



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 MHET2X-ITC (InfiniHost™ HCA, dual-port 10Gb/s, PCI-X, 128MB)*
- Mellanox MHEA28-ITC (InfiniHost™ III Ex HCA, dual-port 10Gb/s, PCIe1.2 x8, 128MB)*
- Mellanox MHEA28-XTC (InfiniHost™ III Ex HCA, dual-port 10Gb/s, PCIe1.2 x8, MemFree)*
- Mellanox MHES18-XTC (InfiniHost™ III Lx HCA, single-port 10Gb/s, PCIe1.2 x8, MemFree)*
- Mellanox MHES14-XTC (InfiniHost™ III Lx HCA, single-port 10Gb/s, PCIe1.2 x4, MemFree)*
- Mellanox MHGA28-ITC (InfiniHost™ III Ex HCA, dual-port 20Gb/s, PCIe1.2 x8, 128MB)*
- Mellanox MHGA28-XTC (InfiniHost™ III Ex HCA, dual-port 20Gb/s, PCIe1.2 x8, MemFree)*
- Mellanox MHGS18-XTC (InfiniHost™ III Lx HCA, single-port 20Gb/s, PCIe1.2 x8, MemFree)*
- Mellanox MHEH28-XTC (ConnectX™ IB HCA, dual-port 10Gb/s, PCIe2.0 x8, MemFree)*
- Mellanox MHGH28-XTC (ConnectX™ IB HCA, dual-port 20Gb/s, PCIe2.0 x8, MemFree)*
- Mellanox MHGH29-XTC (ConnectX™ IB HCA, dual-port 20Gb/s, PCIe2.0 x8 5GT/s, MemFree)*
- Mellanox MHJH29-XTC (ConnectX™ IB HCA, dual-port 40Gb/s, PCIe2.0 x8 5GT/s, MemFree)*
- Mellanox MHQH29-XTC (ConnectX™ IB HCA, dual-port 40Gb/s, PCIe2.0 x8 5GT/s, MemFree)*

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 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 – see comments
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 – see comments
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 12/23/2008

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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	Passed – no issues seen
10.4: IB IPoIB Datagram Mode	Beta	Passed – no issues seen
10.9: TI iSER	Mandatory	Not Available
10.10: SRP	Mandatory	Passed – see comments
10.11: SDP	Mandatory	Passed – no issues seen
10.12: IB SM Failover and Handover	Beta	Not Tested
10.13: TI MPI - OSU	Beta	Informative
10.14: TI MPI - Intel	Beta	Informative
10.15: HP MPI - HP	Beta	Informative
10.16: TI MPI - Open	Beta	Informative
10.17: TI uDAPL	Beta	Passed – no issues seen
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 Tested
10.22-23: TI Basic RDMA Interoperability	Beta	Not Tested
10.24-25: TI RDMA Operations over Interconnect Components	Beta	Not Tested

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Report Revision History

- v1.0 Initial Release
- v1.01 Added Firmware and Hardware Version Numbers
- v1.02 Editorial Changes

