



OpenFabrics Alliance

Interoperability Working Group (OFA-IWG)

June 2009 Logo Validation Event Report

UNH-IOL – 121 Technology Drive, Suite 2 – Durham, NH 03824 – +1-603-862-0090
OFILG – ofalab@iol.unh.edu

Jim Ryan
Intel Corporation
1501 South Mopac Suite 400
Austin, TX 78746

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Report Revision 1.2
OFED Version 1.4.1

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

Intel-NE NE0200101E3CX0104 Single Port CX4 RNIC

The test suite used for the tests described in this report is *OFA-IWG Interoperability Test Plan Release 1.28* (March 27, 2009 DRAFT). It is available at the OFA website :

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

Log files are available here:

<ftp://ftp.iol.unh.edu/pub/ofa/>

The OFILG gratefully acknowledges the **iWARP Consortium** for developing and contributing the testing software used for test 11.5 iWARP Connectivity.

Results Overview - Mandatory Tests

Test Procedure	IWG Test Status	Result/Notes
11.5 iWARP Connectivity	Mandatory	PASS with Comments

Testing Completed 7/23/2009

Jeff Laird
laird@iol.unh.edu

Review Completed 8/11/2009

Mikkel Hagen
mhagen@iol.unh.edu

Results Overview - All Tests

Note: **Failing a beta test does not necessarily indicate a failure of the device under test.** There are several reasons that a device might fail a beta test that are beyond the control of the device manufacturer. Such reasons include unresolved problems with the OFED software, with other vendors' devices, or with the test plan procedures.

Test Procedure	IWG Test Status	Result/Notes
11.1 Ethernet Link Initialization	Beta	Not Tested
11.2 Ethernet Fabric Initialization	Beta	Not Available
11.3 Ethernet Fabric Reconvergence	Beta	Not Available
11.4 Ethernet Fabric Failover	Beta	Not Available
11.5 iWARP Connectivity	Mandatory	PASS with Comments
12.1 TI iSER	Beta	Not Available
12.2 TI NFS over RDMA	Beta	Not Tested
12.3 TI RDS	Beta	FAIL
12.4 TI SDP	N/A	Not Applicable
12.5 TI uDAPL	Beta	FAIL
12.6-7 TI Basic RDMA Interop	Beta	FAIL
12.8-9 TI RDMA Operations	Beta	FAIL
12.10 TI MPI - HP	Beta	Not Tested
12.11 TI MPI - Intel	Beta	FAIL
12.12 TI MPI - Open	Beta	FAIL
12.13 TI MPI - OSU	Beta	FAIL

For specific details regarding issues please see the corresponding test result.

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Report Revision History

1.0 Initial Release

1.1 Update for peer2peer issue

1.2 Added mandatory-only results table and note about beta tests before all-tests results table. Changed SDP to N/A.

Table 1: Result Key

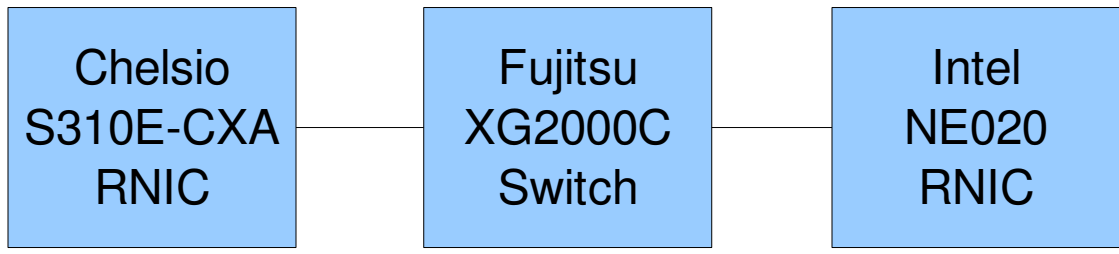
The following table contains possible results and their meanings:

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 2: DUT Information

DUT #1 Details			
Manufacturer	Intel (NetEffect)	Firmware Version	3.5
Model	NE0200101E3CX0104	Hardware Version	Rev 05
Driver	iw_nes version 1.4.1.0 OFED	Located in Hosts	Aegir, Rhea
Additional Comments/Notes			

Test Setup:




Device Test Summary Results:

Test Number and Name	Parts	Summary	Result
11.1 Ethernet Link Initialization		Insufficient time	Not Tested
Details			

Test Number and Name	Parts	Summary	Result
11.2 Ethernet Fabric Initialization		No switches to test	Not Available
Details			

