ORACLE DUAL PORT QDR INFINIBAND ADAPTER M3

INDUSTRY-LEADING BANDWIDTH, LATENCY, AND I/O CONVERGENCE

KEY FEATURES

- Two ports of 40 Gb/s InfiniBand
- Guaranteed bandwidth and low latency
- Hardware-based I/O virtualization
- PCI Express® 3.0
- Delivers twice the InfiniBand bandwidth versus previous-generation adapters

KEY BENEFITS

- Use the full performance of Oracle server and storage systems supporting PCI Express® 3.0 (128 GT/sec, full-duplex bandwidth)
- Use a single high-performance adapter for all server network, storage, and IPC traffic
- Reduce the cost and complexity of server I/O and networking
- Optimize performance of your application and database clusters

The Oracle Dual Port QDR InfiniBand Adapter M3, a part of Oracle's InfiniBand and network virtualization portfolios, is designed to provide maximum fabric bandwidth to servers and storage supporting PCI Express® 3.0. The Oracle Dual Port QDR InfiniBand Adapter M3 enables applications to take full advantage of the I/O capabilities integrated into Oracle's latest servers, doubling the network bandwidth available in high-performance application and server virtualization environments.

Overview

High fabric bandwidth, low latency, and RDMA-based network and storage protocols have become critical enablers for delivering leading application performance. InfiniBand, which today delivers 40 Gigabit-per-second connectivity with application-to-application latencies as low as one microsecond, has become a dominant fabric for high-performance enterprise clusters and deployments of virtualized servers. Its ultra-low latency and near-zero CPU utilization for remote data transfers make InfiniBand an ideal fabric for high-performance clustered applications, delivering extreme I/O performance while preserving server resources for application processing. As an integral part of Oracle's portfolio of high-performance networking products, the Oracle Dual Port QDR InfiniBand Adapter M3 provides low-latency, high-bandwidth I/O services to application clusters running on Oracle servers and storage systems. Service-oriented I/O ensures scalable and granular quality of service for a converged set of data center applications, in both native operating system and virtualized server environments.

Oracle Dual Port QDR InfiniBand Adapter M3 Specifications

Form Factor
• Standard low-profile PCI Express® dimensions

OS, Hypervisor, and Distribution Support

Oracle's InfiniBand adapters are components of the Oracle server or storage system in which they are installed. See the list of supported option cards for the applicable server or storage system to determine the relevant operating system support for the system and adapter combination.

- Oracle Virtual Networking
- Oracle Solaris
- Oracle Enterprise Linux

For the current list of supported systems, please review the systems I/O support matrices at: https://wikis.oracle.com/display/SystemsComm/Home

Key Applications

- Oracle Virtual Networking
- Cloud and virtual environments
- High-performance storage
- Clustered applications and databases
- Oracle Real Application Clusters (Oracle RAC)
- Real-time data distribution and transaction processing (market data)
- Technical computing

PCI Express®

- PCIe Base 3.0 compliant, 1.1 and 2.0 compatible
- 2.5 GT/sec, 5.0 GT/sec or 8.0 GT/s link rate x8 (Up to 128 GT/s bidirectional)
- Bracket dimensions are PCI 3.0 CEM compliant: 2.5 in. x 6.6 in.
- SR-IOV

InfiniBand

- IBTA v1.2.1-compatible design
- 16 million I/O channels
- 10 Gb/sec, 20 Gb/sec, or 40 Gb/sec per port
- 9 virtual lanes: 8 data plus one management
- MTU: 4,096 bytes
- Interoperates with Oracle Virtual Networking and Oracle's InfiniBand switches
- Interoperates with Oracle's InfiniBand copper and optical cabling solutions

Connections

- The adapter supports two 4x QDR InfiniBand ports (QSFP+ connectors); each 4x port supports 10 Gb/sec traffic on SDR, 20 Gb/sec traffic on DDR, and 40 Gb/sec on QDR.

Protocol Support

- Oracle Virtual Networking
- RDS, TCP/UDP, IPoIB, SDP, RDS
- EoIB, SRP, iSER, NFS RDMA,
- uDAPL
- MPI
- OpenFabrics User Verbs

Regulatory Compliance

Agency and Safety Approvals

- FCC Part 15, Subpart B, Class A (U.S.)
- ICES-003 Class A (Canada)

ORACLE®

- VCCI Class A (Japan)
- CE Mark (EU), consisting of:
  - EN55022:2010, Class A
  - EN55024:2010
- CISPR 22:2008 (International)
- UL 60950-1:2nd Edition (cURus – U.S.)
- CSA 22.2 No 60950-1-07 (cURus - Canada)
- CB Report and Certificate to IEC 60950-1:2005 (International)
- EU RoHS Compliant (Directive 2011/65/EU)
- WEEE (Directive 2002/96/EC)

Operating Environment

- Operating voltage: 12 V, 3.3 V
- Operating temperature: 0º C to 55º C
- Maximum power: QDR low-profile PCIe adapter: 9.35 W with passive copper cables, 12.35 W with active optical cables

Transceivers and Cables

- Oracle supplies InfiniBand cables and transceivers that are supported with the Oracle Dual Port QDR InfiniBand Adapter M3. For more information, see the Oracle Dual Port QDR InfiniBand Adapter M3 FAQ at:

  http://www.oracle.com/us/products/networking/infiniband/dual-port-qdr-ib-m3/dual-port-qdr-infiniband-m3-faq-2004727.pdf

ORACLE®

Warranty

For more information, visit oracle.com/sun/warranty for Oracle's global warranty

Services

Only Oracle offers single point of accountability and complete, integrated support for the entire Oracle stack including 24/7 hardware service, expert technical support, proactive tools, and software updates. Visit oracle.com/sun/services for information on Oracle's service program offerings for Sun products

Contact Us

For more information about the Oracle Dual Port QDR InfiniBand Adapter M3, please visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Hardware and Software, Engineered to Work Together

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