



## InfiniPath 2.2.1 Drivers and Software for QLogic QHT7xxx and QLE7xxx HCAs

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### 1. Package Contents

The following table describes the contents provided in the InfiniPath package. Note that each set of RPMs uses a build identifier xxx and a distribution identifier yyy. The architecture is designated by x86\_64, noarch, or i386, depending on the distribution.

Note that the OpenFabrics\*, OpenSM\*, OtherHCAs\*, and OtherMPIS\* RPMs with this release remain at version 2.2. They are identical to the RPMs shipped with InfiniPath 2.2, and were not rebuilt.

Filename	Description
<b>InfiniPath Documentation RPM</b>	
infinipath-doc-2.2.1-xxx_yyy.noarch.rpm	InfiniPath man pages and other documents.
mpi-doc-2.2.1-xxx_yyy.noarch.rpm	Man pages for MPI functions and other MPI documents.
<b>InfiniPath Drivers, Source and Library RPMs</b>	
infinipath-2.2.1-xxx_yyy.x86_64.rpm	Utilities, source code, and InfiniPath configuration files.
infinipath-kernel-2.2.1-xxx_yyy.x86_64.rpm	InfiniPath drivers and OpenFabrics kernel modules.
infinipath-libs-2.2.1-xxx_yyy.i386.rpm	InfiniPath protocol shared libraries for 32-bit and 64-bit systems.
<b>QLogic MPI RPMs</b>	
mpi-benchmark-2.2.1-xxx_yyy.x86_64.rpm	MPI benchmark binaries.
mpi-frontend-2.2.1-xxx_yyy.i386.rpm	MPI job launch scripts and binaries, including mpirun and MPD.
mpi-libs-2.2.1-xxx_yyy.i386.rpm	Shared libraries for MPI.
<b>InfiniPath Development RPMs</b>	
infinipath-devel-2.2.1-xxx_yyy.x86_64.rpm	Development files for InfiniPath.
mpi-devel-2.2.1-xxx_yyy.noarch.rpm	Source code for the MPI development environment, including headers and libs, MPI examples and benchmarks. Use to build the examples or rebuild the benchmarks.
<b>OpenFabrics Documentation RPMs</b>	
ofed-docs-2.2-xxx.1_3.yyy.x86_64.rpm	OpenFabrics documentation.

Filename	Description
<b>OpenFabrics RPMs</b>	
dapl-2.2-xxx.1_2_5.yyy.x86_64.rpm	uDAPL 1.2 support.
dapl-2.2-xxx.2_0_7.yyy.x86_64.rpm	uDAPL 2.0 support.
dapl-utils-2.2-xxx.2_0_7.yyy.x86_64.rpm	uDAPL support.
ib-bonding-2.2-xxx.0_9_0.yyy.x86_64.rpm	Utilities to manage and control the driver operation.
ibsim-2.2-xxx.0_4.yyy.x86_64.rpm	Voltaire Infiniband Fabric Simulator.
ibutils-2.2-xxx.1_2.yyy.x86_64.rpm	ibutils provides IB network and path diagnostics.
ibvexdmtools-2.2-xxx.0_0_1.yyy.x86_64.rpm	Discover and use QLogic Virtual NIC devices via VNIC protocol over InfiniBand.
infiniband-diags-2.2-xxx.1_3_6.yyy.x86_64.rpm	Diagnostic tools.
