OpenFabrics Alliance

Interoperability Logo Group (OFILG)

Dec 2011 Logo Event Report

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Report Revision:	1.2
OFED Version on Compute Nodes:	1.5.4
Operating System on Compute Nodes:	SL 6.1

Enclosed are the results from OFA Logo testing performed on the following devices under test (DUTs):
QLogic 12200

The test suite referenced in this report is available at the IOL website. Release 1.4 (2011-Oct-25) was used.
http://www.iol.unh.edu/services/testing/ofa/testsuites/OFA-IWG_Interoperability_Test_Plan-v1.40.pdf

The logo document referenced in this report is available at the IOL website. Release 1.14 (2011-Mar-01) was used.
http://www.iol.unh.edu/services/testing/ofa/logoprogram/OFA-UNH-IOL_Logo_Program-v1.14.pdf

The Following Table highlights the Mandatory test results required for the OpenFabrics Interoperability Logo for the DUT per the Test Plan referenced above and the current OpenFabrics Interoperability Logo Program (OFILP).

Additional beta testing was performed using the DUT than is reflected in this report. A separate report will outline those results.

Test Procedures	IWG Test Status	Result/Notes
10.1: Link Initialization	**Mandatory**	**PASS with Comments**
10.2: IB Fabric Initialization	**Mandatory**	**PASS**
10.3: IPoIB Connected Mode	**Mandatory**	**PASS**
10:4: IPoIB Datagram Mode	**Mandatory**	**PASS**
10.5: SM Failover and Handover	**Mandatory**	**PASS**
10.6: SRP	**Mandatory**	**PASS**
12.1: TI iSER	**Mandatory**	**Not Available**
12.2: TI NFS over RDMA	**Mandatory**	**PASS**
12.3: TI RDS	**Mandatory**	**PASS**
12.4: TI SDP	**Mandatory**	**PASS**
12.5: TI uDAPL	**Mandatory**	**PASS**
12.6: TI RDMA Basic Interop	**Mandatory**	**PASS**
12.8: TI RDMA Stress	**Mandatory**	**PASS**
12.11: TI MPI – Open	**Mandatory**	**PASS**
12.12: TI MPI – OSU	**Mandatory**	**PASS**

Summary of all results follows on the second page of this report.
For Specific details regarding issues, please see the corresponding test result.

Testing Completed 05 January 2012

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Review Completed 16 March 2012

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Result Summary

The Following table summarizes all results from the event pertinent to this IB device class.

Test Procedures	IWG Test Status	Result/Notes
10.1: Link Initialization	Mandatory	PASS with Comments
10.2: IB Fabric Initialization	Mandatory	PASS
10.3: IPoIB Connected Mode	Mandatory	PASS
10:4: IPoIB Datagram Mode	Mandatory	PASS
10.5: SM Failover and Handover	Mandatory	PASS
10.6: SRP	Mandatory	PASS
10.7: Ethernet Gateway	Beta	Not Tested
10.8: FibreChannel Gateway	Beta	Not Tested
12.1: TI iSER	Mandatory	Not Available
12.2: TI NFS over RDMA	Mandatory	PASS
12.3: TI RDS	Mandatory	PASS
12.4: TI SDP	Mandatory	PASS
12.5: TI uDAPL	Mandatory	PASS
12.6: TI RDMA Basic Interoperability	Mandatory	PASS
12.8: TI RDMA Stress	Mandatory	PASS
12.10: TI MPI – Intel	Beta	Not Tested
12.11: TI MPI – Open	Mandatory	PASS
12.12: TI MPI – OSU	Mandatory	PASS

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Report Revision History

- v1.0 Initial working copy
- v1.1 Revised working copy
- v1.2 Post arbitration resolution update

Configuration Files

Description	Attachment
Scientific Linux 6.1 Configuration File	📎
OFED 1.5.4 Configuration File	📎

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.
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 specific parameters are valid at one extreme and invalid at the other.
Not Tested	Not tested due to the time constraints of the test period.

