

Overview

HP supports 40Gbps 4x Quad Data Rate (QDR) and 20Gbps 4X Double Data Rate (DDR) InfiniBand products that include Host Channel Adapters (HCA), switches, and cables for HP Integrity servers.

For details on the InfiniBand support for HP Integrity Server Blades BladeSystem c-Class and server blades, please refer to QuickSpec at:

The following InfiniBand products based on Mellanox technologies are available from HP

- HP Integrity PCIe 2-port 4X QDR IB HCA
- HP Integrity PCIe 2-port 4X DDR IB HCA

The HP Integrity PCIe 2-port 4X QDR IB HCA is based on the Mellanox ConnectX-2 IB technology. The Mellanox ConnectX-2 InfiniBand technology delivers low-latency and high-bandwidth for performance-driven server and storage clustering applications in High-performance computing (HPC), and enterprise data centers. Parallelized HPC applications, clustered data bases, and latency and bandwidth sensitive transactional services will achieve significant performance improvements resulting in reduced completion time and lower cost per operation.

An InfiniBand fabric is constructed with one or more InfiniBand switches connected via inter-switch links. The most commonly deployed fabric topology is a fat tree or its variations. A subnet manager is required to manage an InfiniBand fabric. The following InfiniBand products based on Voltaire technologies have been tested by HP:

- Voltaire IB 4X QDR 36-port switch
- Voltaire IB 4X DDR 96- port director switches

What's New

- Support of QSFP copper cables (1M, 2M, 3M, 5M)
- Support of HP Integrity PCIe 2-port 4X QDR IB HCA on HP Integrity Superdome 2

At A Glance

InfiniBand HCA cards based on Mellanox technologies

- HP Integrity PCIe 2-port 4X QDR IB HCA
 - Dual QSFP* ports 4X QDR InfiniBand card based on ConnectX-2 technology
 - Support PCI Express 2.0 x8
 - Supported on the following Integrity servers:
 - Superdome 2, rx2800 i2 (future)
- HP Integrity PCIe 2-port 4X DDR IB HCA
 - Dual CX4 ports 4X DDR InfiniBand card
 - Support PCI Express 2.0 x8
 - Support the following Integrity servers:
 - rx2660, rx3600, rx6600, rx7640, rx8640, Superdome

InfiniBand switches based on Voltaire technology

- Voltaire IB 4X QDR 36-port internally managed switch



Overview

- 36 4X QDR QSFP ports: Supports 4X QDR InfiniBand copper and fiber optic cables
- Supported on: Superdome 2, rx2800 i2 (future)

For more information, please see QuickSpecs at:

- Voltaire IB 4X DDR Rev B 96-port Switch Chassis
 - Up to 96 4X DDR CX4 ports, support 4X DDR InfiniBand copper and fiber optic cables
 - Supported on: rx2660, rx3600, rx6600, rx7640, rx8640, Superdome

For more information, please see QuickSpecs at:

NOTE:

- 1) Please consult your HPC expert for information on other switches.
- 2) Please refer to the [Support Matrix and Install Guide for instructions on installing Subnet manager on HP-UX](#).

Bandwidth 4X QDR ports on 4X QDR HCA cards and switches run at 40 Gbps signaling rate, with a peak data rate of 32 Gbps each direction, 4X DDR ports on 4X DDR HCA cards and switches run at 20 Gbps signaling rate, with a peak data rate of 16 Gbps each direction.

Operating systems support HP-UX 11iv3

Auto-negotiation/self-discovery InfiniBand QDR ports support auto-negotiation down to DDR. InfiniBand DDR ports support auto-negotiation down to SDR. For example, external uplink ports of a DDR switch blade will negotiate down to SDR speed if they are connected to a device which can only operate at SDR.

Self-discovery is supported by subnet manager. Check the documents of the specific subnet manager for more details: <http://www.docs.hp.com>.