Test Number and Name	Parts	Summary	Result
11.3 Ethernet Fabric Reconvergence		No switches to test	Not Available
Details			

Test Number and Name	Parts	Summary	Result
11.4 Ethernet Fabric Failover		No switches to test	Not Available
Details			

Test Number and Name	Parts	Summary	Result
11.5 iWARP Connectivity	Groups 1-7	Trouble with sends	PASS with Comments
Details 			
<p>When the Chelsio parameter file /sys/module/iw_cxgb3/parameters/peer2peer contains "1" on all hosts, tests 2.3 through 2.6 and tests 7.3 through 7.6 (sends) freeze during the ninth send when Intel is sending and Chelsio is receiving. In test 2 that is the ninth send of ten. In test 7 that is the ninth send of 1,000.</p> <p>All tests pass when peer2peer contains "0".</p> <p>Intel-to-Intel passes.</p>			

Test Number and Name	Parts	Summary	Result
12.1 TI iSER		No iSER target	Not Available
Details			
There were no iSER targets in the test cluster.			

Test Number and Name	Parts	Summary	Result
12.2 TI NFS over RDMA		Insufficient time	Not Tested
Details			

Test Number and Name	Parts	Summary	Result
12.3 TI RDS	rds-ping	Hangs	FAIL
	rds-stress	Hangs	FAIL
Details			
<p>rds-ping: Intel-to-Intel passes, whether peer2peer is set to 0 or 1. Chelsio-Intel always hangs. When peer2peer=1 and Intel pings Chelsio this hanging does not cause further problems, but when peer2peer=0 or when Chelsio pings Intel this hanging causes Intel-Intel links to stop responding to pings, although they can still transmit pings. The hosts must then be rebooted since the RDS module is not removable.</p> <p>rds-stress : Intel-to-Intel passes if rds-ping is run before rds-stress is run but fails otherwise. This is the case whether peer2peer is set to 0 or 1. Chelsio- Intel output is like the successful Intel-Intel output except filled with zeros. Additionally, after each run of rds-stress, rds-ping is required to free up the port so that rds-stress can run successfully again on the same port. After Intel-Intel rds-stress is run unsuccessfully then rds-ping is run, rds-ping sometimes hangs and sometimes does not.</p>			

Test Number and Name	Parts	Summary	Result
12.4 TI SDP		no SDP support	Not Applicable
Details			
Current licensing restrictions prevent SDP support in iWARP RNIC solutions.			

Test Number and Name	Parts	Summary	Result
12.5 TI uDAPL		Hangs	FAIL
Details			
<p>Intel-Intel passes. Chelsio-Intel with Chelsio as client hangs tests 3.2 through 3.4. Chelsio-Intel with Intel as client gives “length mismatch” error.</p>			

Test Number and Name	Parts	Summary	Result
12.6-7 TI Basic RDMA Interop	bw, lat	Hangs	FAIL
Details			
<p>Intel-Intel passes the bandwidth test (ib_rdma_bw) and the latency test (ib_rdma_lat). Chelsio-Intel passes the bandwidth test when Intel is the client but hangs when Intel is the server. Chelsio-Intel with Intel as the client fails the latency test with no visible client activity and “Couldn't create QP” message on the server. Chelsio-Intel with Intel as the server fails the latency test with no visible server activity and “Couldn't create QP” message on the client.</p> <p>All of the above is with peer2peer=0. With peer2peer=1 the results are the same except Chelsio-Intel with Intel as client hangs the bandwidth test.</p>			

Test Number and Name	Parts	Summary	Result
12.8-9 TI RDMA Operations		Same as previous test	FAIL
Details			
There is no difference in the test plan between this test and the previous test.			

Test Number and Name	Parts	Summary	Result
12.10 TI MPI - HP		Insufficient time	Not Tested
Details			

Test Number and Name	Parts	Summary	Result
12.11 TI MPI - Intel		Timed out	FAIL
Details			
Intel-Intel passed. Chelsio-Intel timed out before starting.			

Test Number and Name	Parts	Summary	Result
12.12 TI MPI - Open		Some success with no RDMA	FAIL
Details			
With no RDMA (i.e., no “btl openib,self” in the mpirun command line) Intel-Intel passed and Chelsio-Intel hangs. With RDMA Intel-Intel and Chelsio-Intel fail with error message, “At least one pair of MPI processes are unable to reach each other...”.			

Test Number and Name	Parts	Summary	Result
12.13 TI MPI - OSU		Hangs	FAIL
Details			
This applies to MVAPICH2 only since MVAPICH does not support iWARP. Intel-Intel passed, but Chelsio-Intel hangs with no output for over three minutes.			