



Release Notes

IB Diagnostic Tools (IBDIAG)

Rev 1.3.1

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1 Overview

These are the release notes for *IB Diagnostic Tools (IBDIAG)*, Rev 1.3.1. The IBDIAG package provides means for debugging the connectivity and status of InfiniBand (IB) devices in a fabric. The tools are intended to provide the following services:

- Discover the InfiniBand fabric connectivity, whether a subnet manager is running or not
- Identify links which drop packets and/or incur errors

Described in these release notes are:

- This “Overview” section which includes:
 - “IBDIAG Package Contents” (page 3)
 - “Supported Platforms and Operating Systems” (page 3)
- “Changes and New Features” (page 5)
- “Major Bug Fixes” (page 5)
- “Known Issues And Limitations” (page 6)

1.1 IBDIAG Package Contents

The IBDIAG package includes the following stand-alone tools:

- ***ibdiagnet*** - Discovers the entire network providing a listing of the following:
 - All the nodes, ports and links in the fabric
 - Link Forwarding Tables (LFT) dump file
 - Multicast Forwarding Tables (MFT) dump file
 - Fabric Subnet Managers (SMs) query file and a list of all the masked GUIDs found
 - Values of all ports Performance Monitor (PM) counters

During the discovery process, packets are sent exhaustively, multiple times, across all the links in the fabric. This process reports links on which packets get dropped.

- ***ibdiagpath*** - Traces a path between two nodes, either by specifying the LIDs of the source and destination nodes, or by specifying a directed route. *ibdiagpath* provides information regarding the nodes and ports traversed. It utilizes device specific “health” queries for the different devices along the path between the source and destination nodes.

1.2 Supported Platforms and Operating Systems

See Table 1 on page 4.

The following table lists all supported platforms and operating systems by the tool package.

Table 1 - Supported Platforms and Operating Systems

Architecture	Operating System	Kernel
X86	Red Hat Enterprise Linux AS 4.0	2.6.9-5.ELsmp
	Red Hat Enterprise Linux AS 4.0	2.6.9-22.ELsmp
	Red Hat Enterprise Linux AS 3.0	Update 4
	Red Hat 9	2.4.20-8smp / 2.4.27
	SuSE SLES 9.0 RC5	2.6.5-7.97-smp
	SuSE SLES 9.0 SP3 Beta	2.6.5-7.243-smp
	SuSE 9.3 Pro	2.6.11.4-20a-smp
	SuSE 10	2.6.13-15-smp
	Fedora Core 4	2.6.11-1.1369_FC4smp / 2.6.14.3
	Windows XP 32-bit SP2	
	Windows 2003 32-bit	
AMD64 (Opteron)	Red Hat Enterprise Linux AS 4.0	2.6.9-5.ELsmp
	Red Hat Enterprise Linux AS 3.0	Update 4
	SuSE 9.3 Pro	2.6.11.4-20a-smp
	SuSE 9.3 Pro	2.6.11.11 / 2.6.12 (Kernel.org)
	SuSE SLES 9.0	2.6.5-7.111.19-smp
	Rocks 0.3.3	2.4.21-20.ELsmp
	Fedora Core 3	2.6.9-1.667smp
	Fedora Core 4	2.6.11-1.1369_FC4smp / 2.6.14.3
	Windows XP 64-bit SP2	
	Windows 2003 64-bit	
Intel EM64T	Red Hat Enterprise Linux AS 4.0	2.6.9-5.ELsmp
	Red Hat Enterprise Linux AS 4.0	2.6.9-22.ELsmp
	Red Hat Enterprise Linux AS 3.0	Update 4
	Red Hat 9	2.4.20-8smp / 2.4.27
	SuSE SLES 9.0 RC5	2.6.5-7.97-smp
	SuSE SLES 9.0 SP3 Beta	2.6.5-7.243-smp
	SuSE 9.3 Pro	2.6.11.4-20a-smp
	SuSE 10	2.6.13-15-smp
	Fedora Core 4	2.6.11-1.1369_FC4smp / 2.6.14.3

2 Changes and New Features

- **ibdiagnet** now checks all fabric ports Performance Monitor (PM) counters and reports those with illegal values.
- Added the following options to **ibdiagnet** and **ibdiagpath**:
 - Option '-pm': Dumps all the ports PM counters that were read
 - Option '-pc': Resets all the ports PM counters that were read
 - Options '-lw': Sets the link width to be compared against all the fabric links
 - Options '-ls': Sets the link speed to be compared against all the fabric links

3 Major Bug Fixes

Table 2 - IB Debug Tools Known Issues And Limitations

Tool Name	Issue/Limitation	Description
ibdiagpath & ibdiagnet	IBDIAG tools cannot run from a host with more than one HCA card	Fixed in ibis .

4 Known Issues And Limitations

Known issues and limitations of IBDIAG tools are described in the following table.

Table 3 - IB Debug Tools Known Issues And Limitations

Tool Name	Issue/Limitation Description	Impact
ibdiagpath	Running ibdiagpath without an initialized SM	If a subnet manager has not been initialized in the subnet, the FDB tables may not be correctly set. Thus PortCounter MADs cannot be sent. Also, LID-routing may fail as some nodes may have LIDs set to 0.
	Using ibdiagpath with contradicting local ports to be used	If ibdiagpath is provided with the options -p and -d together, the first port in the direct route must be equal to the one specified in the -p option. Otherwise, an error is reported.
	A link along a LID-routed path in INIT state causes ibdiagpath performance queries to fail	The performance query fails as the query cannot proceed on a non-ACTIVE link
	ibdiagpath cannot validate the provided topology file against the existing fabric topology	If the topology file includes a device/link that does not exist, or the device/link information is incorrect, then ibdiagpath may, in name-based routing, to extract a non-existing path based on the incorrect topology file.
		If the hostname provided for the -s flag is not the actual local hostname, then all the extracted names from the topology file will be incorrect. However, all the other information provided will be correct.
ibdiagnet & ibdiagpath	The path environment variable must include the path to ibis	IBDIAG tools cannot be started if the path to ibis is not defined. To define the path to ibis use one of the following commands: export PATH=<path to ibis>:\$PATH setenv PATH <path to ibis>:\$PATH
	Option -t requires that IBNL files exist on the local machine	IBDIAG tools cannot parse the topology file without the IBNL files. Therefore, the fabric analysis will be conducted as if no topology file was provided.