Intel® PRO Server Adapters

Prepare for your Next Generation Network, get ahead of network traffic and add more flexibility, performance, and reliability to your busy servers with Intel® PRO Server Adapters. Choose the right server adapter for your needs from our family of Intel® PRO/100 Server Adapters or Intel® PRO/1000 Server Adapters. Our latest line of Intel® PRO/1000 Server Adapters are PCI-X capable with advanced offloading to give you the highest server throughput available while minimizing CPU utilization. And, when you team single- and dual-port Intel® PRO Server Adapters in the same servers, you can easily create more reliable and scalable server connections. Maintain high server availability, add multi-Gigabit scalability and ease your IT management burden with advanced server features and Intel® SingleDriver™ technology. Whether your data center serves up files, e-Commerce transactions, or application services, you can quickly reduce traffic bottlenecks and provide more secure and reliable connections with Intel® PRO Server Adapters.

The Intelligent Way to Connect

Intel® SingleDriver™ technology offers a single suite of drivers for Intel PRO Network Adapters, adopted by many of the world’s leading PC and server suppliers, simplifying installation and maintenance. In addition, these adapters are compatible with all major network operating systems. From Intel® SingleDriver™ technology to standards-based security, advanced server and management features, Intel PRO Network Adapters really are the intelligent way to connect.

### Features

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
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<tr>
<td>A Complete Family of Server Adapters</td>
<td>Industry-leading performance, scalability, and uptime in a variety of server environments</td>
</tr>
<tr>
<td>Widespread Compatibility</td>
<td>Compatible with all major network operating systems, and offered by the world’s top server manufacturers</td>
</tr>
<tr>
<td>Intel® SingleDriver™ technology</td>
<td>A common driver set across Intel® PRO Network Adapters simplifies installation and maintenance, and decreases driver conflicts among new and legacy systems</td>
</tr>
<tr>
<td>Scalable Bandwidth</td>
<td>Alleviate bottlenecks by balancing traffic among multiple adapters to deliver multi-Gigabit scalability</td>
</tr>
<tr>
<td>Adaptive Load Balancing</td>
<td>Increase uptime with automatic redundant links:</td>
</tr>
<tr>
<td>Intel® Link Aggregation</td>
<td>Team any combination of Intel® PRO/100 and PRO/1000 Server Adapters or LAN-on-Motherboard components for increased reliability in failover situations</td>
</tr>
<tr>
<td>Fast EtherChannel®</td>
<td>Specify one adapter per team as the primary adapter</td>
</tr>
<tr>
<td>Gigabit EtherChannel®</td>
<td>Minimize downtime by installing, upgrading, or replacing an adapter with the server running</td>
</tr>
<tr>
<td>IEEE 802.3ad</td>
<td>Reduce support costs with remote management based on industry-wide standards</td>
</tr>
</tbody>
</table>

From Intel® SingleDriver™ technology to standards-based security, advanced server and management features, Intel PRO Network Adapters really are the intelligent way to connect.
Choose from a variety of Intel® adapters to best fit your network environment:

**Intel® PRO/100 S Server Adapter**
Advanced server features alleviate server bottlenecks and increase uptime, while accelerated LAN security preserves network performance on IPSec-enabled networks.

**Intel® PRO/100 S Dual Port Server Adapter**
The industry’s first dual port server adapter with accelerated LAN security, offers all the functionality of the Intel® PRO/100 S Server Adapter, with the added benefit of an extra port. Ideal for servers with limited PCI slots.

**NEW! Intel® PRO/1000 XT Server Adapter**
Gigabit connectivity over widely deployed Cat-5 copper cabling makes the most of your existing infrastructure. Available with a standard PCI or low-profile PCI bracket.

**NEW! Intel® PRO/1000 XF Server Adapter**
Industry-leading Gigabit performance for connecting servers and workstations via fiber-optic cabling.

Which server adapter is right for you?

