



OpenFabrics Alliance

Interoperability Working Group (OFA-IWG)

March 2008 Interoperability Event Report

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 OpenFabrics Interoperability Logo Group (OFILG) Hosts – ofalab@iol.unh.edu

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 Report Rev1.01

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

QLogic QLE7140 HCA
QLogic QLE7280 HCA
QLogic QLE7240 HCA

The test suite referenced in this report is available at the OFA website, at test time release 1.17 (March 3, 2008) was used:

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


The following table highlights the Mandatory test results required for the OpenFabrics Interoperability Logo for the DUT per the testplan referenced above and the current OpenFabrics Interoperability Logo Program (OFILP).

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	Passed – no issues seen
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 03/21/2008


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Review Completed 04/29/2008



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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 – no issues seen
10.2: IB Fabric Initialization	Mandatory	Passed – no issues seen
10.3: IB IPoIB Connected Mode	Mandatory	Passed – no issues seen
10.4: IB IPoIB Datagram Mode	Beta	Not Tested
10.9: TI iSER	Mandatory	Passed – no issues seen
10.10: SRP	Mandatory	Passed – no issues seen
10.11: SDP	Mandatory	Passed – no issues seen
10.12: IB SM Failover and Handover	Beta	Not Tested
10.13: TI MPI - OSU		Not Tested
10.14: TI MPI - Intel		Not Tested
10.15: HP MPI - HP		Informative
10.16: TI uDAPL		Not Tested
10.18: IB FibreChannel Gateway	Beta	Not Tested
10.19: IB Ethernet Gateway	Beta	Not Tested
10.20: IB Reliable Datagram Sockets	Beta	Not Tested
10.21: TI Basic RDMA Interoperability		Not Tested
10.23-24: TI RDMA Operations over Interconnect Components		Not Tested

