



# OpenFabrics Alliance

## Interoperability Logo Group (OFILG)

### February 2019 Logo Report



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Date: February 27, 2019  
 Report Revision: 2.05-v2  
 OFED Version: OFED 4.17  
 OS Version: RHEL 7.5

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

- Broadcom P150p NetXtreme-E Single-port 40Gb/50Gb Ethernet PCIe Adapter*
- Broadcom P1100p NetXtreme-E Single-port 100Gb Ethernet PCIe Adapter*
- Broadcom P225p NetXtreme® E-Series Dual-Port 25GbE PCIe Ethernet NIC*
- Broadcom PS225 DUAL-PORT 25GbE PCIe ETHERNET SmartNIC*

The test suite referenced in this report is available at the UNH-IOL website. Release 2.05 (2017-06-16) was used.

<https://iol.unh.edu/ofatestplan>

The following table highlights the Mandatory test results required for the OpenFabrics Interoperability Logo for the RoCE Network Adapter device class per the Test Plan referenced above and the current OpenFabrics Interoperability Logo Program (OFILP).

Test Procedures	IWG Test Status	Result/Notes
<a href="#">12.2: RoCE Link Initialization</a>	Mandatory	Pass
<a href="#">12.4: IPoCE</a>	Mandatory	Pass
<a href="#">13.4: TI uDAPL</a>	Mandatory	Pass
<a href="#">13.5: TI RDMA Basic Interop</a>	Mandatory	Pass
<a href="#">13.6: TI RDMA Stress</a>	Mandatory	Pass
<a href="#">13.7: TI RSocketS</a>	Mandatory	Pass
<a href="#">13.8: TI MPI – Open MPI</a>	Mandatory	Pass

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

Testing Completed February 27, 2019 \_\_\_\_\_

Reviewed & Issued March 19, 2019

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## Result Summary

The Following table summarizes all results from the event pertinent to this RoCE device class (RCA).

Test Procedures	IWG Test Status	Result/Notes
<a href="#">12.2: RoCE Link Initialization</a>	Mandatory	Pass
<a href="#">12.4: IPoCE</a>	Mandatory	Pass
<a href="#">13.2: TI NFSoRDMA</a>	Beta	N/A
<a href="#">13.4: TI uDAPL</a>	Mandatory	Pass
<a href="#">13.5: TI RDMA Basic Interop</a>	Mandatory	Pass
<a href="#">13.6: TI RDMA Stress</a>	Mandatory	Pass
<a href="#">13.7: TI RSocket</a>	Mandatory	Pass
<a href="#">13.8: TI MPI – Open MPI</a>	Mandatory	Pass

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## Report Revision History

- v1.0 Initial Release

## Configuration Files

Description	Attachment
RHEL 7.5 Configuration File	
OFED 4.17 Configuration File	

## Result Key

The following table contains possible results and their meanings:

Result:	Description:
<b>PASS</b>	The Device Under Test (DUT) was observed to exhibit conformant behavior.
<b>PASS with Comments</b>	The DUT was observed to exhibit conformant behavior however an additional explanation of the situation is included.
<b>Qualified PASS</b>	The DUT was observed to exhibit conformant behavior, with the exception of fault(s) or defect(s) which were previously known.
<b>FAIL</b>	The DUT was observed to exhibit non-conformant behavior.
<b>Warning</b>	The DUT was observed to exhibit behavior that is not recommended.
<b>Informative</b>	Results are for informative purposes only and are not judged on a pass or fail basis.
<b>Refer to Comments</b>	From the observations, a valid pass or fail could not be determined. An additional explanation of the situation is included.
<b>Not Applicable</b>	The DUT does not support the technology required to perform this test.
<b>Not Available</b>	Due to testing station limitations or time limitations, the tests could not be performed.
<b>Borderline</b>	The observed values of the specific parameters are valid at one extreme and invalid at the other.
<b>Not Tested</b>	Not tested due to the time constraints of the test period.