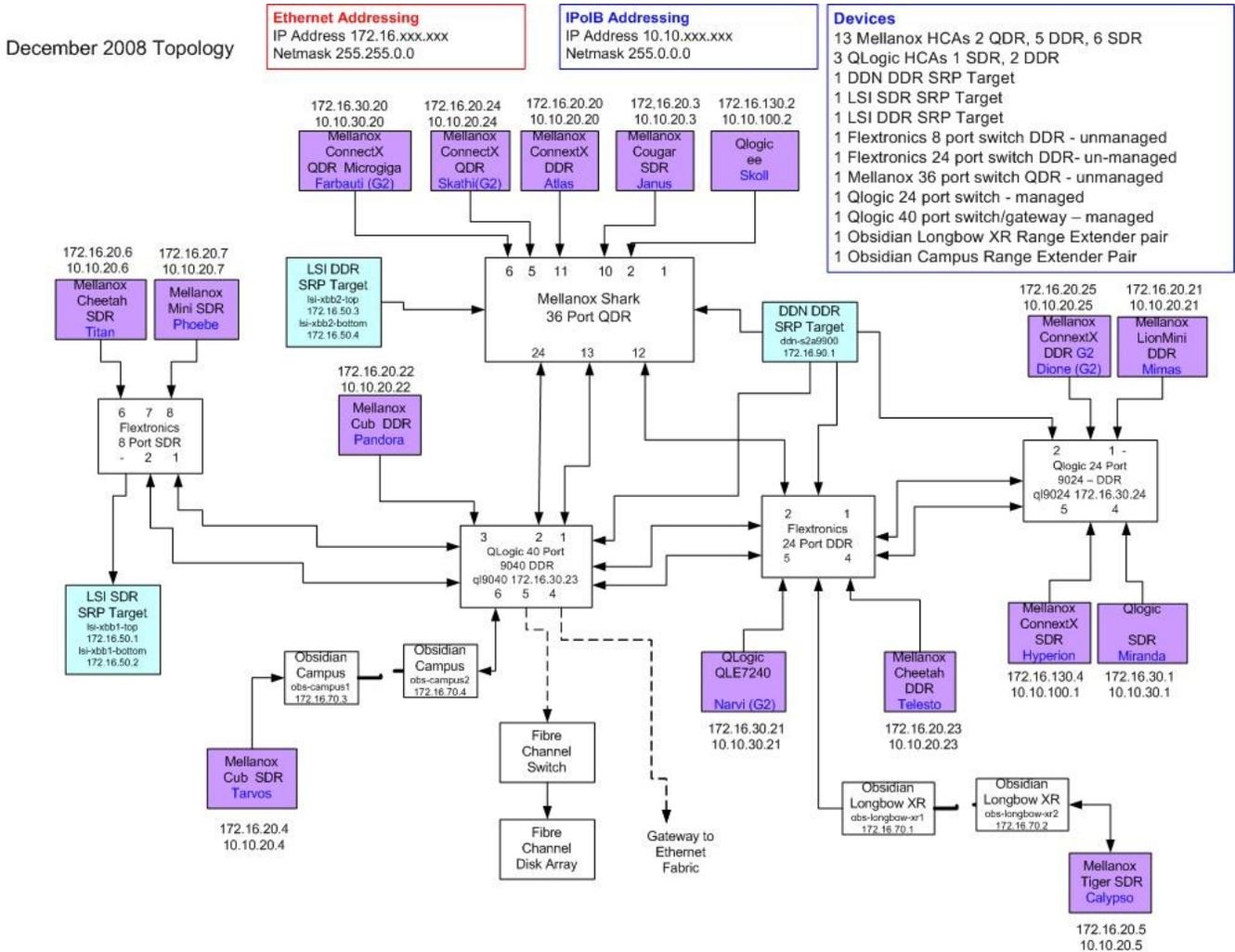
Table 2: Result Key

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	Mellanox Ltd.	Firmware Rev	3.5.930
Model	MHET2X-1TC	Hardware Rev	a1
Speed	SDR 4x	IP Address in Fabric	10.10.20.3
Vendor Provided Details			
<i>Mellanox MHET2X-1TC (InfiniHost™ HCA, dual-port 10Gb/s, PCI-X, 128MB, “Cougar SDR”)</i>			

DUT #2 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	4.8.200
Model	MHEA28-1TC	Hardware Rev	a0
Speed	SDR 4x	IP Address in Fabric	10.10.20.4
Vendor Provided Details			
<i>Mellanox MHEA28-1TC (InfiniHost™ III Ex HCA, dual-port 10Gb/s, PCIe 1.2 x8, 128MB, “Lion Cub SDR”)</i>			

DUT #3 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	5.3.0
Model	MHEA28-XTC	Hardware Rev	a0
Speed	SDR 4x	IP Address in Fabric	10.10.20.7