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Report Revision History

- v1.0 Initial Release
- v1.01 Editorial/formatting improvements

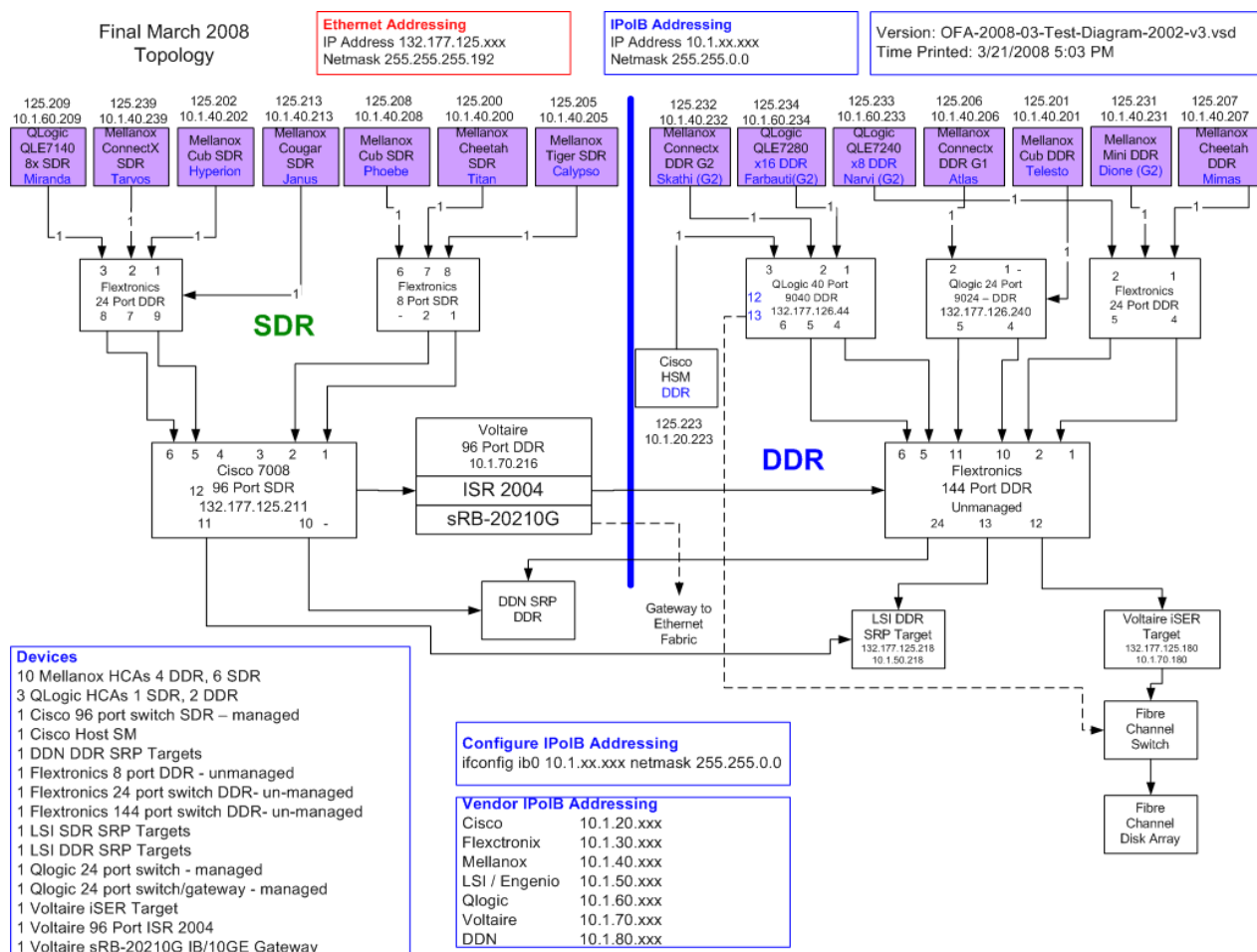
Table 2: Result Key

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 3: 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	QLogic Corporation	Firmware Rev	
Model	QLE7140	Hardware Rev	
Speed	SDR 4x	IP Address in Fabric	10.1.60.209
Additional Comments/Notes			

DUT #1 Details			
Manufacturer	QLogic Corporation	Firmware Rev	
Model	QLE7280	Hardware Rev	
Speed	DDR 4x	IP Address in Fabric	10.1.60.234
Additional Comments/Notes			

DUT #1 Details			
Manufacturer	QLogic Corporation	Firmware Rev	
Model	QLE7240	Hardware Rev	
Speed	DDR 4x	IP Address in Fabric	10.1.60.233
Additional Comments/Notes			

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 Release 1.17 (March 3, 2008)

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 1: IB Link Initialize	Test #1: Phy link up all ports	Phy link is established	PASS
Discussion: Test #1: Phy link up all ports			
Physical link initialization was verified between this device and every switch in the fabric. Physical link initialization was not tested between this device and other non-switch devices. DDR cables were used for all link tests. Link status was observed visually via status lights on the device.			

	QLogic SilverStorm 9024	QLogic SilverStorm 9040	Voltaire ISR 2004	Cisco 7000D	Flextronics F-X430066	Flextronics F-X430044	Flextronics F-X430081
Host: Miranda HCA: QLE7140	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: QLE7280	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Narvi, G2 PCI Express HCA: QLE7240	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 2: IB Fabric Initialization	Test #1: Verify all SMs configure fabric	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 errors 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 on each host 'ibstatus' to validate speed, width and link state. Refer to the table below for result details. SMs tested include: <i>OFED OpenSM (SM Only)</i> , <i>QLogic SilverStorm 9024 (Managed Switch)</i> , <i>QLogic SilverStorm 9040 (Managed Switch)</i> , <i>Voltaire ISR 2004 (Managed Switch)</i> , <i>Cisco 7000D (Managed Switch)</i> , <i>Cisco High Performance SM (SM Only)</i>			

For each SM listed above	All ports Armed/Active	No Dup GUIDs	No Port errors
Host: Miranda HCA: QLE7140	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: QLE7280	PASS	PASS	PASS
Host: Narvi, G2 PCI Express HCA: QLE7240	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 a 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: <i>OFED OpenSM (SM Only)</i> , <i>QLogic SilverStorm 9024 (Managed Switch)</i> , <i>QLogic SilverStorm 9040 (Managed Switch)</i> , <i>Voltaire ISR 2004 (Managed Switch)</i> , <i>Cisco 7000D (Managed Switch)</i> , <i>Cisco High Performance SM (SM Only)</i>			

For each SM listed above	Test 1	Test 2	Test 3
Host: Miranda HCA: QLE7140	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: QLE7280	PASS	PASS	PASS
Host: Narvi, G2 PCI Express HCA: QLE7240	PASS	PASS	PASS

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 9: TI iSER	Test #1-4		PASS
Discussion: Test #1-4			
All hosts were able to connect and perform transfer operations with the available iSER target. Due to time constraints, tests were run on a configured fabric and were not repeated for each subnet manager.			