iscsi-initiator-utils-2.2-xxx.2_0.yyy.x86_64.rpm	Server daemon and utility programs for iSCSI, as well as iSER support. This applies to Red Hat only.
libibcm-2.2-xxx.1_0_2.yyy.x86_64.rpm	Along with the OpenFabrics kernel drivers, libibcm provides a userspace InfiniBand Connection Management API.
libibcommon-2.2-xxx.1_0_8.yyy.x86_64.rpm	Common utility functions for the IB diagnostic and management tools.
libibmad-2.2-xxx.1_1_6.yyy.x86_64.rpm	Low layer IB functions for use by the IB diagnostic and management programs. These include Management Datagrams (MADs), SA, SMP, and other basic IB functions.
libibumad-2.2-xxx.1_1_7.yyy.x86_64.rpm	Provides the user MAD library functions that sit on top of the user MAD modules in the kernel. IB diagnostic and management tools, including OpenSM, use these functions.
libibverbs-2.2-xxx.1_1_1.yyy.x86_64.rpm	Library that allows userspace processes to use InfiniBand verbs as described in the InfiniBand Architecture Specification. This library includes direct hardware access for fast path operations. To use this library, you must also install a device-specific plug-in module.
libibverbs-utils-2.2-xxx.1_1_1.yyy.x86_64.rpm	Useful libibverbs example programs such as ibv_devinfo, which displays information about InfiniBand devices.
libipathverbs-2.2-xxx.1_1.yyy.x86_64.rpm	Provides device-specific userspace driver for QLogic HCAs.
librdmacm-2.2-xxx.1_0_6.yyy.x86_64.rpm	Support for the new connection manager.
librdmacm-utils-2.2-xxx.1_0_6.yyy.x86_64.rpm	Utilities for the new connection manager.
libsdp-2.2-xxx.1_1_99.yyy.x86_64.rpm	Can be LD_PRELOAD-ed to have a sockets application use InfiniBand Sockets Direct Protocol (SDP) instead of TCP, transparently and without recompiling the application.
ofed-scripts-2.2-xxx.1_3.yyy.x86_64.rpm	OpenFabrics scripts.
open-iscsi-2.2-xxx.2_0.yyy.x86_64.rpm	Transport independent, multi-platform implementation of RFC3720 iSCSI with iSER support. (SLES only)
opensm-libs-2.2-xxx.3_1_10.yyy.x86_64.rpm	Provides the library for OpenSM.
perftest-2.2-xxx.1_2.yyy.x86_64.rpm	IB performance tests.
qlgc_vnic_daemon-2.2-xxx.0_0_1.yyy.x86_64.rpm	Used with VNIC ULP service.
qlvnictools-2.2-xxx.0_0_1.yyy.x86_64.rpm	Startup script, sample config file, and utilities.
qperf-2.2-xxx.0_4_0.yyy.x86_64.rpm	IB Performance tests.
rds-tools-2.2-xxx.1_1.yyy.x86_64.rpm	Supports RDS.
rhel4-ofed-fixup-2.2-xxx.2_2.yyy.noarch.rpm	Fixes conflicts with older versions of OpenFabrics for RHEL4 and RHEL5.
sdpnetstat-2.2-xxx.1_60.yyy.x86_64.rpm	Provides network statistics for SDP.
srptools-2.2-xxx.0_0_4.yyy.x86_64.rpm	Support for SRP.