Vendor Provided Details
Mellanox MHEA28-XTC (InfiniHost™ III Ex HCA, dual-port 10Gb/s, PCIe 1.2 x8, MemFree, “Lion Mini SDR”)

DUT #4 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	1.2.0
Model	MHES18-XTC	Hardware Rev	a0
Speed	SDR 4x	IP Address in Fabric	10.10.20.6

Vendor Provided Details
Mellanox MHES18-XTC (InfiniHost™ III Lx HCA, single-port 10Gb/s, PCIe 1.2 x8, MemFree, “Cheetah SDR”)

DUT #5 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	1.2.0
Model	MHES14-XTC	Hardware Rev	a0
Speed	SDR 4x	IP Address in Fabric	10.10.20.5

Vendor Provided Details
Mellanox MHES14-XTC (InfiniHost™ III Lx HCA, single-port 10Gb/s, PCIe 1.2 x4, MemFree, “Tiger SDR”)

DUT #6 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	4.7.600
Model	MHGA28-1TC	Hardware Rev	a0
Speed	DDR 4x	IP Address in Fabric	10.10.20.22

Vendor Provided Details
Mellanox MHGA28-1TC (InfiniHost™ III Ex HCA, dual-port 20Gb/s, PCIe 1.2 x8, 128MB, “Lion Cub DDR”)

DUT #7 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	5.3.0
Model	MHGA28-XTC	Hardware Rev	20
Speed	DDR 4x	IP Address in Fabric	10.10.20.21

Vendor Provided Details
Mellanox MHGA28-XTC (InfiniHost™ III Ex HCA, dual-port 20Gb/s, PCIe 1.2 x8, MemFree, “Lion Mini DDR”)

DUT #8 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	1.2.0
Model	MHGS18-XTC	Hardware Rev	a0
Speed	DDR 4x	IP Address in Fabric	10.10.20.23

Vendor Provided Details
Mellanox MHGS18-XTC (InfiniHost™ III Lx HCA, single-port 20Gb/s, PCIe 1.2 x8, MemFree, “Cheetah DDR”)

DUT #9 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	2.6.0
Model	MHEH28-XTC	Hardware Rev	a0
Speed	SDR 4x	IP Address in Fabric	10.10.100.1

Vendor Provided Details
Mellanox MHEH28-XTC (ConnectX™ IB HCA, dual-port 10Gb/s, PCIe 2.0 x8, MemFree “ConnectX SDR”)

DUT #10 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	2.6.0
Model	MHGH28-XTC	Hardware Rev	a0
Speed	DDR 4x	IP Address in Fabric	10.10.20.20

Vendor Provided Details
Mellanox MHGH28-XTC (ConnectX™ IB HCA, dual-port 20Gb/s, PCIe 2.0 x8, MemFree “ConnectX DDR”)

DUT #11 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	2.6.0
Model	MHGH29-XTC	Hardware Rev	a0
Speed	DDR 4x	IP Address in Fabric	10.10.20.25
Vendor Provided Details			
<i>Mellanox MHGH29-XTC (ConnectX™ IB HCA, dual-port 20Gb/s, PCIe2.0 x8 5GT/s, MemFree)</i>			

DUT #12 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	2.6.0
Model	MHJH29-XTC	Hardware Rev	a0
Speed	QDR 4x	IP Address in Fabric	10.10.20.24
Vendor Provided Details			
<i>Mellanox MHJH29-XTC (ConnectX™ IB HCA, dual-port 40Gb/s, PCIe2.0 x8 5GT/s, MemFree)</i>			

DUT #13 Details			
Manufacturer	Mellanox Ltd.	Firmware Rev	2.6.0
Model	MHQH29-XTC	Hardware Rev	a0
Speed	QDR 4x	IP Address in Fabric	10.10.30.20
Vendor Provided Details			
<i>Mellanox MHQH29-XTC (ConnectX™ IB HCA, dual-port 40Gb/s, PCIe2.0 x8 5GT/s, MemFree)</i>			

