



# Brocade ClearLink and Marvell StorFusion D\_Port Test with Marvell QLogic Fibre Channel Adapters

## *Products Affected*

Marvell QLogic® Model	Description
2600 Series	16Gb Fibre Channel Adapters
2700 Series	32Gb Fibre Channel Adapters

## 1 Introduction

This application note provides instructions to system administrators for using the Brocade® ClearLink diagnostic port (D\_Port) test feature on Marvell® QLogic® StorFusion™-enabled Fibre Channel Host Bus Adapters and Brocade switches. The D\_Port test allows a SAN administrator to quickly verify and validate all physical connections between hosts and switches, including cabling, SFPs, and latency.

The D\_Port integrated test uses both Brocade ClearLink and Marvell StorFusion technology. When enabled, the D\_Port feature tests and measures electrical and optical loopback, link traffic, round-trip link latency, and the estimated cable distance and buffers required.

## 2 Prerequisites

Before you begin, ensure that the following components are installed:

- Brocade 16/32Gb Fibre Channel switch with a Fabric Vision® license enabled and Fabric OS® (FOS) 7.3 or later
- Marvell QLogic 2600/2700 Series Fibre Channel Host Bus Adapters with firmware version 8.2.1 or later installed in the server and connected to one or more Brocade switches
- 16Gbps optics on both sides of the connection
- Access to a remote desktop or Telnet session

### 3 Validating Ports with D\_Port Test

To validate the functionality and latency of a port, access the Brocade switch from a remote desktop or Telnet session and issue the `switchshow` and various `port` commands. To perform the diagnostics, follow these steps:

1. [Log in to the Brocade switch.](#)
2. [Choose the ports to test.](#)
3. [Disable the Fibre Channel port \(F\\_Port\) and enable the D\\_Port.](#)
4. [Run the D\\_Port test.](#)
5. [Disable D\\_Port and re-enable F\\_Port.](#)

#### 3.1 Port Validation Details

##### 1. Log in to the Brocade switch.

To access the Brocade switch and use the `switchshow` command to view ports and status, follow these steps:

- a. Open a remote desktop or Telnet session.
- b. Enter the Brocade switch IP address.
- c. Log in and enter the username and password.
- d. At the command prompt, issue the `switchshow` command, and then press the ENTER key.

The `switchshow` command output shows the status of all ports on the switch. For example:

```
SW6505_SW1_bottom:admin> switchshow
```

```
switchName:    SW6505_SW1_bottom
switchType:    118.1
switchState:   Online
switchMode:    Native
switchRole:    Principal
switchDomain:   1
switchId:      fffc01
switchWwn:     10:00:00:27:f8:c8:65:1b
zoning:        ON (Zone2Config)
switchBeacon:  OFF
```

Index	Port	Address	Media	Speed	State	Proto		
0	0	010000	id	N16	No_Light	FC		
1	1	010100	id	N16	No_Light	FC		
2	2	010200	id	N16	No_Light	FC		
3	3	010300	id	N16	No_Light	FC		
4	4	010400	--	N16	No_Module	FC		
5	5	010500	--	N16	No_Module	FC		
6	6	010600	--	N16	No_Module	FC		
7	7	010700	--	N16	No_Module	FC		
8	8	010800	id	N16	No_Light	FC		
9	9	010900	id	N16	Online	FC	F-Port	50:01:43:80:23:1c:4e:2e
10	10	010a00	id	N4	Online	FC	F-Port	24:70:00:c0:ff:d7:81:73
11	11	010b00	id	N8	No_Light	FC		

```
12 12 010b00 -- N16 No_Module FC
. . .
```

**2. Choose the ports to test.**

Write down the port numbers that you want to test.

**3. Disable the Fibre Channel port (F\_Port) and enable the D\_Port.**

To run a D\_Port test, the F\_Port must be disabled and then re-enabled as a D\_Port as follows:

- a. At the command prompt, issue the `portdisable x` command (where `x` indicates the port number), and then press ENTER.
- b. Issue the `portcfgdport --enable x` command, and then press ENTER.
- c. Issue the `portenable x` command, and then press ENTER.

For example:

```
SW6505_SW1_bottom:admin>
SW6505_SW1_bottom:admin> portdisable 9
SW6505_SW1_bottom:admin> portcfgdport --enable 9
```

Caution: D\_Port functionality is only available on 16G-capable platforms with 16Gb FC SFPs, 10Gb FC SFPs, 8Gb LWL/ELWL FC SFPs, QSFPs or QSFP+.

```
SW6505_SW1_bottom:admin> portenable 9
SW6505_SW1_bottom:admin> _
```

- d. To verify that the D\_Port is enabled, issue the `switchshow` command, and then press ENTER. For example:

```
SW6505_SW1_bottom:admin> switchshow
switchName:      SW6505_SW1_bottom
switchType:      118.1
switchState:     Online
switchMode:      Native
switchRole:      Principal
switchDomain:    1
switchId:        fffc01
switchWwn:       10:00:00:27:f8:c8:65:1b
zoning:          ON (Zone2Config)
switchBeacon:    OFF
```

Index	Port	Address	Media	Speed	State	Proto	
0	0	010000	id	N16	No_Light	FC	
1	1	010100	id	N16	No_Light	FC	
2	2	010200	id	N16	No_Light	FC	
3	3	010300	id	N16	No_Light	FC	
4	4	010400	--	N16	No_Module	FC	
5	5	010500	--	N16	No_Module	FC	
6	6	010600	--	N16	No_Module	FC	
7	7	010700	--	N16	No_Module	FC	
8	8	010800	id	N16	No_Light	FC	
<b>9</b>	<b>9</b>	<b>010900</b>	<b>id</b>	<b>N16</b>	<b>Online</b>	<b>FC</b>	<b>D-Port F-Port 50:01:43:80:23:1c:4e:2e</b>
10	10	010a00	id	N4	Online	FC	F-Port 24:70:00:c0:ff:d7:81:73
11	11	010b00	id	N8	No_Light	FC	

```
12 12 010c00 -- N16 No_Module FC
```

- e. To configure additional ports, repeat the preceding steps.