Filename	Description
<b>OpenFabrics-Devel RPMs</b>	
dapl-devel-2.2-xxx.2_0_7.yyy.x86_64.rpm	Development files for uDAPL support.
ibsim-2.2-xxx.0_4.yyy.x86_64.rpm	InfiniBand fabric simulator from Voltaire.
libibcm-devel-2.2-xxx.1_0_2.yyy.x86_64.rpm	Development files for the libibcm library.
libibcommon-devel-2.2-xxx.1_0_8.yyy.x86_64.rpm	Development files for the libibcommon library.
libibmad-devel-2.2-xxx.1_1_6.yyy.x86_64.rpm	Development files for the libibmad library.
libibumad-devel-2.2-xxx.1_1_7.yyy.x86_64.rpm	Development files for the libibumad library.
libibverbs-devel-2.2-xxx.1_1_1.yyy.x86_64.rpm	Libraries and header files for the libibverbs verbs library.
libipathverbs-devel-2.2-xxx.1_1.yyy.x86_64.rpm	Libraries and header files for the libibverbs verbs library.
librdmacm-devel-2.2-xxx.1_0_6.yyy.x86_64.rpm	Development files for the new connection manager.
libsdp-devel-2.2-xxx.1_1_99.yyy.x86_64.rpm	Can be LD_PRELOAD-ed to have a sockets application use Sockets Direct Protocol (SDP) instead of TCP.
opensm-devel-2.2-xxx.3_1_10.yyy.x86_64.rpm	Development files for OpenSM.
<b>OpenSM RPMs</b>	
opensm-2.2-xxx.3_1_10.yyy.x86_64.rpm	OpenSM provides an implementation of an InfiniBand subnet manager and administrator. At least one per each InfiniBand subnet is required to initialize the InfiniBand hardware.
<b>OtherHCAs RPMs</b>	
libcxgb3-2.2-xxx.1_1_3.yyy.x86_64.rpm	Support for the Chelsio 10GbE HCA.
libmlx4-2.2-xxx.1_0.yyy.x86_64.rpm	Userspace driver for Mellanox ConnectX InfiniBand HCAs.
libmthca-2.2-xxx.1_0_4.yyy.x86_64.rpm	Provides a device-specific userspace driver for Mellanox HCAs for use with the libibverbs library.
libnes-2.2-xxx.0_5.yyy.x86_64.rpm	Provides a userspace driver for NetEffect RNICs for use with the libibverbs library.
mstflint-2.2-xxx.1_3.yyy.x86_64.rpm	Firmware update tool for other HCAs.
tvflash-2.2-xxx.0_9_0.yyy.x86_64.rpm	Query and update the firmware flash memory for other HCAs.
<b>OtherHCAs-Devel RPMs</b>	
libcxgb3-devel-2.2-xxx.1_1_3.yyy.x86_64.rpm	Development files for the Chelsio 10GbE HCA.
<b>OtherMPIs RPMs</b>	
mpi-selector-2.2-xxx.1_0_0.yyy.x86_64.rpm	Tool to select MPI compiled with different compilers.
mpitests_mvapich_gcc-2.2-xxx.3_0.yyy.x86_64.rpm	mvapich mpitests compiled with gcc.
mpitests_mvapich_intel-2.2-xxx.3_0.yyy.x86_64.rpm	mvapich mpitests compiled with intel.
mpitests_mvapich_pathscale-2.2-xxx.3_0.yyy.x86_64.rpm	mvapich mpitests compiled with pathscale.
mpitests_mvapich_pgi-2.2-xxx.3_0.yyy.x86_64.rpm	mvapich mpitests compiled with pgi.
mpitests_openmpi_gcc-2.2-xxx.3_0.yyy.x86_64.rpm	openmpi mpitests compiled with gcc.
mpitests_openmpi_intel-2.2-xxx.3_0.yyy.x86_64.rpm	openmpi mpitests compiled with intel.
mpitests_openmpi_pathscale-2.2-xxx.3_0.yyy.x86_64.rpm	openmpi mpitests compiled with pathscale.
mpitests_openmpi_pgi-2.2-xxx.3_0.yyy.x86_64.rpm	openmpi mpitests compiled with pgi.
mvapich_gcc-2.2-xxx.1_0_0.yyy.x86_64.rpm	mvapich compiled with gcc.
mvapich_intel-2.2-xxx.1_0_0.yyy.x86_64.rpm	mvapich compiled with intel.
mvapich_pathscale-2.2-xxx.1_0_0.yyy.x86_64.rpm	mvapich compiled with pathscale.
mvapich_pgi-2.2-xxx.1_0_0.yyy.x86_64.rpm	mvapich compiled with pgi.
openmpi_gcc-2.2-xxx.1_2_5.yyy.x86_64.rpm	openmpi compiled with gcc.
openmpi_intel-2.2-xxx.1_2_5.yyy.x86_64.rpm	openmpi compiled with intel.
openmpi_pathscale-2.2-xxx.1_2_5.yyy.x86_64.rpm	openmpi compiled with pathscale.
openmpi_pgi-2.2-xxx.1_2_5.yyy.x86_64.rpm	openmpi compiled with pgi.
qlogic-mpi-register-2.2-xxx.1_0.yyy.x86_64.rpm	Adds QLogic to the list of available MPIs in the mpi-selector.

