



OpenFabrics Alliance

Interoperability Working Group (OFA-IWG)

December 2008 Logo Event Report

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

DataDirect Networks S2A 9900 (InfiniBand SRP Target Connected Storage System)

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).

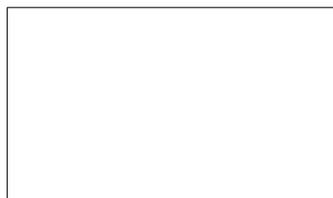
Mandatory Test Procedures	IWG Test Status	Result/Notes
10.1: IB Link Initialization	Mandatory	Passed – see comments
10.2: IB Fabric Initialization	Mandatory	Passed – no issues seen
10.3: IB IPoIB Connected Mode	Mandatory	Not applicable to DUT
10.9: TI iSER	Mandatory	Not applicable to DUT
10.10: SRP	Mandatory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

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 01/05/2009

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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

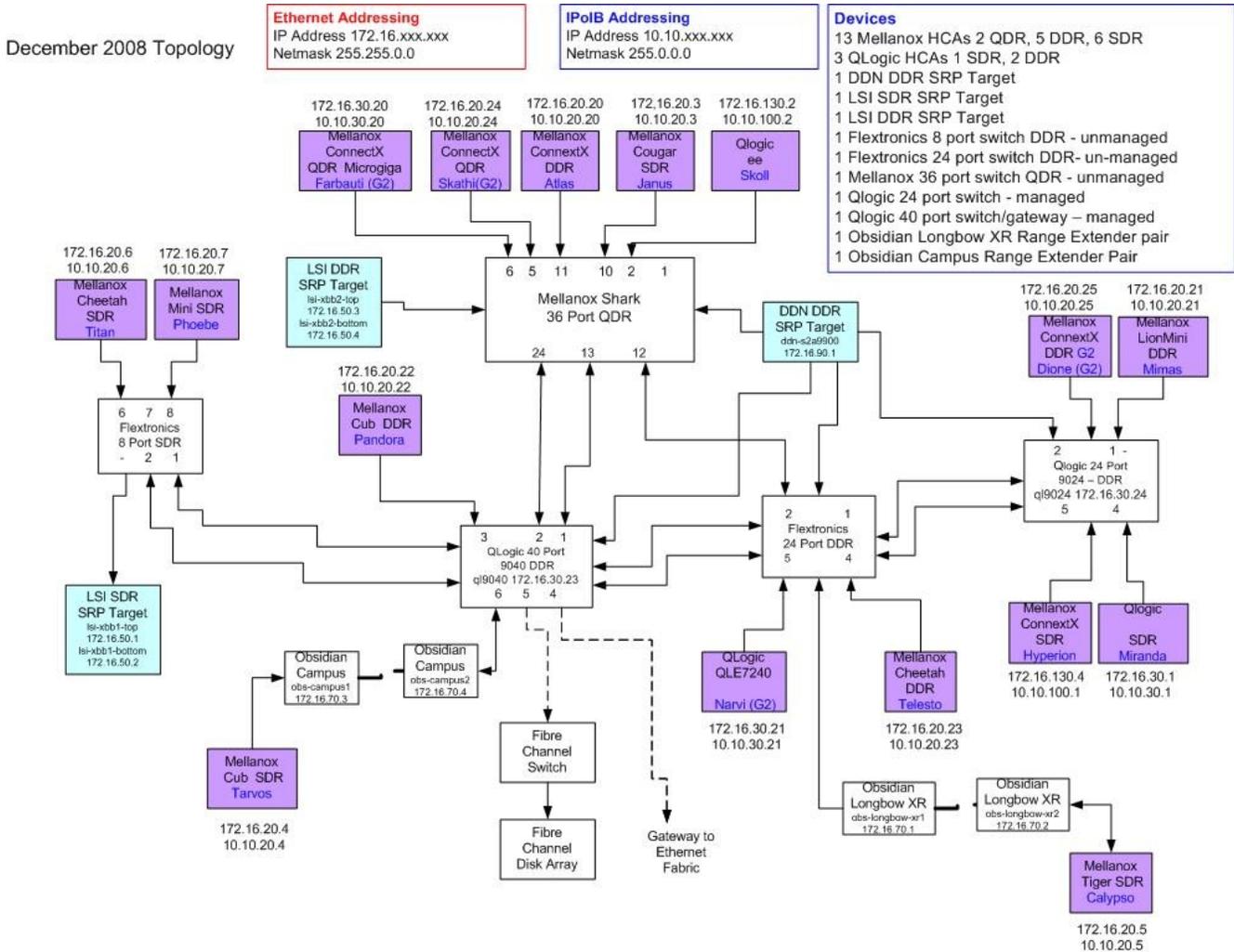
Table 2: Result Key

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	DataDirect Networks	Firmware Rev	1.00
Model	S2A 9900	Hardware Rev	N/A
Speed	DDR 4x	IP Address in Fabric	N/A
Additional Comments/Notes			
DataDirect Networks S2A 9900 (Infiniband SRP Target Connected Storage System)			

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 1.22 (August 29, 2008 DRAFT)

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 1: IB Link Initialize	Test #1:	Phy link is established	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 2 nd half of 2009 will require proper link speed between all link combinations. Narvi and Skoll only link at SDR speeds even though they are DDR cards and this is a DDR target.			

Link Partner Device	S2A 9900
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)	N/A
LSI XBB2 (SRP Target)	N/A
DataDirect Networks (SRP Target)	N/A
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	PASS with Comments

HCA: QLogic QLE7280 DDR	
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 with Comments
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:	See notes	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 guids. Refer to the table below for SM details.</p> <p>SMs tested include: OFED OpenSM (SM Only), QLogic SilverStorm 9024 (Managed Switch), QLogic SilverStorm 9040 (Managed Switch)</p> <p>Using both ports from one HCA caused ibdiagnet -r to crash. This did not fail this device because the required data was gathered before the application crashed.</p>			

For DataDirect Networks S2A 9900	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
Voltaire ISR 2004 (Managed Switch)	PASS	PASS	PASS
Cisco 7000D (Managed Switch)	PASS	PASS	PASS