#### 4. Run the D\_Port test.

- a. At the command prompt, issue the `portdporttest --show x` command (where `x` indicates the port number), and then press ENTER.

The following example shows the results of the D\_Port test.

```
SW6505_SW1_bottom:admin> portdporttest --show 9
D-Port Information
=====
Port: 9
Remote WWPN: 50:01:43:80:23:1c:4e:2e
Mode: Automatic
No. of test frames: 1 Million
Test frame size: 1024 Bytes
FEC (enabled/option/active): Yes/No/No
CR (enabled/option/active): Yes/No/No
Start time: Thu Jan 21 21:45:00 2016
End time: Thu Jan 21 21:45:42 2016
Status: PASSED
=====
Test Start time Result EST (HH:MM:SS) Comments
=====
Electrical loopback 21:45:16 PASSED -----
--
Optical loopback 21:45:32 PASSED -----
--
Link traffic test ----- SKIPPED -----
--
=====
Roundtrip link latency: 136 nano-seconds
Estimated cable distance: 1 meters
Buffers required: 1 (for 2112 byte frames at 16Gbps speed)
SW6505_SW1_bottom:admin> _
```

If the port does not pass, check the optics, cabling, and connections and repeat the preceding steps; otherwise, continue to [Step b](#).

- b. To test other ports that have been configured as D\_Ports, repeat [Step a](#).

## 5. Disable D\_Port and re-enable F\_Port.

To disable a D\_Port and then re-enable it as an F\_Port, follow these steps:

- a. At the command prompt, issue the `portdisable x` command (where `x` indicates the port number), and then press ENTER.
- b. Issue the `portcfgdport --disable x` command, and then press ENTER.
- c. Issue the `portenable x` command, and then press ENTER.

For example:

```
SW6505_SW1_bottom:admin>  
SW6505_SW1_bottom:admin> portdisable 9  
SW6505_SW1_bottom:admin> portcfgdport --disable 9  
SW6505_SW1_bottom:admin> portenable 9  
SW6505_SW1_bottom:admin> _
```

- d. To verify that the F\_Port is enabled, issue the `switchshow` command, and then press ENTER. In the command output, confirm the enabled F\_Port.

For example:

```
. . .  
 8  8  010800  id  N16  No_Light  FC  
 9  9  010900  id  N16  Online    FC  F-Port  50:01:43:80:23:1c:4e:2e  
10 10  010a00  id  N4   Online    FC  F-Port  24:70:00:c0:ff:d7:81:73  
11 11  010b00  id  N8   No_Light  FC  
12 12  010c00  --  N16  No_Module FC  
. . .
```

- e. To re-enable additional F\_Ports, repeat the preceding steps.

The D\_Port test is complete.

**Document Revision History**

Revision A, February 8, 2016.

Revision B, August 31, 2019

Revision C, February 5, 2021

**Changes**

Update to new Marvell logo.

Removed references to Gen5/Enhanced Gen5.

Added 2700 Series 32Gb Fibre Channel adapters to the Products Affected list.

THIS DOCUMENT AND THE INFORMATION FURNISHED IN THIS DOCUMENT ARE PROVIDED "AS IS" WITHOUT ANY WARRANTY. MARVELL AND ITS AFFILIATES EXPRESSLY DISCLAIMS AND MAKES NO WITHOUT ANY WARRANTY. MARVELL AND ITS AFFILIATES EXPRESSLY DISCLAIMS AND MAKES NO WARRANTIES OR GUARANTEES, WHETHER EXPRESS, ORAL, IMPLIED, STATUTORY, ARISING BY OPERATION OF LAW, OR AS A RESULT OF USAGE OF TRADE, COURSE OF DEALING, OR COURSE OF PERFORMANCE, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

This document, including any software or firmware referenced in this document, is owned by Marvell or Marvell's licensors, and is protected by intellectual property laws. No license, express or implied, to any Marvell intellectual property rights is granted by this document. The information furnished in this document is provided for reference purposes only for use with Marvell products. It is the user's own responsibility to design or build products with this information. Marvell products are not authorized for use as critical components in medical devices, military systems, life or critical support devices, or related systems. Marvell is not liable, in whole or in part, and the user will indemnify and hold Marvell harmless for any claim, damage, or other liability related to any such use of Marvell products.

Marvell assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. You may not use or facilitate the use of this document in connection with any infringement or other legal analysis concerning the Marvell products disclosed herein. Marvell and the Marvell logo are registered trademarks of Marvell or its affiliates. Please visit [www.marvell.com](http://www.marvell.com) for a complete list of Marvell trademarks and guidelines for use of such trademarks. Other names and brands may be claimed as the property of others.

#### **Copyright**

Copyright ©2021. Marvell and/or its affiliates. All rights reserved.