

Dell EMC Networking – Deploying Native Fibre-Channel

Cheat Sheet on deploying Fibre-Channel using the Dell EMC S4148U-ON

[Abstract](#)

Short configuration guide on S4148U as a native fibre-channel switch

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Revisions

Date	Description
April 2018	Initial release

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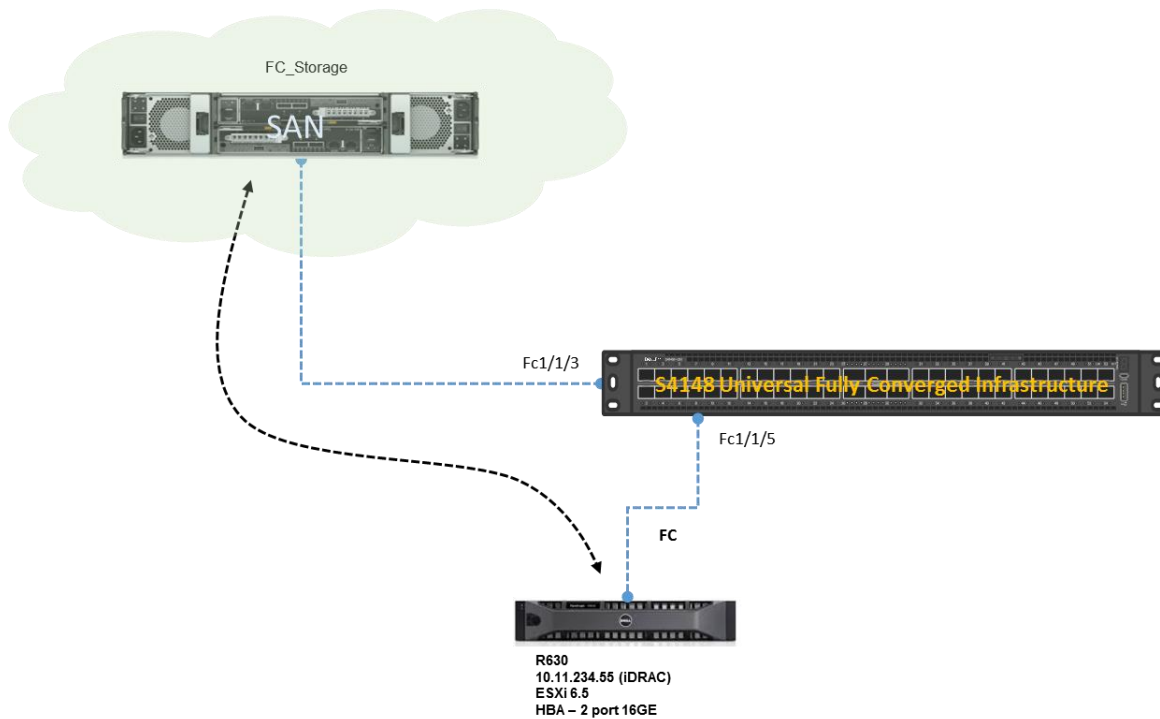
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Test Setup

Figure 1 shows the setup used to test native Fibre-Channel deployment on the Dell EMC S4148U. The following list describes the setup:

- Traffic is uni-directional, from host to target
- Storage traffic is generated by the server
- The S4148U is running OS10 (10.4.0(X2))
- The target storage device is an emulated FC target (SAN Blaze)
- Connection is at 16Gbps

Figure 1 Dell EMC S4148U-ON Fibre-Channel test setup



A Configuration Details

A.1 S4148U-ON as FC Native Switch

1. Enable FC feature and create domain ID
 - a. **Switch#** conf t
 - b. **Switch(config)#** feature fc <domain_ID>

2. Configure the Ethernet interface as fibre-channel interface
 - a. **Switch#** conf t
 - b. **Switch(config)#** port-group 1/1/1
 - c. **Switch(config-pg-1/1/1)#** mode fc <16g-2x or 8g-4x>
 - d. **Switch(config-pg-1/1/1)#** end
 - e. **Switch#**