For Voltaire IPStor (iSER Target / FibreChannel Gateway)	Test 1-4
Host: Miranda HCA: QLE7140	PASS
Host: Farbauti, G2 PCI Express HCA: QLE7280	PASS
Host: Narvi, G2 PCI Express HCA: QLE7240	PASS

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 test log shows that the data transfer operation completed for each host to each available volume on the target, in both the read and write directions. Due to time constraints, tests were run on a configured fabric and were not repeated for each subnet manager.			

For DataDirect Networks S2A 9900	Test 1-4
Host: Miranda HCA: QLE7140	PASS
Host: Farbauti, G2 PCI Express HCA: QLE7280	PASS
Host: Narvi, G2 PCI Express HCA: QLE7240	PASS

For LSI XBB2-IB (Dual Controller SRP Storage System)	Test 1-4
Host: Miranda HCA: QLE7140	PASS
Host: Farbauti, G2 PCI Express HCA: QLE7280	PASS
Host: Narvi, G2 PCI Express HCA: QLE7240	PASS

For LSI Engenio 0825 (SRP Storage System)	Test 1-4
Host: Miranda HCA: QLE7140	PASS
Host: Farbauti, G2 PCI Express HCA: QLE7280	PASS
Host: Narvi, G2 PCI Express HCA: QLE7240	PASS

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 11: TI SDP	Test #1: Netperf Procedure	Test Completed without errors	PASS
	Test #2: FTP Procedure	Test Completed without errors	PASS
	Test #3: SCP Procedure	Test Completed without errors	PASS
Discussion: Test #1-4			
<p>The automated test script was revised since the version published in the 1.17 version of the test plan. Automated test scripts run 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.</p>			

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 Release 1.17 (March 3, 2008)

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 4: IPoIB Datagram Mode	Test #1-3		Not Tested
Discussion: Test #1-3			
Not tested due to time constraints			

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

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 14: MPI – Intel	Test #1-21		Not Tested
Discussion: Test Results			
Not tested due to time constraints			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 15: MPI – Hewlett-Packard		ibv & udapl on QLogic	Informative
		ibv & udapl on Mellanox & QLogic	Informative
Discussion: ibv & udapl on QLogic			
<p>- ibv&udapl on qllogic (miranda,farbauti,narvi)</p> <p>Low to moderate traffic IBV tests passed. uDAPL always failed. (but may have been due to machine config issues at time of test run)</p> <ul style="list-style-type: none"> - detection: status:passed - exitpath: status:passed - fork: status:passed (IBV rdma) - fork: status:FAILED (IBV srq) - fork: status:FAILED (UDAPL rdma) - IMB: status:FAILED (8M: IBV rdma) - IMB: status:passed (256k: IBV srq) - IMB: status:FAILED (256k: UDAPL rdma) - rings2: status:FAILED (IBV rdma) - rings2: status:FAILED (IBV srq) - rings2: status:FAILED (UDAPL rdma) <p>Results saved in results.qllogic/*.LOG.*</p>			
Discussion: ibv & udapl on Mellanox & QLogic			
<p>- ibv&udapl on mellanox and qllogic (tarvos,hyperion,janus,phoebe,titan,calypso,skathi,atlas,telesto,dione,mimas and miranda,farbauti,narvi)</p> <p>Low to moderate traffic tests passed, with a small caveat on the fork test. All high traffic tests failed.</p> <ul style="list-style-type: none"> - detection: status:passed (defaults test:) - exitpath: status:passed (post-exitpath pingpong test: -IBV -rdma) - fork: status:passed (IBV rdma) - fork: status:passed (IBV srq) - fork: status:passed (UDAPL rdma) - IMB: status:FAILED (8M: IBV rdma) - IMB: status:FAILED (256k: IBV srq) - IMB: status:FAILED (256k: UDAPL rdma) - rings2: status:FAILED (IBV rdma) - rings2: status:FAILED (IBV srq) - rings2: status:FAILED (UDAPL rdma) <p>Results saved in results.mellanox_qllogic/*.LOG.*</p>			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 16: TI uDAPL	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 18: IB FibreChannel Gateway	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 19: IB Ethernet Gateway	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 20: 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 21: 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 23-24: TI RDMA Operations over Interconnect Components	Test #1-10		Not Tested
Discussion: Test Results			
Not tested due to time constraints			