Model

HP IB PCIe HCA cards and options	NOTE: The HCA cards listed in this section are based on Mellanox technology.	
	HP Integrity PCIe 2-port 4X QDR IB HCA	AT083A
	HP Integrity PCIe 2-port 4X DDR IB HCA	AH304A
Voltaire IB switches and options	Voltaire IB 4X QDR 36-port internally managed switch	519571-B21
	Voltaire IB 4X DDR Rev B 96-port Switch Chassis	450697-B21
	NOTE: Voltaire ISR 2004 InfiniBand 96 Port Chassis DDR ready, contains 0 fabric boards (450698-B21, 2 required, 4 max), 0 line boards (1 line board of either type is required, 450702-B21, 4 max; 480498-B21, 4 max), 1 management board (376176-B21, 2 max), 1 Power Supply (450705-B2, 4 max), 1 rack kit, 1 cable kit.	
InfiniBand CX4 Copper Cables	NOTE: Please consult a HPC expert on specifics.	
	HP 4X DDR IB Copper Cable - 0.5 Meter	410123-B21
	HP 4X DDR IB Copper Cable - 1 Meter	410123-B22
	HP 4X DDR IB Copper Cable - 2 Meter	410123-B23
	HP 4X DDR IB Copper Cable - 3 Meter	410123-B24
	HP 4X DDR IB Copper Cable - 5 Meter	410123-B25
	HP 4X DDR IB Copper Cable - 6 Meter	410123-B26
	HP 4X DDR IB Copper Cable - 7 Meter	410123-B27
	HP 4X DDR IB Copper Cable - 8 Meter	410123-B28
	HP 4X DDR IB Copper Cable - 9 Meter	410123-B29
	HP 4X DDR IB Copper Cable - 10 Meter	410123-B30
InfiniBand CX4 Fiber Optic Cables	HP 4X DDR IB Fiber Optic Cable - 1 Meter	448057-B21
	HP 4X DDR IB Fiber Optic Cable - 3 Meter	448057-B22
	HP 4X DDR IB Fiber Optic Cable - 5 Meter	448057-B23
	HP 4X DDR IB Fiber Optic Cable - 7 Meter	448057-B24
	HP 4X DDR IB Fiber Optic Cable - 10 Meter	448057-B25
	HP 4X DDR IB Fiber Optic Cable - 15 Meter	448057-B26
	HP 4X DDR IB Fiber Optic Cable - 20 Meter	448057-B27
	HP 4X DDR IB Fiber Optic Cable - 30 Meter	448057-B29
InfiniBand QSFP/CX4 Copper Cables	HP 4X DDR/QDR QSFP/CX4 IB Cu Cable - 1 Meter	498380-B21
	HP 4X DDR/QDR QSFP/CX4 IB Cu Cable - 3 Meter	498380-B23
	HP 4X DDR/QDR QSFP/CX4 IB Cu Cable - 5 Meter	498380-B24
InfiniBand QSFP/QSFP Copper Cables	HP 4X DDR/QDR QSFP/QSFP IB Cu Cable - 1 Meter	AT095A
	HP 4X DDR/QDR QSFP/QSFP IB Cu Cable - 2 Meter	AT096A
	HP 4X DDR/QDR QSFP/QSFP IB Cu Cable - 3 Meter	AT097A
	HP 4X DDR/QDR QSFP/QSFP IB Cu Cable - 5 Meter	AT098A
InfiniBand QSFP/QSFP Fiber Optic Cables	HP 3M 4X DDR/QDR QSFP IB Opt Cable	498386-B23
	HP 5M 4X DDR/QDR QSFP IB Opt Cable	498386-B24
	HP 10M 4X DDR/QDR QSFP IB Opt Cable	498386-B25
	HP 15M 4X DDR/QDR QSFP IB Opt Cable	498386-B26
	HP 20M 4X DDR/QDR QSFP IB Opt Cable	498386-B27
	HP 30M 4X DDR/QDR QSFP IB Opt Cable	498386-B28



Technical Specifications

Power requirements	AT083A	12V, 3.3V, Typical 8.7W, Max 9.8W
	AH304A	12V, 3.3V, Typical 8.1W, Max 8.3W
Operating Temperature	AT083A & AH304A	0 - 55 Celsius
Humidity	AT083A & AH304A	5% - 85%
Emission Certifications	AT083A & AH304A	USA: FCC, Class A
		Canada: ICES, Class A
		EU: EN55022, Class A
		EU: EN55024, Class A
		EU : EN61000-3-2, Class A
		EU : EN61000-3-3, Class A
		Japan : VCCI, Class A
		Korea: MIC, Class A
		Taiwan: BSMI, Class A

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green . To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
---	---	--

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

© Copyright 2011 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