DUT and Test Setup Information

Figure 1: The IB fabric configuration utilized for any tests requiring a multi-switch configuration is shown below.
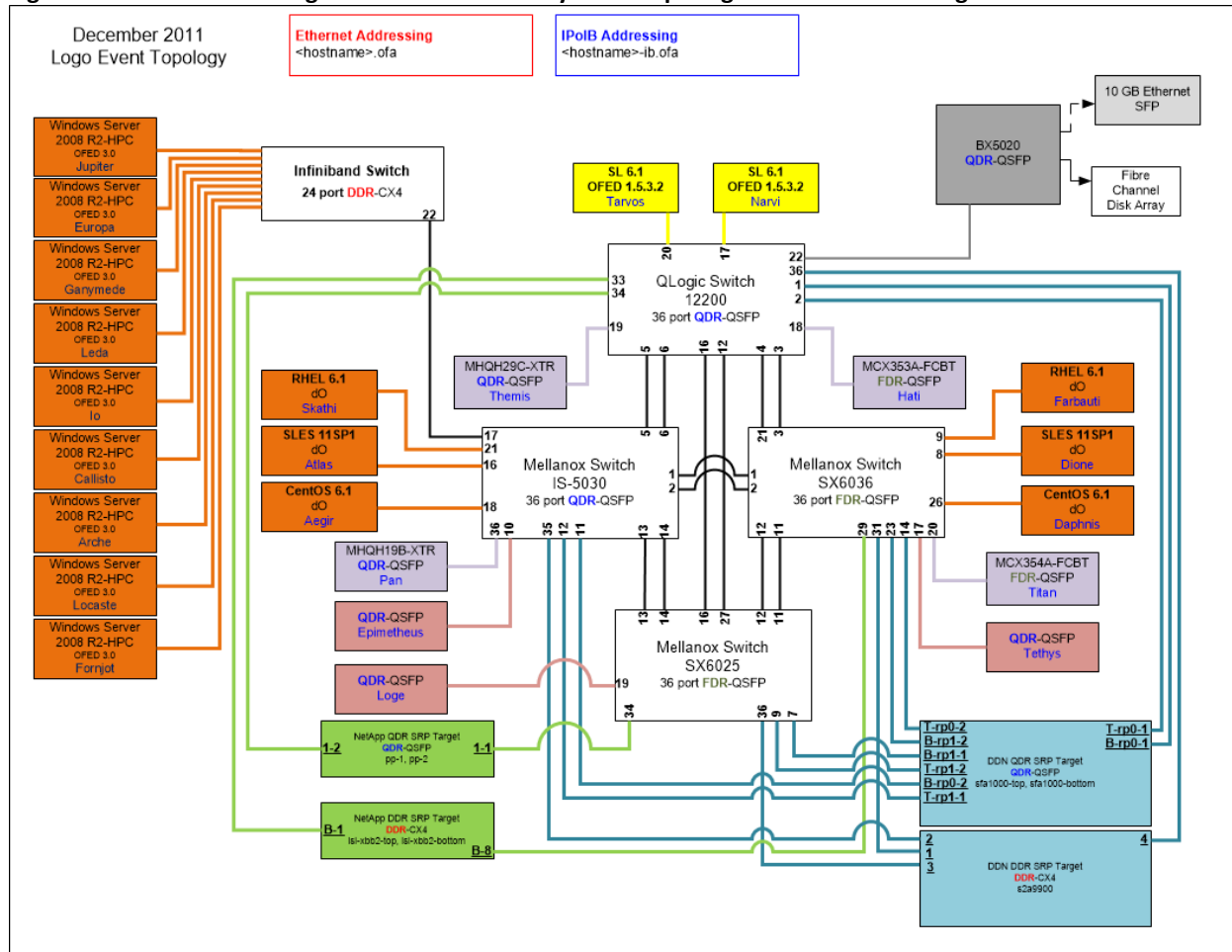
DUT #1 Details			
Manufacturer:	QLogic	Firmware Revision:	7.0.1.0.29
Model:	12200	Hardware Revision:	17
Speed:	QDR	Located in Host:	NA
Firmware MD5sum:	ee828cf5e7a37ca52da42515a32a3dd7		
Additional Comments / Notes:			

Mandatory Tests – IB Device Test Results:

10.1: Link Initialization

Results	
Part #1:	**Refer to Comments**
Discussion:	
It was noted during testing that certain port combinations between the QLogic 12200 switch and the Mellanox SX6036 switch linked at 4X DDR instead of the expected 4x QDR. This was more readily apparent when using passive copper cables five (5) meters in length when connected between ports on with long traces (generally edge ports).	

Link Partner		12200
QLogic 12200 (Switch) – QDR		**NA**
Mellanox SX6025 (Switch) – FDR		**PASS**
Mellanox SX6036 (Switch) – FDR		**PASS with Comments**
Mellanox IS-5030 (Switch) – QDR		**PASS**
Mellanox BX5020 (Gateway) – QDR		**PASS**
DataDirect Networks SFA10000 (SRP Target) – QDR		**PASS**
DataDirect Networks S2A9900 (SRP Target) – DDR		**PASS**
NetApp Pikes Peak (SRP Target) – QDR		**PASS**
NetApp XBB2 (SRP Target) – DDR		**PASS**
Host: Themis	HCA: MHQH29C-XTR (QDR)	**PASS**
Host: Pan	HCA: MHQH19B-XTR (QDR)	**PASS**
Host: Hati	HCA: MCX353A-FCBT (FDR)	**PASS**
Host: Titan	HCA: MCX354A-FCBT (FDR)	**PASS**

10.2: Fabric Initialization

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
PASS	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:				
All subnet managers used while testing with OFED 1.5.4 were able to correctly configure the selected topology.				