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:	1 Dione <i>MHGH29-XTC</i>	PASS with Comments
		2 Hyperion <i>MHEH28-XTC</i>	PASS
		3 Telesto <i>MHGS18-XTC</i>	PASS with Comments
		4 Pandora <i>MHGA28-ITC</i>	PASS with Comments
		5 Titan <i>MHES18-XTC</i>	PASS
		6 Phoebe <i>MHEA28-XTC</i>	PASS
		7 Calypso <i>MHES14-XTC</i>	PASS
		8 Skathi <i>MHJH29-XTC</i>	PASS with Comments
		9 Janus <i>MHET2X-ITC</i>	PASS
		10 Tarvos <i>MHEA28-ITC</i>	PASS
		11 Farbauti <i>MHQH29-XTC</i>	PASS with Comments
		12 Atlas <i>MHGH28-XTC</i>	PASS with Comments
		13 Mimas <i>MHGA28-ITC</i>	PASS with Comments

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.

This version of the test plan does not explicitly call for testing of link speed, the next version will, and logo testing in the 2nd half of 2009 will require proper link speed between all link combinations. Narvi and Skoll only link at SDR speeds to all Mellanox DDR/QDR HCA's even though they are DDR cards themselves.

Link Partner Device	1	2	3	4	5	6	7	8	9	10	11	12	13
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	PASS												

Campus (Range Extender)													
LSI XBB1 (SRP Target)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
LSI XBB2 (SRP Target)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
DataDirect Networks (SRP Target)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Miranda HCA: QLogic QLE7140 SDR	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Tarvos HCA: Mellanox LionCub SDR	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	N/A	PASS	PASS	PASS
Host: Hyperion HCA: Mellanox Connectx SDR	PASS	N/A	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Janus HCA: Mellanox Cougar SDR	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	N/A	PASS	PASS	PASS	PASS
Host: Phoebe HCA: Mellanox LionMini SDR	PASS	PASS	PASS	PASS	PASS	N/A	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Titan HCA: Mellanox Cheetah SDR	PASS	PASS	PASS	PASS	N/A	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Calypso HCA: Mellanox Tiger SDR	PASS	PASS	PASS	PASS	PASS	PASS	N/A	PASS	PASS	PASS	PASS	PASS	PASS
Host: Skathi, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS	PASS	PASS	PASS	PASS	N/A	PASS	PASS	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	N/A	PASS	PASS
Host: Narvi, G2 PCI Express HCA: QLogic QLE7280 DDR	PASS with Com ment s	PASS	PASS with Com ment s	PASS with Com ment s	PASS	PASS	PASS	PASS with Com ment s	PASS	PASS	PASS with Com ment s	PASS with Com ment s	PASS with Com ment s
Host: Atlas HCA: Mellanox Connectx DDR	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	N/A	PASS
Host: Telesto HCA: Mellanox Cheetah DDR	PASS	PASS	N/A	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Host: Dione, G2 PCI Express	N/A	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

OFA Logo Event Report – December 2008
DUT: Mellanox Technologies InfiniBand HCAs

HCA: Mellanox Connectx DDR														
Host: Mimas HCA: Mellanox LionMini DDR	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	N/A
Host: Skoll HCA: QLogic QLE7240 DDR	PASS with Com ment s	PASS	PASS with Com ment s	PASS with Com ment s	PASS	PASS	PASS	PASS with Com ment s	PASS	PASS	PASS with Com ment s	PASS with Com ment s	PASS with Com ment s	PASS
Host: Pandora HCA: Mellanox LionCub DDR	PASS	PASS	PASS	N/A	PASS	PASS	PASS	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:	Port is Active with all SMs	PASS
Discussion: Test #1: Verify all SMs configure fabric			
<p>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 guides. Refer to the table below for SM details.</p> <p><i>SMs tested include: OFED OpenSM (SM Only), QLogic SilverStorm 9024 (Managed Switch), QLogic SilverStorm 9040 (Managed Switch)</i></p>			