<table>
<thead>
<tr>
<th>Need to ensure 24x7 server availability</th>
<th>Intel® PRO/100 S Server Adapter</th>
<th>Intel® PRO/100 S Dual Port Server Adapter</th>
<th>Intel® PRO/1000 XF Server Adapter</th>
<th>Intel® PRO/1000 XT Server Adapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce server bottlenecks</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manage your network remotely</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease installation and maintenance of network adapters throughout the enterprise</td>
<td>✓</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Help secure data traveling on the LAN; safeguard against internal security breaches</td>
<td>✓</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Add security while migrating from Windows NT® to Windows® 2000 or Windows XP</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overcome PCI slot constraints</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upgrading desktops to Fast Ethernet or Gigabit Ethernet and want to maintain server performance</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieve a higher-performance server connection for long-distance connectivity</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieve Gigabit connectivity for servers over existing Cat-5 copper infrastructure</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64-bit/133MHz interface for maximum scalability of servers</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieve 10/100/1000Mbps connectivity in a low-profile PCI slot</td>
<td>✓</td>
<td></td>
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</tr>
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</table>

**Intel® PRO/100 S Server Adapters**
Boost networking performance and availability for your servers with optimal protection for data traveling on the LAN using Intel® PRO/100 S Server Adapters.

**Intel® SingleDriver™ technology**
A single suite of drivers across Intel® PRO Network connections simplifies installation and lowers cost of maintenance.

**IP security for Windows® platforms at no additional cost**
Designed for security on Windows® 2000 and XP, with IPSec functionality extended to Windows NT® using Intel® Packet Protect II software.

**Advanced remote management**
Intel® Adaptive Technology dynamically tunes performance to reduce collisions.

**Online serviceability**
Swap out adapters with the server online using PCI Hot Plug™ and Active PCI®.

**Intelligent controller**
Intel® Adaptive Technology dynamically tunes performance to reduce collisions.

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**Intelligent controller**
Intel® Adaptive Technology dynamically tunes performance to reduce collisions.

Combine Gigabit connectivity and the flexibility of fiber or copper cabling to meet the demands of a next-generation network.

**Industry-leading Gigabit performance**
Featuring the third-generation Intel® 82544 Gigabit Controller with advanced offloading for maximum performance from servers and workstations with 64-bit/133MHz PCI-X slots.

**Scalable throughput**
Team adapters and aggregate multi-Gigabit bandwidth using Adaptive Load Balancing, Gigabit EtherChannel®, Intel® Link Aggregation or IEEE 802.3ad.

**High availability, online serviceability**
PCI Hot Plug™ and Active PCI® let you replace a failed adapter online – traffic diverts to other adapters. Adapter Fault Tolerance provides redundant protection should a link fail.

**Broad interoperability**
Supports IEEE 802.3z and IEEE 802.3ab Gigabit Ethernet.

**Reduced support costs**
Supports WIM 2.0, SNMP and DMI 2.0.
Intel PRO/100 S Server Adapter
Fast, managed server connections with accelerated LAN security

The Intel® PRO/100 S Server Adapter represents the next generation of Fast Ethernet server connections. Advanced server features alleviate server bottlenecks and increase uptime, while accelerated LAN security preserves performance on IPSec-enabled networks.

*KEY FEATURES*
- Advanced features alleviate server bottlenecks while increasing uptime
- Integrated security co-processor increases network performance
- Intel® SingleDriver™ technology simplifies installation and maintenance

Scalable throughput and high availability
Aggregate bandwidth and establish automatic redundant connections using any combination of Intel® Server Adapters or LOM connections.

3DES encryption algorithms
The highest level of security widely available to protect data travelling on IPSec-enabled networks.

Intel PRO/1000 XF Server Adapter
PCI-X fiber Gigabit connection for your next-generation network

Intel’s third-generation Gigabit fiber adapter eliminates server bottlenecks with industry-leading Gigabit performance in a PCI-X bus in 64-bit/133MHz and easily integrates into your existing Ethernet infrastructure.

