

Configure QLOGIC QLE2692 Boot from SAN

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Introduction

This document describes the process to configure a QLOGIC QLE2692 to Boot from SAN via SAN switch connected to the storage array.

Prerequisites

Requirements

Ensure that you have these requirements before you attempt this configuration:

- NPIV feature enabled in the MDS switch.
- LUN masking configured on your storage array.

Components Used

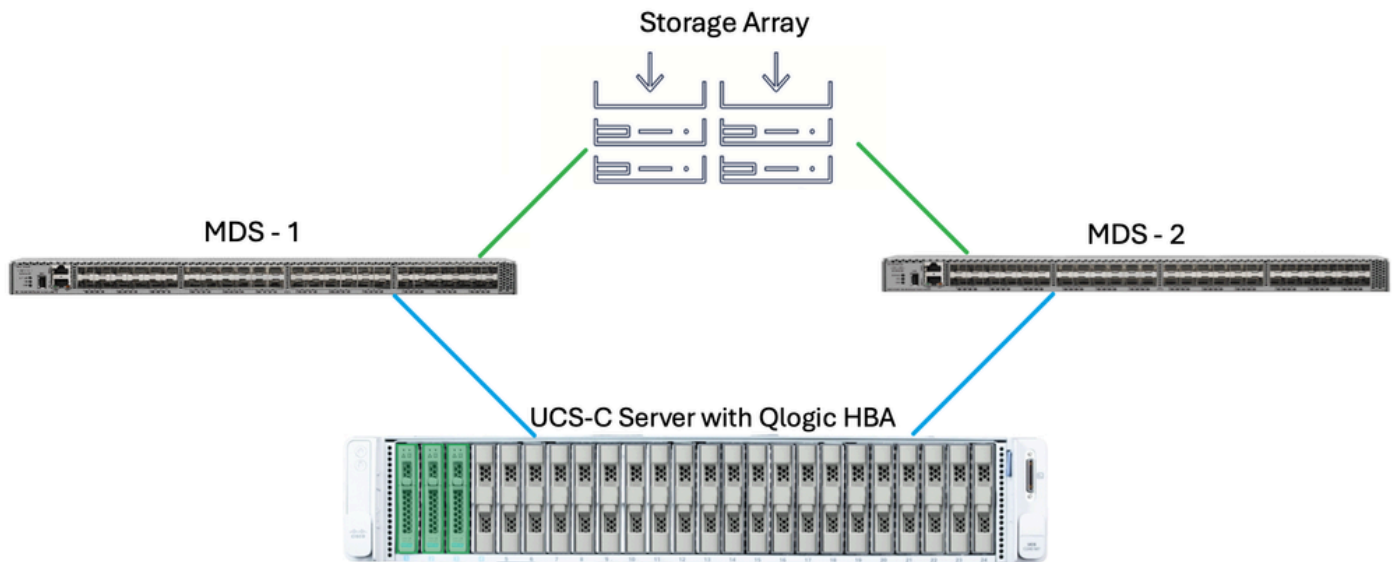
The information in this document is based on these software and hardware versions:

- MDS 9148S, Firmware 9.3(2)
- UCS C240 M7SX, Firmware 4.3(5.240021)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Configure

Diagram



Setup Topology

Configure QLOGIC QLE2692 from the BIOS

- Power Cycle the server and **Press F2** to enter to the **BIOS Setup**.