For each SM listed above	All ports Armed/Active	No Dup GUIDs	No Port errors
Host: Tarvos HCA: Mellanox LionCub SDR	PASS	PASS	PASS
Host: Hyperion HCA: Mellanox Connectx SDR	PASS	PASS	PASS
Host: Janus HCA: Mellanox Cougar SDR	PASS	PASS	PASS
Host: Phoebe HCA: Mellanox LionMini SDR	PASS	PASS	PASS
Host: Titan HCA: Mellanox Cheetah SDR	PASS	PASS	PASS
Host: Calypso HCA: Mellanox Tiger SDR	PASS	PASS	PASS
Host: Skathi, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Atlas HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Telesto HCA: Mellanox Cheetah DDR	PASS	PASS	PASS
Host: Dione, G2 PCI Express HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Mimas HCA: Mellanox LionMini DDR	PASS	PASS	PASS
Host: Pandora HCA: Mellanox LionCub DDR	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.			
<i>For all test cases, SMs tested include: OFED OpenSM (SM Only), QLogic SilverStorm 9024 (Managed Switch), QLogic SilverStorm 9040</i>			

For each SM listed above	Test 1	Test 2	Test 3
Host: Tarvos HCA: Mellanox LionCub SDR	PASS	PASS	PASS
Host: Hyperion HCA: Mellanox Connectx SDR	PASS	PASS	PASS
Host: Janus HCA: Mellanox Cougar SDR	PASS	PASS	PASS
Host: Phoebe HCA: Mellanox LionMini SDR	PASS	PASS	PASS
Host: Titan HCA: Mellanox Cheetah SDR	PASS	PASS	PASS
Host: Calypso HCA: Mellanox Tiger SDR	PASS	PASS	PASS
Host: Skathi, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Atlas HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Telesto HCA: Mellanox Cheetah DDR	PASS	PASS	PASS
Host: Dione, G2 PCI Express HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Mimas HCA: Mellanox LionMini DDR	PASS	PASS	PASS
Host: Pandora HCA: Mellanox LionCub DDR	PASS	PASS	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 with Comments
Discussion: Test Result			
<p>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 the data transfer operation completed for each host to each available volume on each target, in both the read and write directions 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.</p> <p>These errors can be circumvented by starting either QLogic SM before these HCA's establish link with the fabric. Because of this solution, these devices did not fail. The current test plan does not specify when to start an SM or which HCA's to use. The next version will.</p>			

For DataDirect Networks S2A 9900	Verified Automated Test Result
Host: Tarvos with HCA: Mellanox LionCub SDR	PASS
Host: Hyperion with HCA: Mellanox Connectx SDR	PASS
Host: Janus with HCA: Mellanox Cougar SDR	PASS
Host: Phoebe with HCA: Mellanox LionMini SDR	PASS
Host: Titan with HCA: Mellanox Cheetah SDR	PASS with Comments
Host: Calypso with HCA: Mellanox Tiger SDR	PASS with Comments
Host: Skathi, G2 PCI Express with HCA: Mellanox Connectx QDR	PASS
Host: Farbauti, G2 PCI Express with HCA: Mellanox Connectx QDR	PASS
Host: Atlas with HCA: Mellanox Connectx DDR	PASS
Host: Telesto with HCA: Mellanox Cheetah DDR	PASS
Host: Dione, G2 PCI Express with HCA: Mellanox Connectx DDR	PASS
Host: Mimas with HCA: Mellanox LionMini DDR	PASS
Host: Pandora with HCA: Mellanox LionCub DDR	PASS

