OpenFabrics Alliance

Interoperability Working Group (OFA-IWG)

December 2008 Logo Event Report

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Enclosed are the results from OFA Logo testing performed on the following devices under test (DUTs):

Mellanox MTS3600 (36 Port QDR InfiniBand Switch)

The test suite referenced in this report is available at the OFA website, at test time release 1.22 (August 29, 2008 DRAFT) was used:

http://www.iol.unh.edu/services/testing/ofa/testplan.pdf

The following table highlights the Mandatory test results for the DUT per the testplan referenced above. Complete results

Mandatory Test Procedures	IWG Test Status	Result/Notes
10.1: IB Link Initialization	**Mandatory**	Passed – no issues seen
10.2: IB Fabric Initialization	**Mandatory**	Passed – no issues seen
10.3: IB IPoIB Connected Mode	**Mandatory**	Passed – no issues seen
10.9: TI iSER	**Mandatory**	Not Available
10.10: SRP	**Mandatory**	Passed – no issues seen
10.11: SDP	**Mandatory**	Passed – no issues seen

For specific details regarding issues please see the corresponding test result.

Summary of all results follows on the second page of this report.

Testing Completed 12/24/2008

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UNH-IOL
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Review Completed 01/23/2009

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Table 1: Result Summary

The following table summarizes all results from the event pertinent to an IB device.

Test Procedures	IWG Test Status	Result/Notes
10.1: IB Link Initialization	**Mandatory**	Passed – see comments
10.2: IB Fabric Initialization	**Mandatory**	Passed – no issues seen
10.3: IB IPoIB Connected Mode	**Mandatory**	Not applicable to DUT
10.4: IB IPoIB Datagram Mode	Beta	Not applicable to DUT
10.9: TI iSER	**Mandatory**	Not applicable to DUT
10.10 SRP	**Mandatory**	Passed – see comments
10.11: SDP	**Mandatory**	Not applicable to DUT
10.12: IB SM Failover and Handover	Beta	Not applicable to DUT
10.13: TI MPI - OSU	Beta	Not applicable to DUT
10.14: TI MPI - Intel	Beta	Not applicable to DUT
10.15: HP MPI - HP	Beta	Not applicable to DUT
10.16: TI MPI - Open	Beta	Not applicable to DUT
10.17: TI uDAPL	Beta	Not applicable to DUT
10.19: IB FibreChannel Gateway	Beta	Not applicable to DUT
10.20: IB Ethernet Gateway	Beta	Not applicable to DUT
10.21: IB Reliable Datagram Sockets	Beta	Not Applicable to DUT
10.22-23: TI Basic RDMA Interoperability	Beta	Not Applicable to DUT
10.24-25: TI RDMA Operations over Interconnect Components	Beta	Not Applicable to DUT

