* Server 2003, Enterprise, Datacenter (32- and 64-bit)	•
Microsoft Windows 2000	•
Red Hat Linux* 2.4x or later (32- and 64-bit)	•
FreeBSD 4.x or later	•
Novell Netware* 5.x, 6.x	•
Sun Solaris* x86, OS 8 and later	•
SCO Open Server 5, OpenUNIX 8*	•

Intel Backing

Limited lifetime warranty	•
90-day, money-back guarantee (U.S. and Canada)	•

Advanced Software Features

Adapter fault tolerance (AFT)	•
Switch fault tolerance (SFT)	•
Adaptive load balancing (ALB)	•
Fast EtherChannel* ⁴⁵ (FEC)	•
Gigabit EtherChannel* ⁴⁵ (GEC)	•
Teaming support	Scales up to 8 connections
Multiple teams	Supports 4 separate teams, maximum
IEEE 802.3ad* (link aggregation control protocol) ⁵	•
Test switch configuration	Tested with major switch original equipment manufacturers (OEMs)
PCIe Hot Plug*/Active peripheral component interconnect (PCI)	•
IEEE 802.1Q* VLANs	•
IEEE 802.3* (z, ab, u, x) flow control support	•
TCP checksum offload — transmission control protocol (TCP), user datagram protocol (UDP), Internet protocol (IP)	•
IEEE 802.1p*	•
TCP segmentation/large send offload	•
Interrupt moderation	•

Technical Features

Data rate(s) supported per port	10, 100, and 1000 Mbps
Bus type	PCI Express 1.0a
Bus width	x4 lane PCI Express, operable in x4, x8, x16 slots
Bus speed (x4, encoded rate)	10 Gbps uni-directional; 20 Gbps bi-directional
EEPROM-SPI and single EEPROM support	•
Interrupt levels	INTA, INTB
IEEE support	802.3ab*
Hardware certifications	FCC B, UL, CE, VCCI, BSMI, CTICK, MIC
Controller-processor	Intel® 82571GB
Typical power consumption	4.95 W (3.3 V @ 1.5 A)
Operating temperature	0–55° C
LEDs	4 (1/port, link and speed) solid and blinking

Physical Dimensions

Length	12.95 cm (5.1 in)
Width	2.16 cm (0.85 in)
Height of end bracket	12.0 cm (4.725 in)

Order Code

Single Unit: PC1e-8233

Companion Products

Consider these Intel® products in your server and network planning:

- Intel® PRO/1000 Server Adapters
 - Copper or fiber-optic network connectivity, up to four ports per card
 - Solutions for PCI Express, PCI-X*, and PCI interfaces
- Intel® PRO/10GbE Server Adapters
 - CX4 offering for cost-effective 10 Gigabit-over-copper connections
 - Short-range and long-range connectivity solutions for fiber-optic cabling
- Intel® PRO/1000 Desktop Adapters for PCI Express and PCI interfaces
- Other Intel® PRO Desktop and Server Adapters
- Intel® Xeon™ processors
- Intel® Server Boards