Product Brief
Intel® PRO/1000 PT Quad Port LP Server Adapter
Network Connectivity

Intel® PRO/1000 PT Quad Port LP Server Adapter
Low-Profile Quad Port Copper Gigabit Ethernet Server Adapter for PCI* Express Slots

• Four high-performance PCI Express® 10/100/1000 Mbps connections for slot-constrained servers requiring high bandwidth
• Multi-Gigabit Ethernet Scalability enhances and increases 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 Quad Port LP 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. The Intel PRO/1000 PT Quad Port LP Server Adapter improves performance in multi-processor systems by balancing network loads across multiple central processing units (CPUs). Additionally, the Intel PRO/1000 PT Quad Port LP Server Adapter supports Intel® I/O Acceleration Technology (Intel® I/OAT)2 for faster I/O processing on the new Quad-Core and Dual-Core Intel® Xeon® processor-based servers.

Features

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Two Intel® 82571GB Gigabit Controllers</td>
<td>Enables four Gigabit Ethernet connections on a single adapter, delivering increased bandwidth for slot-constrained servers and providing high performance, reliability, and low-power use in two single, integrated, dual port PCI Express Gigabit Ethernet controller chips</td>
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<tr>
<td>Low-profile</td>
<td>Enables higher bandwidth and throughput from standard and low-profile PCIe slots and servers</td>
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<td>Load balancing on multiple CPUs</td>
<td>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*</td>
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<td>Intel® I/OAT2</td>
<td>Accelerates I/O with higher throughput and lower CPU utilization by offloading processing overhead</td>
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<td>Virtualization</td>
<td>Multi-port cards provide the platform with the port density required for virtualized environments</td>
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<tr>
<td>Interrupt moderation</td>
<td>Delivers increased performance while significantly reducing CPU utilization</td>
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<td>Compatible with x4, x8, and x16 standard and low-profile PCI Express* slots</td>
<td>Allows quad-port operation in almost any PCI Express server slot, except x1 slots, and allows each port to operate without interfering with the other</td>
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<td>Support for most network operating systems (NOS)</td>
<td>Enables widespread deployment</td>
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<td>Remote management support</td>
<td>Reduces support costs with remote management based on industry-wide standards</td>
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<tr>
<td>Category-5 unshielded twisted pair (UTP), 4-pair cabling</td>
<td>Uses existing 4-pair cabling and saves re-wiring costs</td>
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<td>RoHS compliant1, lead-free1 technology</td>
<td>Compliant with the European Union directive (effective as of July 2006) to reduce the use of hazardous materials</td>
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<td>Intel® PROSet Utility for Windows*</td>
<td>Provides point-and-click power over individual adapters, advanced adapter features, connection teaming, and Device Manager virtual local area network (VLAN) configuration</td>
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<tr>
<td>Advanced cable diagnostics</td>
<td>Dynamically tests and reports network problems (error rate, cable length) and automatically compensates for cable issues (cross-over cable, wrong pin-out/polarity)</td>
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<tr>
<td>Intel backing</td>
<td>Backed by an Intel® limited lifetime warranty, 90-day money-back guarantee (U.S. and Canada), and worldwide support</td>
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The Intel PRO/1000 PT Quad Port LP Server Adapter’s low-profile design, the industry’s first server adapter to incorporate four Gigabit Ethernet connections in a low-profile PCI Express slot, improves server throughput and rack density at the same time.

The Intel PRO/1000 PT Quad Port LP Server Adapter represents the sixth generation of Intel® network adapters for Gigabit Ethernet, and features 10/100/1000 Mbps self-configuration for compatibility with mixed-speed network infrastructure. For easy installation and management, all Intel® PRO Network Connections are supported by Intel® PRO Intelligent Install and the new Intel® PROSet Utility for Windows® 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.

### Specifications

#### General
- **Product code**: EXP9404PTL
- **Connectors**: Four RJ-45
- **EEE 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-free1 technology**
- **Plug and play specification support**: Standard
- **Intel® VOLT**
- **Integrated media access control (MAC) and physical layer (PHY)**
- **Includes a full-height bracket**
- **RoHs1**
- **Cable-distance**: 100 m in Category-5 for 10/100 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)**
- **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®**, x86, 64-bit
- **FreeBSD 4.x or later**
- **Novell Netware**
- **Sun Solaris®**, x86, 64-bit
- **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** (FEC)
- **Gigabit EtherChannel** (GEC)
- **Teaming support**
- **Multiple teams**
- **IEEE 802.3ad† link aggregation control protocol**
- **Test switch configuration**
- **PCIe Hot Plug**
- **Active peripheral component interconnect (PCI)**
- **EEE 802.1Q VLANs**
- **EEE 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**
- **Bus type**
- **Bus width**
- **Bus speed**: 10 Gbps uni-directional; 20 Gbps bi-directional
- **EEPROM-SPI and single EEPROM support**
- **Interrupt levels**
- **IEEE support**
- **Hardware certifications**
- **Controller-processor**: Intel® 82571GB
- **Typical power consumption**: 12.096 W
- **Operating temperature**: 0–55° C
- **LEDs**: 4 (1/port, link and speed) solid and blinking

#### Physical Dimensions
- **Length**: 16.77 cm (6.601 in)
- **Width**: 6.89 cm (2.713 in)
- **Height of end bracket**: 8.00 cm (3.153 in)
Order Code
Single Unit: EXPI9404PTL4
Bulk Pack: EXPI9404PTLBLK (order 5, get 5)

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 http://www.intel.com/support/9089.htm for the telephone number in your area. For additional product information on Intel® Networking Connectivity products, visit http://www.intel.com/network/connectivity.
To see the full line of Intel Network Adapters for PCI Express, visit [www.intel.com/network/connectivity](http://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 Intel® I/O Acceleration Technology (Intel® I/OAT) requires an operating system that supports Intel I/OAT.

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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