3. Create FCoE vlan
 - a. **Switch#** conf t
 - b. **Switch(config)#** int vlan 1002
 - c. **Switch(config)#** end
 - d. **Switch#**

4. Create the vfabric. This is the storage fabric on which specific zones are attached. In this case, a default is created and anyone is permitted to connect to this zone.
 - a. **Switch#** conf t
 - b. **Switch(config)#** vfabric <id>
 - c. **Switch(config-vfabric-id)#** vlan 1002
 - d. **Switch(config-vfabric-id)#** fcoe fcmmap <0xefc00-0xefc0f>
 - e. **Switch(config-vfabric-id)#** zone default-zone permit
Configure allow or deny default-zone. No specific zone is being configured. To configure a specific zone, use "zoneset" command.
 - f. **Switch(config-vfabric-id)#** end
 - g. **Switch**

5. Attach vfabric to the proper interfaces
 - a. **Switch#** conf t
 - b. **Switch(config)#** int range fibrechannel 1/1/3-1/1/5
 - c. **Switch(config-range-fc1/1/3-1/1/5)#** vfabric 2
 - d. **Switch(config-range-fc1/1/3-1/1/5)#** end
 - e. **Switch#**

A.2 Switch configuration output

The following screen capture shows the entire configuration as it appears on the S4148U-ON.

The diagram shows a terminal window with the following configuration for S4148U-ON as Native FC:

```
S4148U-ON as Native FC
=====
feature fc domain-id 2 1
!
port-group 1/1/1 2
mode FC 16g-2x
!
interface vlan1002 3
description FC_Traffic
no shutdown
!
interface fibrechannel1/1/3
description Link_2_Target
no shutdown
vfabric 2 5
!
interface fibrechannel1/1/1
description Link_2_FC_server
no shutdown
vfabric 2
!
vfabric 2 4
vlan 1002
fcoe fcmmap 0xEFC00
zone default-zone permit
```

Callouts explain the configuration steps:

- 1: Enable FC and create a domain ID
- 2: Configure interface as FC interface
- 3: Create FCoE vlan
- 4: Attach vfabric to the proper interfaces
- 5: Configure vfabric with zone permit and respective vlan

```
S4148U-RU24# show fc ns switch
```

```
Total number of devices = 3
```

```
Switch Name      10:00:14:18:77:20:88:cf
Domain Id        2
Switch Port      fibrechannel1/1/3
FC-Id            02:0c:00
Port Name        20:05:00:11:0d:d3:01:00
Node Name        20:05:00:11:0d:d3:01:00
Class of Service 8
Symbolic Port Name      SANBlaze V6.3.1 FC Port
Symbolic Node Name
Port Type            N_PORT
Registered with NameServer  Yes
Registered for SCN    No
```

```
Switch Name      10:00:14:18:77:20:88:cf
Domain Id        2
Switch Port      fibrechannel1/1/3
FC-Id            02:0c:01
Port Name        20:05:00:11:0d:d3:01:01
Node Name        20:05:00:11:0d:d3:01:01
Class of Service 8
Symbolic Port Name      SANBlaze V6.3.1 FC PortSANBlaze V6.3.1 FC Port
Symbolic Node Name
Port Type            N_PORT
Registered with NameServer  Yes
Registered for SCN    No
```

```
Switch Name      10:00:14:18:77:20:88:cf
Domain Id        2
Switch Port      fibrechannel1/1/5
FC-Id            02:14:00
Port Name        10:00:00:90:fa:8e:06:40
Node Name        20:00:00:90:fa:8e:06:40
Class of Service 12
Symbolic Port Name      Emulex PPN-10:00:00:90:fa:8e:06:40
Symbolic Node Name      Emulex LPe16002B-M6-D FV10.2.315.26 DV11.2.156.20 HN:R630-R7-R2-RU37 OS:VMware ESXi 6.5.0
Port Type            N_PORT
Registered with NameServer  Yes
Registered for SCN    Yes
```