*KEY FEATURES*
- Greater distances and noise resistance enabled through fiber-optic connection
- High network performance and flexibility via PCI-X bus at 64-bit/133MHz
- Alleviate server bottlenecks while increasing uptime through advanced server features

1000BASE-SX-fiber connectivity
Deliver data further and with less susceptibility to noise over fiber-optic cabling.

Cover distances up to 275 meters
Connect campus buildings and department floors with fast, Gigabit networking.

Noise-resistant networking
Fiber networking is immune to interference in electro-magnetically noisy environments.

Migrate from ATM or FDDI
Move to Gigabit Ethernet for widely deployed, high-performance networking – the most deployed networking environment.

Deliver high throughput and lower CPU utilization
Intel® PCI-X Server Adapters are designed to allow you to get the maximum performance from your servers while minimizing CPU utilization. With advanced network services you can scale to multi-Gigabit bandwidth while increasing server availability.
**Intel® PRO/100 S Dual Port Server Adapter**

Introducing the industry’s first dual port server adapter with accelerated LAN security. With two 10/100 ports, each adapter delivers up to 400Mbps for twice the bandwidth per server slot.

**KEY FEATURES**

- NEW! Integrated LAN silicon and encryption co-processor
  Boosts network performance and frees system resources by offloading encryption from the server’s processor.

- Up to three connections per PCI slot
  "Team with the Intel® 82550, 82559 or 82558 Onboard LAN controller for an additional resilient connection.

- Scalable throughput
  Aggregate bandwidth while providing automatic redundant connections to relieve network bottlenecks and promote server availability.

- Simultaneous 10Mbps and 100Mbps
  Run each port independently to support network segments at different speeds.

**Intel® PRO/1000 XT Server Adapter**

PCI-X 10/100/1000Mbps copper connection for your next-generation network

Alleviate server bottlenecks with easy-to-scale Gigabit connectivity, using your existing Cat-5 cabling. Benefit from the reliable, high-performance Intel® PRO/1000 XT Server Adapter, which will automatically sense infrastructure upgrades, and begin running at Gigabit speeds – without reconfiguration. Choose from standard PCI or a low-profile PCI version.

**KEY FEATURES**

- Two 10/100Mbps ports on one card
- Advanced features alleviate server bottlenecks while increasing uptime
- Intel® SingleDriver™ technology simplifies installation and maintenance
- High link availability through Adapter Fault Tolerance, PCI Hot Plug*, and Active PCI*

**NEW!** Integrated LAN silicon and encryption co-processor

- Boosts network performance and frees system resources by offloading encryption from the server’s processor.

- Up to three connections per PCI slot
  "Team with the Intel® 82550, 82559 or 82558 Onboard LAN controller for an additional resilient connection.

- Scalable throughput
  Aggregate bandwidth while providing automatic redundant connections to relieve network bottlenecks and promote server availability.

- Simultaneous 10Mbps and 100Mbps
  Run each port independently to support network segments at different speeds.

**1000BASE-T Gigabit Ethernet over copper**

- Right server bottlenecks with Gigabit connectivity using existing Category-5 copper cabling.

**Flexible 10/100/1000 connectivity**

- Deliver Ethernet, Fast Ethernet and Gigabit connectivity to match the devices in an evolving network environment.

**Easily migrate to Gigabit Ethernet**

- Use existing Category-5 copper cabling for the fastest Ethernet speeds at distances up to 100 meters.

**Reduce multiple network media types**

- Make Ethernet the standard in the enterprise – for desktops, laptops, servers and the backbone.

