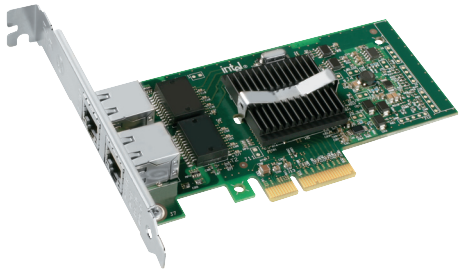
Two Gigabit Copper Server Connections in a Single PCI Express* Slot

- **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-free[1] 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.

Intel® 82571GB Gigabit Controller	• 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
Load balancing on multiple CPUs	• 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*
Interrupt moderation	• Delivers increased performance while significantly reducing CPU utilization
Compatible with x4, x8, and x16 full-height[2] PCI Express* slots	• 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
Support for most network operating systems (NOS)	• Enables widespread deployment
Remote management support	• Reduces support costs with remote management based on industry-wide standards
Category-5 unshielded twisted pair (UTP), 4-pair cabling	• Uses existing 4-pair cabling and saves re-wiring costs
RoHS compliant;[3] lead-free[1] technology	• Compliant with the new European Union directive (effective July 2006) to reduce the use of hazardous materials
Intel® PROSet Utility for Microsoft* Device Manager	• Provides point-and-click power over individual adapters, advanced adapter features, connection teaming, and virtual local area network (VLAN) configuration
Advanced cable diagnostics	• Dynamically tests and reports network problems (error rate, cable length) and automatically compensates for cable issues (cross-over cable, wrong pin-out/polarity)
Intel backing	• Backed by an Intel® limited lifetime warranty, 90-day money-back guarantee (U.S. and Canada), and worldwide support

Intel® PRO
Network Connections

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

General	
Product code	EXPI9402PT[4]
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[1] 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*[5] (FEC)	•
Gigabit EtherChannel*[5] (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: EXPI9402PT[4]

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

Network-Ready PCs

Top PC and server manufacturers offer Intel® adapters in their new products. Specify or ask for Intel PRO Network Connections with your next PC, server, or mobile PC purchase. For a list of preferred suppliers, visit us at: www.intel.com/network/connectivity/how_to_buy/index.htm.

Customer Support

Intel® Customer Support Services offers a broad selection of programs including phone support and warranty service. For more information, contact us at http://support.intel.com/support/network. Service and availability may vary by country.

For Product Information

To speak to a customer service representative regarding Intel products, please call 1-800-538-3373 (U.S. and Canada) or visit www.intel.com/support/9089.htm for the telephone number in your area. For additional product information on Intel® Networking Connectivity products, visit www.intel.com/network/connectivity.

PCI EXPRESS®

To see the full line of Intel® PRO/1000 Network Adapters for PCI Express, visit www.intel.com/network/connectivity

[1] Lead has not been intentionally added, but lead may still exist as an impurity below 1000 ppm, or an approved RoHS exemption applies.

[2] Low-profile brackets will be included with this product in early 2006.

[3] Lead and other materials banned in RoHS Directive are either (1) below all applicable substance thresholds as proposed by the EU or (2) an approved/pending exemption applies.

[4] Bulk packs also available for minimum order quantities of five adapters. One driver CD per order of five units.

[5] Available only when used with a capable switch.

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