<i>For LSI XBB2-IB (Dual Controller SRP Storage System)</i>	Verified Automated Test Result
Host: Tarvos with HCA: Mellanox LionCub SDR	PASS
Host: Hyperion with HCA: Mellanox Connectx SDR	PASS
Host: Janus with HCA: Mellanox Cougar SDR	PASS
Host: Phoebe with HCA: Mellanox LionMini SDR	PASS
Host: Titan with HCA: Mellanox Cheetah SDR	PASS with Comments
Host: Calypso with HCA: Mellanox Tiger SDR	PASS with Comments
Host: Skathi, G2 PCI Express with HCA: Mellanox Connectx QDR	PASS
Host: Farbauti, G2 PCI Express with HCA: Mellanox Connectx QDR	PASS
Host: Atlas with HCA: Mellanox Connectx DDR	PASS
Host: Telesto with HCA: Mellanox Cheetah DDR	PASS
Host: Dione, G2 PCI Express with HCA: Mellanox Connectx DDR	PASS
Host: Mimas with HCA: Mellanox LionMini DDR	PASS
Host: Pandora with HCA: Mellanox LionCub DDR	PASS

<i>For LSI Engenio 0825 (SRP Storage System)</i>	Verified Automated Test Result
Host: Tarvos with HCA: Mellanox LionCub SDR	PASS
Host: Hyperion with HCA: Mellanox Connectx SDR	PASS
Host: Janus with HCA: Mellanox Cougar SDR	PASS
Host: Phoebe with HCA: Mellanox LionMini SDR	PASS
Host: Titan with HCA: Mellanox Cheetah SDR	PASS with Comments
Host: Calypso with HCA: Mellanox Tiger SDR	PASS with Comments
Host: Skathi, G2 PCI Express with HCA: Mellanox Connectx QDR	PASS
Host: Farbauti, G2 PCI Express with HCA: Mellanox Connectx QDR	PASS
Host: Atlas with HCA: Mellanox Connectx DDR	PASS
Host: Telesto with HCA: Mellanox Cheetah DDR	PASS
Host: Dione, G2 PCI Express with HCA: Mellanox Connectx DDR	PASS
Host: Mimas with HCA: Mellanox LionMini DDR	PASS
Host: Pandora with HCA: Mellanox LionCub DDR	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.

	Test 1	Test 2	Test 3
Host: Tarvos HCA: Mellanox LionCub SDR	PASS	PASS	PASS
Host: Hyperion HCA: Mellanox Connectx SDR	PASS	PASS	PASS
Host: Janus HCA: Mellanox Cougar SDR	PASS	PASS	PASS
Host: Phoebe HCA: Mellanox LionMini SDR	PASS	PASS	PASS
Host: Titan HCA: Mellanox Cheetah SDR	PASS	PASS	PASS
Host: Calypso HCA: Mellanox Tiger SDR	PASS	PASS	PASS
Host: Skathi, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Atlas HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Telesto HCA: Mellanox Cheetah DDR	PASS	PASS	PASS
Host: Dione, G2 PCI Express HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Mimas HCA: Mellanox LionMini DDR	PASS	PASS	PASS
Host: Pandora HCA: Mellanox LionCub DDR	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			
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</i>			

For each SM listed above	Test 1	Test 2	Test 3
Host: Tarvos HCA: Mellanox LionCub SDR	PASS	PASS	PASS
Host: Hyperion HCA: Mellanox Connectx SDR	PASS	PASS	PASS
Host: Janus HCA: Mellanox Cougar SDR	PASS	PASS	PASS
Host: Phoebe HCA: Mellanox LionMini SDR	PASS	PASS	PASS
Host: Titan HCA: Mellanox Cheetah SDR	PASS	PASS	PASS
Host: Calypso HCA: Mellanox Tiger SDR	PASS	PASS	PASS
Host: Skathi, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Farbauti, G2 PCI Express HCA: Mellanox Connectx QDR	PASS	PASS	PASS
Host: Atlas HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Telesto HCA: Mellanox Cheetah DDR	PASS	PASS	PASS
Host: Dione, G2 PCI Express HCA: Mellanox Connectx DDR	PASS	PASS	PASS
Host: Mimas HCA: Mellanox LionMini DDR	PASS	PASS	PASS
Host: Pandora HCA: Mellanox LionCub DDR	PASS	PASS	PASS

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 PingPing and PingPong	Test Completed without errors	PASS
	Test #2 All	Test failed	Informative

Discussion: Mvapich1, test #2

The following error was observed in the log files for the “AllGather 62 process” benchmark.