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Report Revision History

- v1.0 Initial Release
- v1.01 Editorial Changes
- v1.02 Editorial Changes

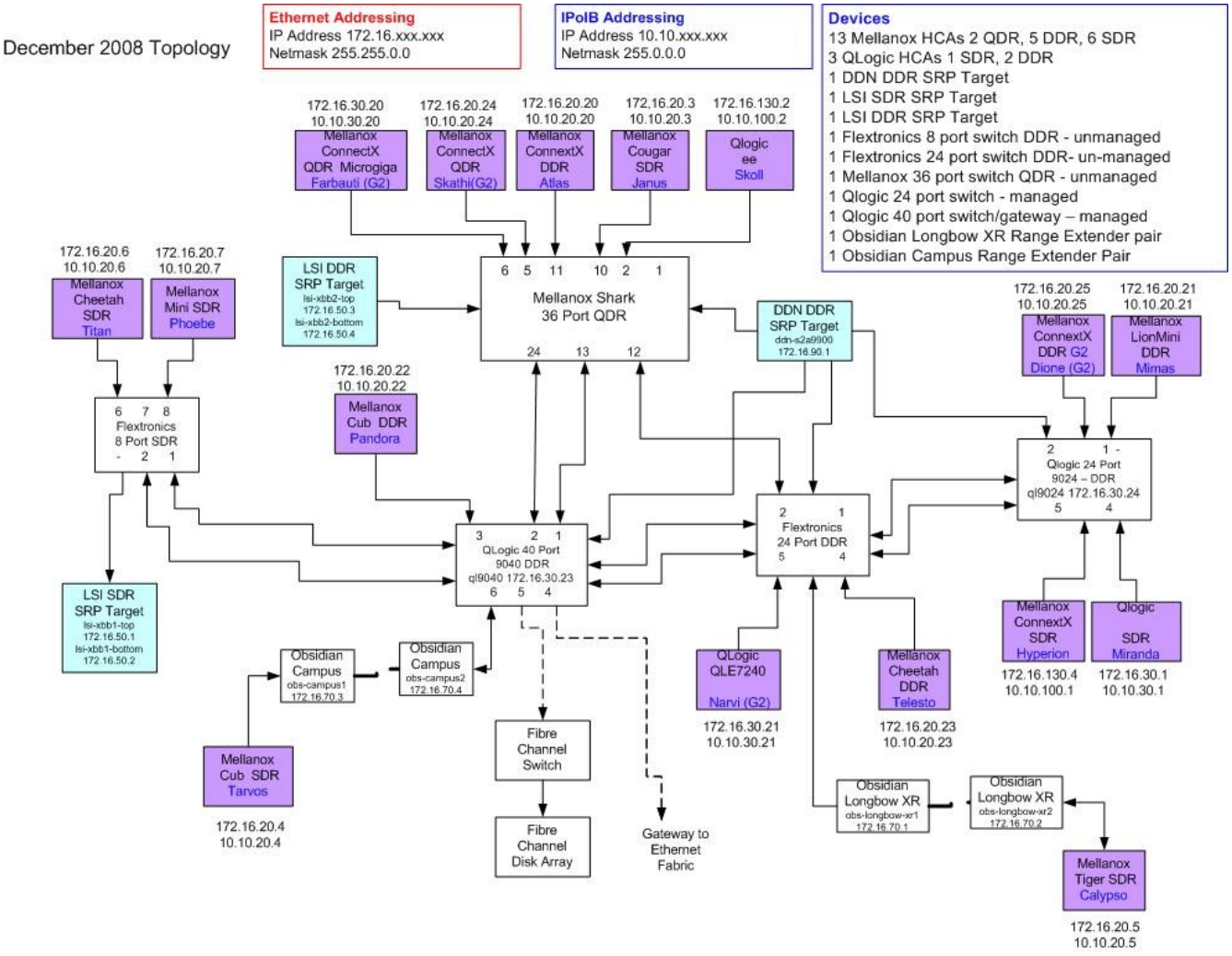
Table 1: Result Key

The following table contains possible results and their meanings:

Result:	Description:
PASS	The Device Under Test (DUT) was observed to exhibit conformant behavior.
PASS with Comments	The DUT was observed to exhibit conformant behavior however an additional explanation of the situation is included, such as due to time limitations only a portion of the testing was performed.
FAIL	The DUT was observed to exhibit non-conformant behavior.
Warning	The DUT was observed to exhibit behavior that is not recommended.
Informative	Results are for informative purposes only and are not judged on a pass or fail basis.
Refer to Comments	From the observations, a valid pass or fail could not be determined. An additional explanation of the situation is included.
Not Applicable	The DUT does not support the technology required to perform this test.
Not Available	Due to testing station limitations or time limitations, the tests could not be performed.
Borderline	The observed values of the specified parameters are valid at one extreme and invalid at the other.
Not Tested	Not tested due to the time constraints of the test period.

Table 2: DUT and Test Setup Information

Figure 1: The IB fabric configuration utilized for any tests requiring a multi-switch configuration is shown below.



DUT #1 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	N/A
Model	MTS3600	Hardware Rev	N/A
Speed	QDR 4x	IP Address in Fabric	N/A
Additional Comments/Notes			
Mellanox MTS3600 (36 Port QDR InfiniBand Switch)			

Mandatory Tests - IB Device Test Summary Results:

The following tables detail results for tests identified by the OFA-IWG as mandatory tests for the OFA Interoperability Logo Program (OFILP) per the OFA-IWG Interoperability Test Plan.