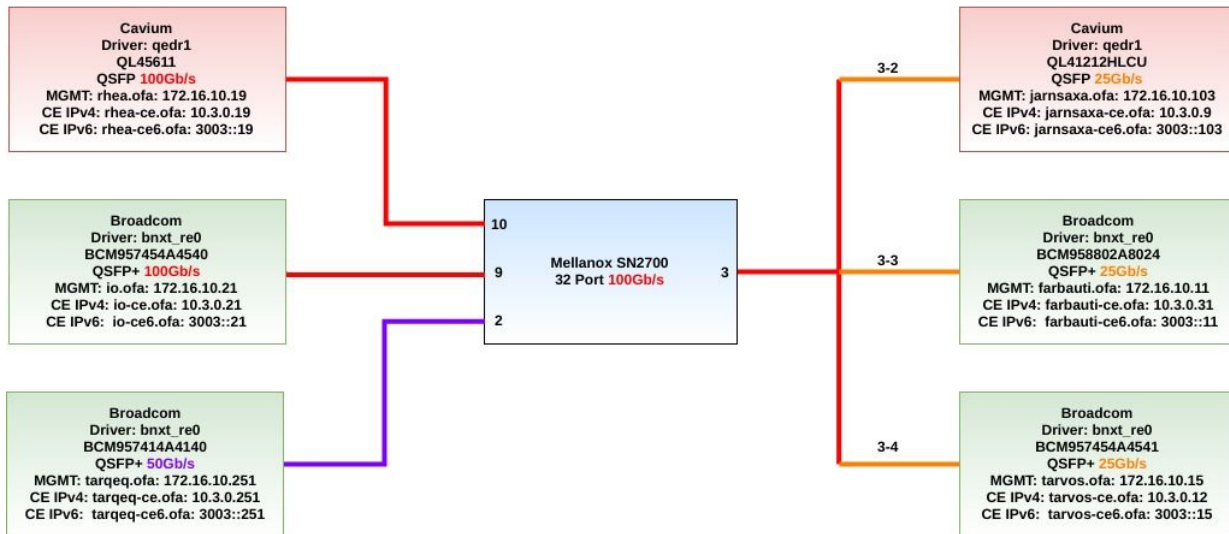
# DUT and Test Setup Information

Figure 1: The RoCE fabric configuration utilized for all testing is shown below.

## February 2019 RoCE Topology

**Ethernet Addressing**  
<hostname>.ofa.iol.unh.edu

**IPoCE Addressing**  
<hostname>-ce.ofa.iol.unh.edu  
<hostname>-ce6.ofa.iol.unh.edu



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DUT: Broadcom BCM957414A4140, BCM957454A4540, BCM958802A8024, BCM957454A4541

DUT Details			
Manufacturer:	Broadcom	Firmware Revision:	212.1.104.0
Model:	BCM957414A4140	Hardware Revision:	212.1
Speed:	40/50Gb/s	Located in Host:	tarqeq
Additional Comments / Notes:			

DUT Details			
Manufacturer:	Broadcom	Firmware Revision:	212.1.104.0
Model:	BCM957454A4540	Hardware Revision:	212.1
Speed:	100Gb/s	Located in Host:	io
Additional Comments / Notes:			

DUT Details			
Manufacturer:	Broadcom	Firmware Revision:	214.0.153.0
Model:	BCM958802A8024	Hardware Revision:	214.0
Speed:	25Gb/s	Located in Host:	farbauti
Additional Comments / Notes:			

DUT Details			
Manufacturer:	Broadcom	Firmware Revision:	212.1.104.0
Model:	BCM957454A4541	Hardware Revision:	212.1
Speed:	25Gb/s	Located in Host:	tarvos
Additional Comments / Notes:			

# Mandatory Tests – RoCE Device Test Results:

## 12.2: RoCE Link Initialization

<b>Test Result</b>	<b>Pass</b>
<b>Result Discussion:</b>	
All devices were seen to link at proper speeds. All ICMP requests were sent and received properly.	

## 12.4: IPoCE

<b>Test Result</b>	<b>Pass</b>
<b>Result Discussion:</b>	
All devices were seen to link at proper speeds. All ICMP requests were sent and received properly.	

## 13.2: TI NFSoRDMA

<b>Test Result</b>	<b>N/A</b>
<b>Discussion:</b>	
NFSoRDMA is not supported in OFED.	

## 13.4: TI uDAPL

<b>Test Result</b>	<b>Pass</b>
<b>Discussion:</b>	
With the use of the daplttest utility, devices exhibited simple send receive, verification, polling, scatter gather on a point-to-point topology. Devices were then connected to a switched topology and, with the use of the daplttest utility, tested on correct use of multiple threads, RDMA read and write operations, pipeline tests with RDMA write scatter gather list and RDMA read, and the multiple switches test.	

## 13.5: TI RDMA Basic Interoperability

<b>Test Result</b>	<b>Pass</b>
<b>Discussion:</b>	
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 listed below.	
<ul style="list-style-type: none"> <li>● Small &amp; Large RDMA Read</li> <li>● Small &amp; Large RDMA Write</li> <li>● Small &amp; Large RDMA Send</li> <li>● Small &amp; Large RDMA Verify</li> </ul>	

**13.6: TI RDMA Stress**

<b>Test Result</b>	<b>Pass</b>
<b>Discussion:</b>	
All CE switches seem to properly handle a large load as indicated by the successful completion of control communications between two RCAs while all other RCAs in the fabric were used to generate traffic in order to put a high load on the switch. Each RCA acted as both a client and a server for the control connection.	

**13.7: TI Rsockets**

<b>Test Result</b>	<b>Pass</b>
<b>Discussion:</b>	
Utilizing the rstream utility, all RCAs were able to successfully perform General, Asynchronous, Blocking, and Non-blocking procedures.	

**13.8: TI MPI – Open MPI**

<b>Test Result</b>	<b>Pass</b>
<b>Discussion:</b>	
Intel MPI Benchmarks were performed between all RCAs and were observed to exhibit the successful behavior except for the clean up stage of the run (we have determined this is an issue with the Benchmarks tool itself). We have moved to version 4.0.0 for OpenMPI due to an issue with the older version with the new machines at the UNH-IOL Lab.	