Exit code -3 signaled from titan-ib
Killing remote processes...Abort signaled by rank 61: [miranda.ofa:61] Got completion with error
IBV_WC_RETRY_EXC_ERR, code=12, dest rank=29

MPI process terminated unexpectedly

Discussion: Mvapich2, test #2

The following error was observed in the log files for the “Gather 62 process” benchmark.

send desc error
[60] Abort: [] Got completion with error 12, vendor code=0, dest rank=28
at line 553 in file ibv_channel_manager.c

MPI process terminated unexpectedly
Exit code -5 signaled from titan-ib

	Test 1	Test 2
Mvapich1	PASS	Informative
Mvapich2	PASS	Informative

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 14: MPI – Intel	Test #1 PingPing and PingPong	Test Completed without errors	PASS
	Test #2 All	Test failed	Informative

Discussion: Test #2 Results

The following error was observed in the log files for the “AllGather 62 process” benchmark.

mpiexec_janus.ofa (handle_sig_occurred 1982): job ending due to env var MPIEXEC_TIMEOUT=360

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 15: MPI – Hewlett-Packard	Test #1 Defaults	No Errors	PASS
	Test # 2 ExitPath	No Errors	PASS
	Test # 3 IMB -IBV -rdma mode	Test failed	Informative
	Test # 4 IMB -IBV -srq mode	Test failed	Informative
	Test # 5 IMB -UDAPL -rdma mode	Test failed	Informative
	Test # 6 fork -IBV -rdma mode	Test failed	Informative
	Test # 7 fork -IBV -srq mode	Test failed	Informative
	Test # 8 fork -UDAPL -rdma mode	Test failed	Informative
	Test # 9 rings2 - IBV -rdma mode	Test failed	Informative
	Test # 10 rings2 -IBV -srq mode	Test failed	Informative
	Test # 11 rings2 -UDAPL -rdma mode	Test failed	Informative
Discussion: Test #1 Defaults			
IBV was auto-detected on all DUTs.			
Discussion: Test #2 ExitPath			
Each DUT has the ability to be torn down abnormally while remaining stable.			
Discussion: Test # 3 IMB -IBV -rdma mode			
The following error was observed in the log files for the “Exchange 62 process” benchmark.			
<pre> hmpitest.x: Rank 0:51: MPI_Recv: IBV connection to 52 on card 0 is broken hmpitest.x: Rank 0:51: MPI_Recv: ibv_poll_cq(): bad status 12 hmpitest.x: Rank 0:51: MPI_Recv: self calypso.ofa peer skull-ib.ofa (rank: 52) hmpitest.x: Rank 0:51: MPI_Recv: error message: transport retry exceeded error hmpitest.x: Rank 0:51: MPI_Recv: Internal MPI error MPI Application rank 51 exited before MPI_Finalize() with status 16 </pre>			
Discussion: Test # 4 IMB -IBV -srq mode			
The following error was observed in the log files for the “Allgatherv 62 process” benchmark.			
<pre> MPI Application rank 8 killed before MPI_Finalize() with signal 9 MPI Application rank 20 killed before MPI_Finalize() with signal 9 MPI Application rank 36 killed before MPI_Finalize() with signal 9 MPI Application rank 24 killed before MPI_Finalize() with signal 9 MPI Application rank 48 killed before MPI_Finalize() with signal 9 MPI Application rank 28 killed before MPI_Finalize() with signal 9 </pre>			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
MPI Application rank 32 killed before MPI_Finalize() with signal 9			
Discussion: Test # 5 IMB -UDAPL -rdma mode			
The following error was observed in the log files for the “Allgatherv 62 process” benchmark.			
Memory allocation failed. code position: set_buf 1. tried to alloc. 520093696 bytes MPI Application rank 15 killed before MPI_Finalize() with signal 11 Memory allocation failed. code position: set_buf 1. tried to alloc. 520093696 bytes MPI Application rank 0 killed before MPI_Finalize() with signal 11 Memory allocation failed. code position: set_buf 1. tried to alloc. 520093696 bytes MPI Application rank 17 killed before MPI_Finalize() with signal 11			