**NOTE:** There are two versions of the `dapl*` packages: version `1_2_5` and version `2_0_7`. QLogic recommends installing the `1_2_5` version for compatibility with most `dapl` applications.

**NOTE:** Only the `infinipath*` and the `mpi-frontend*`, `mpi-libs*`, `mpi-devel*`, `mpi-doc*`, and `mpi-benchmark*` RPMs in this release are updated to version 2.2.1. All other RPMs remain at version 2.2.

## 2. Requirements

This section defines the minimum hardware and software requirements.

### 2.1 Hardware Requirements

The QLogic interconnect runs on AMD Opteron and Intel EM64T systems running Linux. For the QHT7xxx adapters, the motherboard requires a HyperTransport expansion (HTX) slot. The QLE7xxx HCAs require PCI Express systems with x8 or x16 expansion slots. To take advantage of 4KB MTU, use a switch that supports 4KB MTU. QLogic also supports 2KB switches, and 4KB MTU switches configured for 2KB MTU.

### 2.2 Software Requirements

The InfiniPath software requires one of the operating systems listed in the OS Support section below.

## 3. OS Support

The InfiniPath 2.2.1 release has been tested on the following Linux distributions for AMD Opteron systems and Intel EM64T systems (x86\_64).

Operating Systems		
OS Name	Supported Kernels	Hardware Platform
RedHat Enterprise Linux ( RHEL) 4 U4 (RHEL 4 U5) (RHEL 4 U6)	2.6.9-42 2.6.9-55 2.6.9-67	x86-64
CentOS and Rocks 4.4 CentOS and Rocks 4.5 CentOS and Rocks 4.6	2.6.9-42 2.6.9-55 2.6.9-67	x86-64
Scientific Linux 4.4 Scientific Linux 4.5 Scientific Linux 4.6	2.6.9-42 2.6.9-55 2.6.9-67	x86-64
RedHat Enterprise Linux ( RHEL) 5.0 RHEL 5.1 RHEL 5.2	2.6.18-8 2.6.18-53, 2.6.18-92 2.6.18-92	x86-64
CentOS and Rocks 5.0 CentOS and Rocks 5.1 CentOS and Rocks 5.2	2.6.18 2.6.18-53, 2.6.18-92 2.6.18-92	x86-64
Scientific Linux 5.0 Scientific Linux 5.1 Scientific Linux 5.2	2.6.18 2.6.18-53, 2.6.18-92 2.6.18-92	x86-64
RedHat Enterprise Linux ( RHEL) 5.0 SLES 10 SP1 SLES 10 SP2	2.6.16.21 2.6.16.46 2.6.16.60	x86-64

## 4. Switches and Cables

You can use the embedded Subnet Manager (SM) in one or more managed switches supplied by your InfiniBand switch vendor. Other options are to use the open source Subnet Manager (OpenSM) component of OpenFabrics, or to use a host-based Subnet Manager. The QLogic interconnect is designed to work with all InfiniBand-compliant switches. If you are using the QLE7240 or QLE7280 and want to use DDR mode, you must use DDR-capable switches.

The cable installation uses a standard InfiniBand (IB) 4X cable. Any InfiniBand cable that has been qualified by the vendor should work. For SDR, the longest passive copper IB cable that QLogic has currently qualified is 20 meters. When using DDR-capable adapters and switches, DDR-capable passive copper cables should be no longer than 10 meters.

## 5. Supported Compilers

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QLogic MPI supports a number of compilers. QLogic MPI has been tested and is known to work with applications built using the compilers listed in the following table.

Compiler	Vendor Versions
PathScale	2.0, 2.2, 2.3, 2.4, 2.5, 3.0, 3.1
PGI	5.2, 6.0, 6.1, 7.1
Intel	9.0, 9.1, 10.1
GNU	gcc 3.3.x, gcc 3.4.x, gcc 4.0, gcc 4.1, gfortran

The listed compilers are only supported with InfiniPath on distributions already supported by the compiler vendor.

The MPIs listed under "OtherMPIs RPMs" have been compiled for PSM to support the following versions of the compilers on both RHEL4U4 and SLES 10:

- (GNU) gcc 4.1.0
- (PathScale) pathcc 3.0
- (PGI) pgcc 7.1-5
- (Intel) icc 10.1.012 (icc 10.1, Build 20080112 Package ID: l\_cc\_p\_10.1.012)

Users should expect binary compatibility between these MPIs and Fortran compiled binaries according to the following rules:

- The gfortran version must be 4.1.x (g77 is not supported).
- The pathf77 pathf90 versions can be any 2.x or 3.x compiler.
- The pgf77 and pgf90 version must be 7.x.
- The ifort version must be 10.x.

## 6. Software Components

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This InfiniPath 2.2.1 software release includes the following components:

- InfiniPath driver (including OpenFabrics)
- InfiniPath Ethernet emulation (ipath\_ether)
- InfiniPath libraries
- InfiniPath utilities, configuration, and support tools, including ipath\_checkout, ipath\_control, path\_pkt\_test, and ipathstats
- QLogic MPI
- QLogic MPI benchmarks and utilities
- OpenFabrics protocols, including Subnet Management Agent
- OpenFabrics libraries and utilities
- VNIC module (Provided with OpenFabrics)

## 7. HCA, Driver, and Software Installation

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Use the **Download** Tab on the QLogic web site to locate your adapter model. Download the *QLogic HCA and InfiniPath Software Install Guide* from the download web page for your distribution. Follow the detailed instructions for installing the QLogic HCAs and software.

## 8. Additional Notes

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The QHT7040, QHT7140, QLE7140, QLE7240, and QLE7280 QLogic Host Channel Adapters are covered by the following patent: 7308535.

## 9. Contacting Support

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Please feel free to contact your QLogic approved reseller or QLogic Technical Support at any phase of integration for assistance. QLogic Technical Support can be reached by the following methods:

Web: <http://support.qlogic.com>

North America Contact Information

Email: [support@qlogic.com](mailto:support@qlogic.com)

Phone: (952) 932-4040

Support contact information for other regions of the world is available at the QLogic website:

<http://support.qlogic.com>

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