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 1: IB Link Initialize	Test #1:	Phy link is established	PASS
Discussion: Test #1: Phy link up all ports			
Physical link initialization was verified between this device and every other device in the fabric. Link status was observed visually via status lights on the device. Port width and link speed was verified via ibdiagnet. These results are applicable only when the device is operating with support for spec 1.2. This option can be applied by making "SPEC1_2_SUPPORT" true in the devices INI file.			

Link Partner Device	MTS3600
QLogic SilverStorm 9024 (Switch)	PASS
QLogic SilverStorm 9040 (Switch)	PASS
Flextronics F-X430066 (Switch)	PASS
Flextronics F-X430044 (Switch)	PASS
Mellanox MTS3600 (Switch)	PASS
Obsidian Longbow-XR (Range Extender)	PASS
Obsidian Longbow-XR (Range Extender)	PASS
Obsidian Longbow Campus (Range Extender)	PASS
Obsidian Longbow Campus (Range Extender)	PASS
LSI XBB1 (SRP Target)	PASS
LSI XBB2 (SRP Target)	PASS
DataDirect Networks (SRP Target)	PASS
Host: Miranda HCA: QLogic QLE7140 SDR	PASS
Host: Tarvos HCA: Mellanox LionCub SDR	PASS
Host: Hyperion HCA: Mellanox Connectx SDR	PASS
Host: Janus HCA: Mellanox Cougar SDR	PASS
Host: Phoebe HCA: Mellanox LionMini SDR	PASS
Host: Titan HCA: Mellanox Cheetah SDR	PASS
Host: Calypso HCA: Mellanox Tiger SDR	PASS
Host: Skathi, G2 PCI Express HCA: Mellanox Connectx QDR	PASS
Host: Farbauti, G2 PCI Express HCA: Mellanox Connectx QDR	PASS
Host: Narvi, G2 PCI Express HCA: QLogic QLE7280 DDR	PASS

Host: Atlas HCA: Mellanox Connectx DDR	**PASS**
Host: Telesto HCA: Mellanox Cheetah DDR	**PASS**
Host: Dione, G2 PCI Express HCA: Mellanox Connectx DDR	**PASS**
Host: Mimas HCA: Mellanox LionMini DDR	**PASS**
Host: Skoll HCA: QLogic QLE7240 DDR	**PASS**
Host: Pandora HCA: Mellanox LionCub DDR	**PASS**

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 2: IB Fabric Initialization	Test #1:	Port is Active with all SMs	**PASS**
Discussion: Test #1: Verify all SMs configure fabric			
The fabric configuration shown in Figure 1 was used for this test. 'ibdiagnet -c 1000' showed no Port error counters increment. Only one SM is run at a time. All switches are power cycled between SM trials. All links are validated via use of 'ibdiagnet' and 'ibchecknet' was used to verify that there were no duplicate guids. Refer to the table below for SM details. SMs tested include: *OFED OpenSM (SM Only), QLogic SilverStorm 9024 (Managed Switch), QLogic SilverStorm 9040 (Managed Switch)*			

For *MTS3600*	All ports Armed/Active	No Dup GUIDs	No Port errors
OFED OpenSM (SM Only)	**PASS**	**PASS**	**PASS**
QLogic SilverStorm 9024 (Managed Switch)	**PASS**	**PASS**	**PASS**
QLogic SilverStorm 9040 (Managed Switch)	**PASS**	**PASS**	**PASS**