Discussion: Test # 6 fork -IBV -rdma mode			
No usable data in the log files.			
Discussion: Test # 7 fork -IBV -srq mode			
No usable data in the log files.			
Discussion: Test # 8 fork -UDAPL -rdma mode			
No usable data in the log files.			
Discussion: Test # 9 rings2 -IBV -rdma mode			
The following error was observed in the log files for the “Ring 19” test.			
phase 1 part 1 (loop(i){loop(r){isend;recv;wait}}) c-int chk [st:n/a] hmpitertest.x: Rank 0:56: MPI_Waitall: IBV connection to 9 on card 0 is broken hmpitertest.x: Rank 0:56: MPI_Waitall: ibv_poll_cq(): bad status 12 hmpitertest.x: Rank 0:57: MPI_Waitall: IBV connection to 10 on card 0 is broken hmpitertest.x: Rank 0:57: MPI_Waitall: ibv_poll_cq(): bad status 12 hmpitertest.x: Rank 0:56: MPI_Waitall: self miranda.ofa peer mimas-ib.ofa (rank: 9) hmpitertest.x: Rank 0:56: MPI_Waitall: error message: transport retry exceeded error hmpitertest.x: Rank 0:56: MPI_Waitall: Internal MPI error hmpitertest.x: Rank 0:57: MPI_Waitall: self miranda.ofa peer mimas-ib.ofa (rank: 10) hmpitertest.x: Rank 0:57: MPI_Waitall: error message: transport retry exceeded error hmpitertest.x: Rank 0:57: MPI_Waitall: Internal MPI error MPI Application rank 56 exited before MPI_Finalize() with status 16			
Discussion: Test # 10 rings2 -IBV -srq mode			
The following error was observed in the log files for the “Ring 19” test.			
phase 1 part 1 (loop(i){loop(r){isend;recv;wait}}) c-int chk [st:n/a] hmpitertest.x: Rank 0:57: MPI_Recv: IBV connection to 51 on card 0 is broken hmpitertest.x: Rank 0:57: MPI_Recv: ibv_poll_cq(): bad status 12 hmpitertest.x: Rank 0:57: MPI_Recv: self miranda.ofa peer calypso-ib.ofa (rank: 51) hmpitertest.x: Rank 0:57: MPI_Recv: error message: transport retry exceeded error hmpitertest.x: Rank 0:57: MPI_Recv: Internal MPI error MPI Application rank 57 exited before MPI_Finalize() with status 16			
Discussion: Test # 11 rings2 -UDAPL -rdma mode			
The following error was observed in the log files for the “Ring 19” test.			
phase 1 part 1 (loop(i){loop(r){isend;recv;wait}}) c-int chk [st:n/a] miranda.ofa:5924: DTO completion ERR: status 12, op OP_RDMA_WRITE, vendor_err 0x0 - 0.0.0.0 hmpitertest.x: Rank 0:56: MPI_Waitall: dat_evd_wait: bad status: 8 hmpitertest.x: Rank 0:56: MPI_Waitall: Internal MPI error MPI Application rank 56 exited before MPI_Finalize() with status 16			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 16: MPI – Open	Test #1	Test Completed without errors	PASS
	Test #2	Test failed	Informative
Discussion: Test #2 Results			
<p>The following error was observed in the log files for the “Sendrecv 62 process” benchmark.</p> <p>mpirun noticed that job rank 0 with PID 6489 on node atlas-ib exited on signal 15 (Terminated). 60 additional processes aborted (not shown)</p>			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 17: TI uDAPL	Test #1	Automated script used	PASS
Discussion: Test Results			
<p>The automated test script provided in the test plan was used. This script's output was captured to a log file and parsed. No errors were found.</p>			

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	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	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	Not Tested
Discussion: Test Results			
Not tested due to time constraints			