Cisco High Performance (SM Only)	PASS	PASS	PASS

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 3: IPoIB Connected Mode	Test #1-3	Not Applicable to DUT	Not Applicable
Discussion: Test #1-3			
The OFA Logo Program does not require these tests for an SRP Target under test.			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 9: TI iSER	Test #1-4	Not Applicable to DUT	Not Applicable
Discussion: Test #1-4			
The OFA Logo Program does not require these tests for an SRP Target under test.			

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 all SRP initiators were able to connect and perform the required data transfer operations with the SRP targets while using OpenSM to configure the fabric. The 9024 SM produced errors with 2 mellanox HCA's during the SRP operations; Titan and Calypso. Those errors resulted in the loss of link and active state as well as causing the DD read operation to hang indefinitely. The 9040 SM produced an error with 2 mellanox HCA's; titan and calypso. These error resulted with the dd operations getting canceled.</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, this device did not fail. The current test plan does not specify when to start an SM. The next version will.</p>			

<i>For DataDirect Networks S2A 9900</i>	Verified Automated Test Result
Host: Miranda, with HCA: QLogic QLE7140 SDR	PASS
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: Narvi, G2 PCI Express, with HCA: QLogic QLE7280 DDR	PASS
Host: Atlas, with HCA: Mellanox Connectx DDR	PASS
Host: Teleso, 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: Skoll, with HCA: QLogic QLE7240 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 #1-3	Not Applicable to DUT	Not Applicable
Discussion: Test #1-4			
The OFA Logo Program does not require these tests for an SRP Target under test.			

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 1.22 (August 29, 2008 DRAFT)

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 4: IPoIB Datagram Mode	Test #1-3	Not Applicable to DUT	Not Applicable
Discussion: Test #1-3			

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 Applicable
Discussion: Test Results			

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 applicable to DUT	Not Applicable
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 22-23: TI Basic RDMA Interoperability	Test #1-10	Not applicable to DUT	Not Applicable
Discussion: Test Results			

Test Number and Name	Part(s)	Summary Note(s)	Result(s)
Group 24-25: TI RDMA Operations over Interconnect Components	Test #1-10	Not applicable to DUT	Not Applicable
Discussion: Test Results			