



PCIe 2.0 10GbE Network Adapters for IBM Power Systems

Base Ethernet Adapter: for Power 770 and 780 Enterprise Servers
IBM Feature Codes 5284, 5286, 5287, 5288:
for IBM Power 710, 720, 730 & 740 Express Servers and 770, 780 & 795 Enterprise Servers

SIMPLIFIED NETWORKING, TRUSTED SAN INTEROPERABILITY AND INCREASED BUSINESS AGILITY

Optimized Network Connectivity

IBM dual-port 10 Gigabit Ethernet (10GbE) Network Adapters from Emulex support protocol offload for stateless TCP/IP, providing maximum bandwidth with minimum use of CPU resources.

PCI Express 2.0 support

Emulex provides 10GbE network adapters with PCI Express (PCIe) 2.0 support for IBM Power servers to enable full bidirectional 20Gbps bandwidth over two ports. The PCIe 2.0 standard doubles the throughput of the PCIe 1.0 standard and uses a base clock speed of 5.0 GHz, twice the PCIe 1.0 standard. With the capacity of 4Gbps throughput for each of 8 lanes, Emulex adapters are the high-performance solution for IBM Power servers.

Base Ethernet Adapter

Emulex 10GbE technology with PCIe 2.0 support is also available as a Base Ethernet Adapter for IBM Power 770 and 780 servers. The Base Ethernet Adapter has two 10GbE ports and two 1GbE ports for optimum performance and flexibility.

Greener data centers

The Emulex OneConnect platform delivers industry-leading performance and scalability per watt, reducing requirements for power and cooling. Protocol offload enables efficient use of computing resources, supports more virtual machine (VMs) per CPU, and reduces the number of servers required to support data center demands.

Advanced error checking

End-to-end data protection with hardware parity, CRC, ECC, Enhanced Error Handling (EEH) and other advanced error checking and correcting ensure that data is safe from corruption.

Simplified Management

Network boot and installation

Support for FCode provides platform-independent boot-time diagnostics, configuration code, and device drivers.

Key Features

Superior performance

- TCP/IP stateless offloads

Energy-efficient design

- Industry-leading performance per watt
- Complements data center “green” initiatives
- PCI Express 2.0 x8 for leading performance on IBM Power Systems

Key Benefits

Optimized for convergence

- Maximizes I/O consolidation with high-performance 10GbE ports

Multiple 10GbE options

- Base Ethernet Adapters and add-on Ethernet Adapters
- Common driver and management reduces OpEx

Enterprise-ready

- Hardware parity, CRC, ECC, Enhanced Error Handling (EEH) and other advanced error checking
- Backed by field-proven IBM and Emulex reliability and support



OneConnect™



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SPECIFICATIONS

Controller

- BladeEngine 3

Standards

- PCI Express base spec 2.0, PCI Bus Power Management Interface, rev. 1.2, Advanced Error Reporting (AER)
- IEEE 802.3ae (10Gb/s Ethernet), 802.1q(VLAN), 802.1p (QoS/CoS), 802.3ad (Link Aggregation), 802.3x (Flow Control)
- PHP hot plug-hot swap
- Enhanced Error Handling (EEH)

Architecture

- Dual-channel, 10Gb/s Ethernet Link speed
- PCI Express 2.0 (x8, 5GT/s), MSI-X support
- Integrated data buffer and code space memory

Ethernet Features

- IPv4/IPv6 TCP, UDP checksum offload; Large Send Offload (LSO); Large Receive Offload; Receive Side Scaling (RSS)
- VLAN insertion and extraction
- Jumbo frames up to 9600 Bytes
- Priority Flow Control for Ethernet traffic
- FCode boot support
- Interrupt coalescing
- Load balancing and failover support including adapter fault tolerance (AFT), switch fault tolerance (SFT), adaptive load balancing (ALB), teaming support, and IEEE 802.3ad

Comprehensive OS Support

- AIX
- IBM i
- Linux for POWER

Hardware Environments

- IBM Power 710, 720, 730 and 740 Express Servers
- IBM Power 770, 780 and 795 Enterprise Servers
- Requires PCI Express 2.0 support

Interconnect

- Copper
 - SFP+ Direct Attached Twin-Ax Copper interface
 - Standards compliant passive and active copper cables supported up to 5m
- Optical
 - Optics: 10GBASE-SR short wave lasers with LC type connector

Physical Dimensions

- Short, low-profile form factor card
- 167.64mm x 68.91mm (6.60" x 2.71")
- Standard bracket (low profile available)

Environmental Requirements

- Operating temperature: 0° to 55° C (32° to 131° F)
- Storage temperature: -40° to 70° C (-40° to 158° F)
- Relative humidity: 5% to 95% non-condensing

Agency Approvals

- Class 1 Laser Product per DHHS 21CFR (J) and EN60825-1
- UL recognized to UL 60950-1 2nd edition
- CUR recognized to CSA22.2, No. 60950-1-07
- Bauart-certified to EN60950-1 2nd edition
- FCC Rules, Part 15, Class A
- ICES-003, Class A
- EMC Directive 2004/108/EEC (CE Mark)
 - EN55022, Class A
 - EN55024
- Australian EMC Framework (C-Tick Mark)
 - AS/NZS CISPR22, Class A
- VCCI (Japan), Class A
- KCC (Korea), Class A
- BSMI (Taiwan), Class A
- EU RoHS Compliant (Directive 2002/95/EC)
- China RoHS Compliant

Ordering Information

- **Feature Code 5284**
 - Low profile, 2-port, 10GBase-SR (short reach optical)
- **Feature Code 5286**
 - Low profile, 2-port, 10GBase-CR (direct attach copper)
- **Feature Code 5287**
 - Full height 2-port, 10GBase-SR (short reach optical)
- **Feature Code 5288**
 - Full height 2-port, 10GBase-CR (direct attach copper)

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