10.3: IPoIB Connected Mode

	Subnet Manager				
Part	**OpenSM**	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
A – ping	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
B – SFTP	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
C – SCP	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:					
IPoIB ping, SFTP, and SCP transactions completed successfully between all HCAs; each HCA acted as both a client and a server for all tests.					

10.4: IPoIB Datagram Mode

Part	Subnet Manager				
	OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
A – ping	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
B – SFTP	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
C – SCP	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:					
IPoIB ping, SFTP, and SCP transactions completed successfully between all HCAs; each HCA acted as both a client and a server for all tests.					

10.5: SM Failover and Handover

SM Pairings		Result
OpenSM OFED 1.5.4	OpenSM OFED 1.5.4	**PASS**
Result Discussion:		
OpenSM was able to properly handle SM priority and state rules.		

10.6: SRP

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
PASS	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:				
SRP communications between all HCAs and all SRP targets succeeded while the above mentioned SMs were in control of the fabric.				

12.1 TI iSER

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
Not Tested	**Not Tested**	**Not Tested**	**Not Tested**	**Not Tested**
Result Discussion:				
This test was not performed as there are no devices that support the iSER test procedure present in event topology.				

12.2: TI NFS over RDMA

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
PASS	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:				
Connectathon was used to test NFS over RDMA; each HCA acted as both a client and a server.				

12.3: TI RDS

	Subnet Manager				
Part	**OpenSM**	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
A – ping	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
B – stress	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:					
The reliable datagram socket protocol was tested between all HCAs; all communications completed successfully.					

12.4: TI SDP

	Subnet Manager				
Part	**OpenSM**	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
A – netperf	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
B – SFTP	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
C – SCP	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:					
All communications using the SDP protocol completed successfully; each HCA acted as both a client and a server for all tests.					

12.5: TI uDAPL

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
PASS	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:				
All communications using DAPL were seen to complete successfully as described in the referenced test plan; each HCA acted as both a client and a server for all tests.				

12.6: TI RDMA Basic Interoperability

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
PASS	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:				
All devices were shown to correctly exchange core RDMA operations across a simple network path under nominal (unstressed) conditions; each HCA acted as both a client and a server for all tests.				

12.8: TI RDMA Stress

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
PASS	**PASS**	**PASS**	**PASS**	**PASS**
Result Discussion:				
All IB switches were seen to properly handle a large load as indicated by the successfully completion of control communications between two HCAs while all other HCAs in the fabric were used to generate traffic in order to put a high load on the switch. Each HCA aced as both a client and a server for the control connection.				

12.11: TI MPI – Open

Part	Subnet Manager				
	OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
A	PASS	PASS	PASS	PASS	PASS
B	PASS	PASS	PASS	PASS	PASS
Result Discussion:					
Complete heterogeneity; 1 MPI process per OFED 1.5.4 deployed system as described in the cluster topology (red and purple system icons), IB device vendor agnostic.					

12.12: TI MPI – OSU

Part	Subnet Manager				
	OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
A	PASS	PASS	PASS	PASS	PASS
B	PASS	PASS	PASS	PASS	PASS
Result Discussion:					
Complete heterogeneity; 1 MPI process per OFED 1.5.4 deployed system as described in the cluster topology (red and purple system icons), IB device vendor agnostic.					

Beta Tests – IB Device Test Results:

10.7: IB Ethernet Gateway

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
Not Tested	Not Tested	Not Tested	Not Tested	Not Tested
Result Discussion:				
This test was not performed as there are no devices that support the Ethernet Gateway test procedure present in event topology.				

10.8 IB FibreChannel Gateway

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
Not Tested	Not Tested	Not Tested	Not Tested	Not Tested
Result Discussion:				
This test was not performed as there are no devices that support the FibreChannel Gateway test procedure present in event topology.				

12.10: MPI – Intel

Subnet Manager				
OpenSM	**IS-5030 SM**	**SX-6036 SM**	**QL12200 SM**	**WinOF SM**
Not Tested	Not Tested	Not Tested	Not Tested	Not Tested
Result Discussion:				
This test was not performed as the binaries for Intel MPI are not present on the compute nodes present in event topology.				