Intel® PRO/10GbE LR Server Adapter

Industry-leading 10 Gigabit Single-mode Fiber Server Connection

- Extends Ethernet distances up to 10 km
- Highly integrated PCI-X second-generation silicon for high performance
- Smaller form factor with XPAK Optical Transceiver fits in a standard server PCI or PCI-X slot

The Intelligent Way to Connect

The Intel® PRO/10GbE LR Server Adapter—the industry’s second-generation 10 Gigabit Ethernet adapter—enables more productive networks with the fastest Ethernet connectivity available. The Intel PRO/10GbE LR Server Adapter delivers industry-leading performance to bandwidth-intensive applications using a highly integrated PCI-X Intel® 82597EX 133 MHz/64-bit 10GbE controller. High-speed server connectivity—once reserved for costly proprietary technologies such as high-performance computing clusters and grid-based computing—can now be achieved with the industry-standard Intel PRO/10GbE LR Server Adapter.

The IEEE 802.3ae* 10 Gigabit Ethernet standard extends single-mode fiber distances to 10 km at 10 Gbps line speeds. Using the Intel PRO/10GbE LR Server Adapter, enterprises can cost-effectively expand campus-wide connectivity and take control of their corporate networks with privately owned fiber that eliminates costly leased lines. And the Intel PRO/10GbE LR Server Adapter makes it possible for global companies to decrease critical data center back-up time to provide maximum network availability.

The Intel PRO/10GbE LR Server Adapter helps improve network productivity, extend reach, and eliminate costly proprietary networking technologies, while enabling deployment of standards-compliant Ethernet connectivity based on IEEE 802.3ae 10 Gigabit Ethernet standard.

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® 82597EX 10GbE PCI-X 133 MHz/64-bit MAC controller</td>
<td>High performance on widely adopted 2nd-generation PCI host-bus interface</td>
</tr>
<tr>
<td>Single-mode fiber support through 1310 nm optical module</td>
<td>Extends cable length up to 10 km; noise resistant for signal integrity</td>
</tr>
<tr>
<td>IEEE 802.3ae* 10GBase-LR compliant</td>
<td>Supports industry-wide 10 Gigabit Ethernet standard</td>
</tr>
<tr>
<td>Jumbo Frames supported up to 16 KB</td>
<td>Increase performance through reduced overhead</td>
</tr>
<tr>
<td>TCP/IP segmentation and TCP checksum offload in RX and TX</td>
<td>Provides efficiency for host processing</td>
</tr>
<tr>
<td>256 KB RX and 32 KB TX data FIFO</td>
<td>Enhanced TX and RX logic with minimum buffer requirements</td>
</tr>
<tr>
<td>Parity protection for RX FIFO buffer</td>
<td>Data integrity</td>
</tr>
<tr>
<td>Mechanisms for delaying/reducing TX and RX frame interrupts</td>
<td>Reduces CPU utilization</td>
</tr>
<tr>
<td>PCI-X 1.0a and PCI 2.3</td>
<td>Compatible with compliant host bus interface</td>
</tr>
<tr>
<td>SC-Duplex connector for single-mode optical fiber</td>
<td>Ease of use with currently available 10GbE equipment</td>
</tr>
<tr>
<td>Flow Control 802.3x*</td>
<td>Supports industry-wide networking standard</td>
</tr>
<tr>
<td>PCI 2.2 Message Signaled Interrupts</td>
<td>Improves system interrupt handling</td>
</tr>
</tbody>
</table>
**Specifications: Intel® PRO/10GbE LR Server Adapter**

### General
- **Product Code**: PXLA8591LR
- **Connectors**: SC duplex
- **IEEE Standard/Network Topology**: IEEE 10GBase-LR
- **Wiring**: Single-mode fiber

### Adapter Product Features
- **Intel® SingleDriver™ Technology**
- **Plug and Play Specification Support**
- **Easy Installation, Intel® PROSet Utility and Intel® PRO Intelligent Install**
- **Full-duplex**
- **Fiber Medium Distance**: 10 km

### Network Management
- **WBEM-CIM Support**
- **WMI & SNMP-manageable**
- **Hardware Diagnostics**
- **Intel® Boot Agent**
- **ACPI Power Management**
- **PXE 2.0**
- **Jumbo Frames Support (16 KB)**

### NOS Software Support
- **Microsoft Windows® 2000**
- **Microsoft Windows Server 2003**
- **Linux* 2.2.5 or Later**
- **Free BSD 1.0.6**

### Warranty
- **Limited Lifetime Warranty**
- **90-day Money-back Guarantee** (U.S. and Canada)

### Advanced Software Features
- **Adapter Fault Tolerance**
- **802.1q VLANs**
- **802.3x Flow Control**
- **TCP Checksum Offload**
- **IEEE 802.1p**
- **TCP Segmentation/Large Send Off-load**
- **Save and Restore**

### Technical Features
- **Data Rate(s) Supported per Port**: 10 Gbps
- **Bus Type**: PCI or PCI-X
- **Bus Width**: 64-bit
- **Bus Speed (MHz)**: 133
- **Onboard Memory**: 256 KB
- **Intercept Levels**: INTA
- **IEEE Support**: 802.3ae*
- **Hardware Certifications**: FCC Class A, CE, and Microsoft Bus-master DMA
- **Controller—Processor**: Intel® 82597EX
- **Typical Power Consumption**: <10 watts
- **Operating Temperature**: 0–55°C
- **Operating Humidity**: 85% at +55°C
- **Laser Product**: Class 1 laser product

### Physical Dimensions
- **Length**: 16.8 cm (6.6 in)
- **Width**: 9.1 cm (3.575 in)

---

**Order Code**
- PXLA8591LR (Single Pack)

**Companion Products**
Consider these Intel® products in your server and network planning:
- Intel® PRO/1000 MT Desktop Adapter
- Intel® PRO/1000 MT Server Adapter
- Intel® PRO/1000 MT Dual Port Server Adapter
- Intel® PRO/1000 MT Quad Port Server Adapter
- Intel® PRO/1000 MF Server Adapter
- Intel® PRO/1000 MF Server Adapters (LX)
- Intel® PRO/1000 MF Dual Port Server Adapter
- Intel® PRO/10GbE SR Server Adapter
- Other Intel® PRO Desktop, Mobile, Wireless and Server Adapters
- Intel® Itanium® processors
- 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 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 the Intel® Networking and Communication products, visit www.intel.com/network/connectivity.

**Online Documents**
For the latest product information, visit us at www.intel.com/network/connectivity.