OpenFabrics Alliance
Interoperability Logo Group (OFILG)
July 2015 Logo Event Report

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Date: 31 August 2015
Report Revision: 1.0
OFED Version on Compute Nodes: 3.18
Operating System on Compute Nodes: Scientific Linux 7.0

Enclosed are the results from OFA Logo testing performed on the following device under test (DUT):
Intel 12200-CH01

The test suite referenced in this report is available at the UNH-IOL website. Release 1.51 (2014-Sep-23) was used.

https://iol.unh.edu/ofatestplan

The following table highlights the Mandatory tests required for the OpenFabrics Interoperability Logo for the InfiniBand Switch device class per the Test Plan & the current OpenFabrics Interoperability Logo Program (OFILP).

Test Procedures	IWG Test Status	Result/Notes
11.1: Link Initialization	**Mandatory**	**PASS**
11.2: Fabric Initialization	**Mandatory**	**PASS**
11.3: IPoIB Connected Mode	**Mandatory**	**PASS**
11.4: IPoIB Datagram Mode	**Mandatory**	**PASS with Comments**
11.5: SM Failover and Handover	**Mandatory**	**PASS**
11.6: SRP	**Mandatory**	**PASS**
13.2: TI NFS over RDMA	**Mandatory**	**PASS**
13.4: TI uDAPL	**Mandatory**	**PASS**
13.5: TI RDMA Basic Interoperability	**Mandatory**	**PASS**
13.6: TI RDMA Stress	**Mandatory**	**PASS**
13.7: TI RSockets	**Mandatory**	**PASS**
13.8: TI MPI – Open	**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 August 31, 2015

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Reviewed & Issued October 2, 2015

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Result Summary

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

Test Procedures	IWG Test Status	Result/Notes
11.1: Link Initialization	Mandatory	PASS
11.2: Fabric Initialization	Mandatory	PASS
11.3: IPoIB Connected Mode	Mandatory	PASS
11.4: IPoIB Datagram Mode	Mandatory	PASS with Comments
11.5: SM Failover and Handover	Mandatory	PASS
11.6: SRP	Mandatory	PASS
11.7: IB Ethernet Gateway	Beta	Not Tested
11.8: IB FibreChannel Gateway	Beta	Not Tested
13.2: TI NFS over RDMA	Mandatory	PASS
13.4: TI uDAPL	Mandatory	PASS
13.5: TI RDMA Basic Interoperability	Mandatory	PASS
13.6: TI RDMA Stress	Mandatory	PASS
13.7: TI RSockets	Mandatory	PASS
13.8: TI MPI – Open	Mandatory	PASS

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Report Revision History

- v1.0 Initial working copy

Configuration Files

| Description	Attachment
Scientific Linux 7.0 Configuration File	📎
OFED 3.18 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.
Qualified PASS	The DUT was observed to exhibit conformant behavior, with the exception of fault(s) or defect(s) which were previously known.
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.
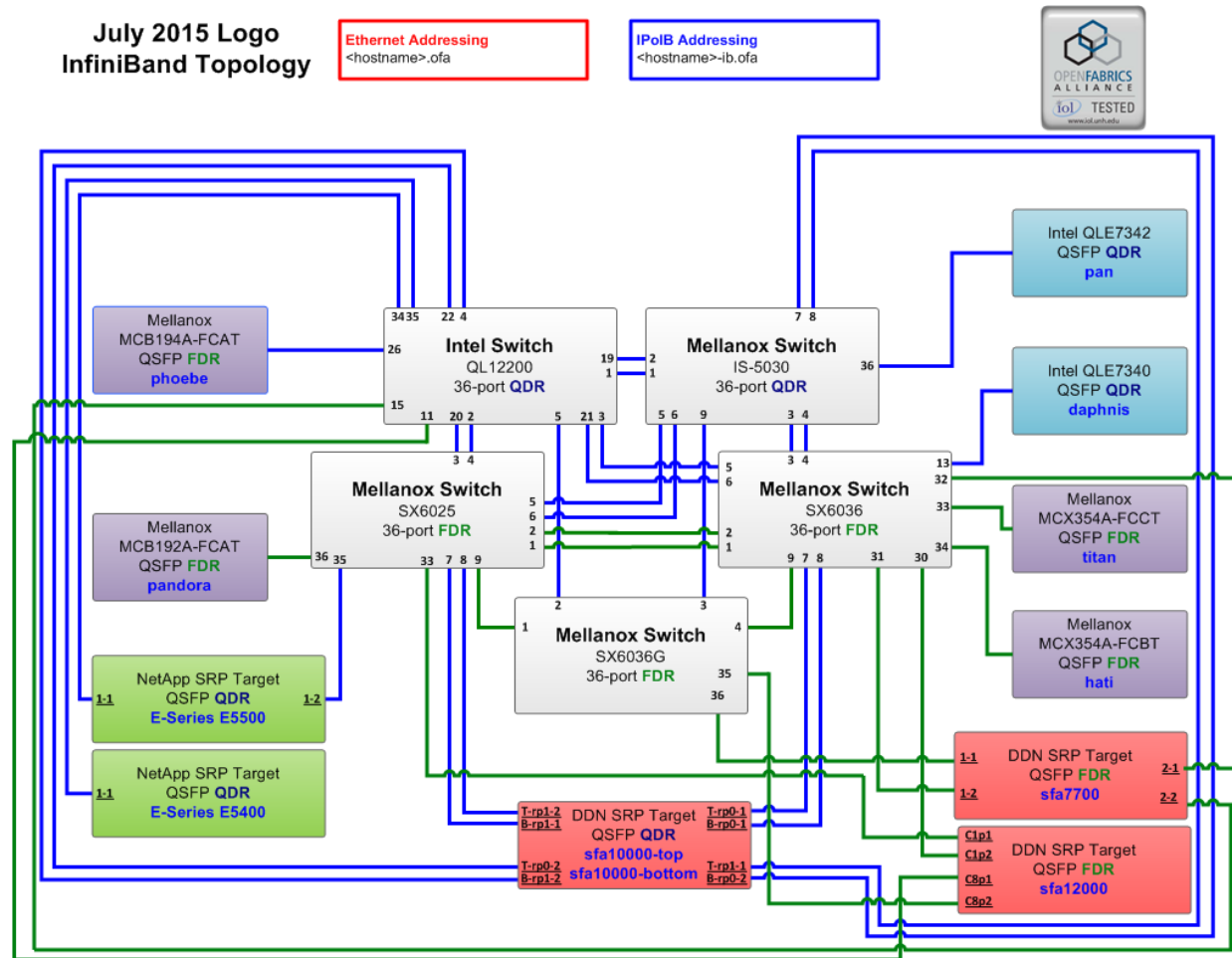
DUT #1 Details			
Manufacturer:	Intel	Firmware Revision:	7.3.0.0.15
Model:	12200-CH01	Hardware Revision:	3
Speed:	QDR	Located in Host:	N/A
Firmware MD5sum:	4b9c7cf9eb8db46ab24060c4d3a15a8a		
Additional Comments / Notes:			