**Lower IT training costs**

- Leverage existing Ethernet knowledge and skills for the entire enterprise.
## Intel® Server Adapters

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<td>Cat-5, 2 pair; Twin RJ-45</td>
<td>Multimode fiber (62.5-50µm); SC interface</td>
<td>Cat-5, 4 pair; RJ-45</td>
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### Product Code
- **PILA8470C3**
- **PILA8472C3**
- **PWLA8490XF**
- **PWLA8490XT**, **PWLA8490XTL**

### Adapter Product Features
- Intel® SingleDriver™ technology
- Intel® Adaptive Technology
- Plug and Play Specification Support
- Easy Installation, Intel® ProSet II Utility
- Auto-negotiation, Full-duplex Capable
- PCI Buses Supported: 10/100/1000Mbps

### Wiring and Connectors
- Cat-5, 2 pair; RJ-45
- Cat-5, 4 pair; RJ-45
- Multimode fiber (62.5-50µm); SC interface
- SC connector

### Network Management
- Wired for Management (WfM) Baseline
- DMI 2.0 Support, WMI & SNMP-manageable
- Offline Diagnostics
- ACPI Power Management
- Wake on LAN

### NOS Software Support
- Microsoft Windows® 2000, XP
- Microsoft Windows NT® 4.0
- Microsoft Windows 95, 98, SE, ME
- Novell NetWare® 3.x, 4.11, 4.2, 5.x, 6.1
- SunSoft Solaris® 7.x, Open/UNIX 8
- Linux® 2.2.5 or later
- FreeBSD v4.0 or later

### Advanced Software Features
- Adapter Fault Tolerance
- Adaptive Load Balancing
- Gigabit Direct/NIC (when used with a capable switch)
- IEEE 802.3ad (when used with a capable switch)
- PCI Hot Plug and Active PCI
- 802.1Q VLANs
- 802.3p, 802.1p
- 802.3p, 802.1p
- 802.3p, 802.1p
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### Technical Features
- Data Rate(s) Supported Per Port: 10 & 100Mbps
- Onboard Memory: 18KB
- Interrupt Levels: INTA
- IEEE Support: 802.3, 802.3u, 802.3z
- Data Path Width: 32-bit PCI
- Hardware Certifications: FCC B, CE
- Data Transfer Mode: Bus-master DMA
- Controller – Processor: Intel® 82544EI
- Typical Power Consumption: 250mA
- Operating Temperature: 0-60°C
- Operating Humidity: 85% at 40°C

### Security Features
- IPsec Standard (Windows 2000)
- IPsec Standard (Windows NT 4.0)
- Network Card Encryption
- Intel® 82544EI with Embedded Encryption Co-processor
- Hardware offload
- Software only

### Intel® Warranty
- Limited Lifetime Warranty
- 90-day Money-back Guarantee

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**SPECIFICATIONS Intel® Server Adapters**

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FOR PRODUCT INFORMATION
To speak to a customer service representative regarding Intel® products, please call 1-800-538-3375 (U.S. and Canada) or visit www.intel.com/support or call the telephone number in your area. For additional product information on the Intel® Networking and Communication products, visit www.intel.com/network/connectivity

ONLINE DOCUMENTS
For the latest product information, visit us on the World Wide Web at www.intel.com/network/connectivity

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 on the World Wide Web: www.intel.com/network/connectivity

ORDER CODES
Intel® PRO/100 S Server Adapter PILA8473C3
Intel® PRO/100 S Dual Port Server Adapter PILA8472C3
Intel® PRO/1000 XE Server Adapter PWLA8490XP
Intel® PRO/1000 XT Server Adapter PWLA8490XT
Intel® PRO/1000 XT (Low-Profile) Server Adapter PWLA8490XTL
Products also available, add "PAK5" to Order Code

COMPANION PRODUCTS
Consider these related Intel® products in your network planning:
- Intel® PRO/100 Desktop Adapters
- Intel® PRO/1000 Desktop Adapters
- Intel® PRO/100 Mobile Adapters
- Intel® PRO/Wireless Adapters
- Intel® Server Boards

CUSTOMER SUPPORT
Intel® Customer Support Services offers a broad selection of programs including extended phone support, upgrades, parts replacement, on-site services and installation. For more information, contact us on the World Wide Web at support.intel.com/support/network. Service and availability may vary by country.

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