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 3: IPoIB Connected Mode	Test #1-3	Tests completed without errors	**PASS**
Discussion: Test #1			
An automated test script was used to send ICMP Echo Request packets with payloads of specific sizes between all hosts on the configured fabric. This procedure was repeated with each subnet manager independently managing the fabric.			
Discussion: Test #2			
An HCA was disconnected from the fabric and reconnected in a different location; the ICMP Echo Reply packets ceased while the HCA was disconnected, and then resumed when it was reconnected. This procedure was repeated once with each subnet manager independently managing the fabric.			
Discussion: Test #3			
An automated test script was used to transfer an 4MB file using the SFTP protocol between all hosts on the configured fabric. The file was transferred four times in each direction between all hosts, and the contents of the file was verified after each transfer. This procedure was repeated with each subnet manager independently managing the fabric. For all test cases, SMs tested include: *OFED OpenSM (SM Only), QLogic SilverStorm 9024 (Managed Switch), QLogic SilverStorm 9040 (Managed Switch)*			

	All Tests Succeeded
Mellanox MTS3600	**PASS**

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 9: TI iSER	Test #1-4	Not Available	**Not Available**
Discussion: Test #1-4			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 10: IB SRP	Test #1:	Automated Test Script	**PASS**
Discussion: Test Result			
The automated test script was revised since the version published in the test document. The automated test script runs the operations in the test plan with every available host and logs the results. The Logs show that all SRP initiators were able to connect and perform the required data transfer operations with the SRP targets in a fabric incorporating this device while using OpenSM to configure the fabric. The 9024 and the 9040 SM's produced errors with 2 mellanox HCA's during the SRP operations; Titan and Calypso. Those failures have no bearing on this device.			

	All Tests Succeeded
Mellanox MTS3600	**PASS**

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 11: TI SDP	Test #1: Netperf	Test Completed without errors	**PASS**
	Test #2: FTP	Test Completed without errors	**PASS**
	Test #3: SCP	Test Completed without errors	**PASS**
Discussion: Test #1-3			
The automated test script used in the last event was used again during this event with the addition of a wrapper program to control the cluster environment and facilitate better logging. The automated test script runs the three parts of the SDP procedure between every possible pair of hosts without the hosts connecting to themselves and records the results to a log. The test logs show that no issues were seen with the procedures. Every operation completed for each pair. However, some hosts were noted to run significantly slower than others during the transfers. This is not a failure as per the current test plan, but it should be noted that this could become a topic of focus in future revisions of the Test Plan.			

	Netperf	SFTP	SCP
Mellanox MTS3600	**PASS**	**PASS**	**PASS**

Beta Tests - IB Device Test Results:

The following table details results for tests identified by the OFA-IWG as beta tests for the OFA Interoperability Logo Program (OFILP) per the OFA-IWG Interoperability Test Plan.

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 4: IPoIB Datagram Mode	Test #1-3	Tests succeeded between all IPoIB devices	PASS
Discussion: Test #1-3			
IPoIB capable devices were interoperable over a fabric incorporating this device. All IPoIB datagram mode tests completed successfully between all IPoIB enabled devices in the fabric.			

	All Tests Succeeded
Mellanox MTS3600	PASS

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 12: IB SM Failover and Handover	Test #1-4	Not applicable to DUT	**Not Tested**
Discussion: Test Results			
Not tested due to time constraints			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 13: TI MPI – Ohio State Univ.	Test #1-14	Not applicable to DUT	**Not Applicable**
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 14: MPI – Intel	Test #1-21	Not applicable to DUT	**Not Applicable**
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 15: MPI – Hewlett-Packard	Test #1-21	Not applicable to DUT	**Not Applicable**
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 16: MPI – Open	Test #1-21	Not applicable to DUT	**Not Applicable**
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 17: TI uDAPL	Test #1-10	Not applicable to DUT	**Not Applicable**
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 19: IB FibreChannel Gateway	Test #1-10	Not applicable to DUT	**Not Applicable**
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 20: IB Ethernet Gateway	Test #1-10	Not applicable to DUT	**Not Applicable**
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 21: IB Reliable Datagram Sockets	Test #1-10		**Not Tested**
Discussion: Test Results			
Not tested due to time constraints			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 22-23: TI Basic RDMA Interoperability	Test #1-10		**Not Tested**
Discussion: Test Results			
Not tested due to time constraints			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 24-25: TI RDMA Operations over Interconnect Components	Test #1-10		**Not Tested**
Discussion: Test Results			
Not tested due to time constraints			