Mandatory Tests – IB Device Test Results:

11.1: Link Initialization

Results	
Part #1:	**PASS**
Discussion:	
All links established with the DUT were of the proper link speed and width.	

Link Partner		12200
Intel 12200 (Switch) – QDR		**NA**
Mellanox SX6025 (Switch) – FDR		**PASS**
Mellanox SX6036 (Switch) – FDR		**PASS**
Mellanox IS-5030 (Switch) – QDR		**PASS**
Mellanox SX6036G (Switch) – FDR		**PASS**
DataDirect Networks SFA12000 (SRP Target) – FDR		**PASS**
DataDirect Networks SFA10000 (SRP Target) – QDR		**PASS**
DataDirect Networks SFA7700 (SRP Target) – FDR		**PASS**
NetApp Soyuz (SRP Target) – QDR		**PASS**
NetApp Pikes Peak (SRP Target) – QDR		**PASS**
Host: hati	HCA: MCX354A-FCBT (FDR)	**PASS**
Host: titan	HCA: MCX354A-FCCT (FDR)	**PASS**
Host: phoebe	HCA: MCB194A-FCAT (FDR)	**PASS**
Host: pandora	HCA: MCB192A-FCAT (FDR)	**PASS**
Host: pan	HCA: QLE7342 (QDR)	**PASS**
Host: daphnis	HCA: QLE7340 (QDR)	**PASS**

11.2: Fabric Initialization

Subnet Manager	Result
OpenSM	**PASS**
Result Discussion:	
All subnet managers used while testing with OFED 3.18 were able to correctly configure the selected topology.	

11.3: IPoIB Connected Mode

Subnet Manager	Part A	Part B	Part C
OpenSM	**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.			

11.4: IPoIB Datagram Mode

Subnet Manager	Part A	Part B	Part C
OpenSM	PASS with Comments	PASS	PASS
Result Discussion:			

The DUT has been noted not to receive the echo reply of the first ping sequence when the entry for the device is cleared in the ARP table and the payload size is 32768 or higher. To reproduce the issue, follow the testplan IPoIB section 11.4.1 Step 7 on page 61. The problem will occur upon execution of Step 7, just after the paired device's InfiniBand interface has been removed from the ARP table. If the command run in Step 7, is run a subsequent time it is noted that all pings execute as expected and no problems are present. Thus, ping has been observed to work as expected and no problems are observed when the ARP table has been populated with an entry for the DUT.

All permutations of this test on other devices in the test cluster were also noted to encounter the same issue. Therefore this issue is not currently attributed to this DUT and as such is noted here as a Pass with Comments. This may be attributed to an unresolved issue with OFED or Scientific Linux 7.0. These commands and sizes were observed to work with SL 6.5 and previous versions of OFED on previous devices.

11.5: SM Failover and Handover

SM Pairings	Result
OpenSM	PASS
Result Discussion:	

OpenSM was able to properly handle SM priority and state rules.

11.6: SRP

Subnet Manager	Result
OpenSM	PASS
Result Discussion:	

SRP communications between all HCAs and all SRP targets succeeded while OpenSM was in control of the fabric.

13.2: TI NFS over RDMA

Subnet Manager	Result
OpenSM	PASS
Result Discussion:	

All DUT's were observed to successfully utilize NFS over RDMA.

13.4: TI uDAPL

Subnet Manager	Result
OpenSM	PASS
Result Discussion:	
All communications using uDAPL 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.	

13.5: TI RDMA Basic Interoperability

Subnet Manager	Result
OpenSM	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.	

13.6: TI RDMA Stress

Subnet Manager	Result
OpenSM	PASS
Result Discussion:	
All IB switches were seen to properly handle a large load as indicated by the successful 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 acted as both a client and a server for the control connection.	

13.7: TI RSockets

Subnet Manager	Result
OpenSM	PASS
Result Discussion:	
DUT's were observed to pass all rsockets procedures.	

13.8: TI MPI – Open

Subnet Manager	Part A	Part B
OpenSM	PASS	PASS
Result Discussion:		
HCAs were capable of running the mpirun binary in accordance to the current test plan between all other hosts.		