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Press <F2> BIOS Setup : <F6> Boot Menu : <F7> Diagnostics

Press <F8> CIMC Setup : <F12> Network Boot

Bios Version : C240M7.4.3.5a.0.0905240935

Platform ID : C240M7

/ Loading QLogic Fibre Channel Driver

Processor(s) INTEL(R) XEON(R) PLATINUM 8568Y+

Total Memory = 256 GB Effective Memory = 256 GB

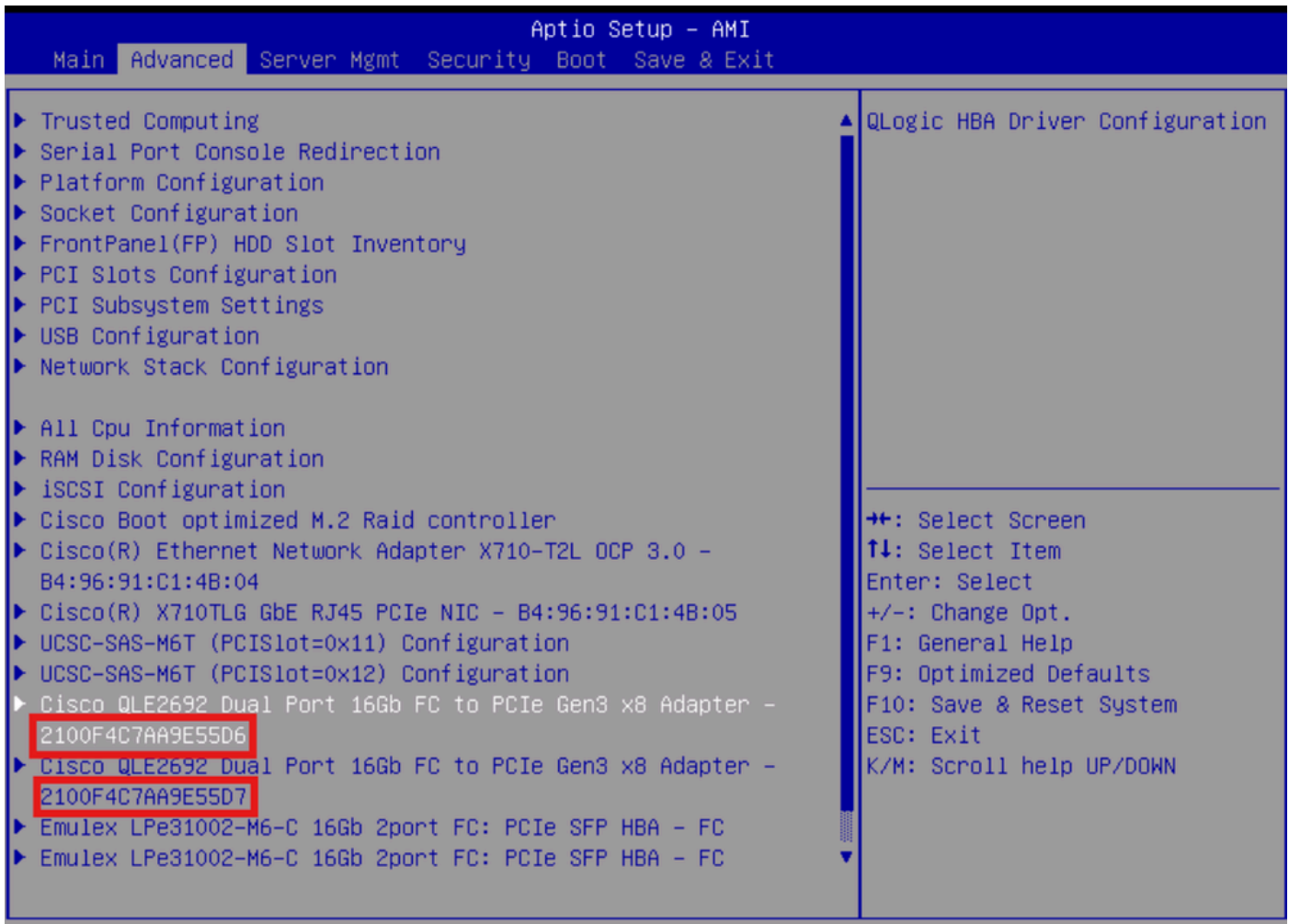
Memory Operating Speed 5600 Mhz

Cisco IMC IPv4 Address :

Cisco IMC MAC Address : _____

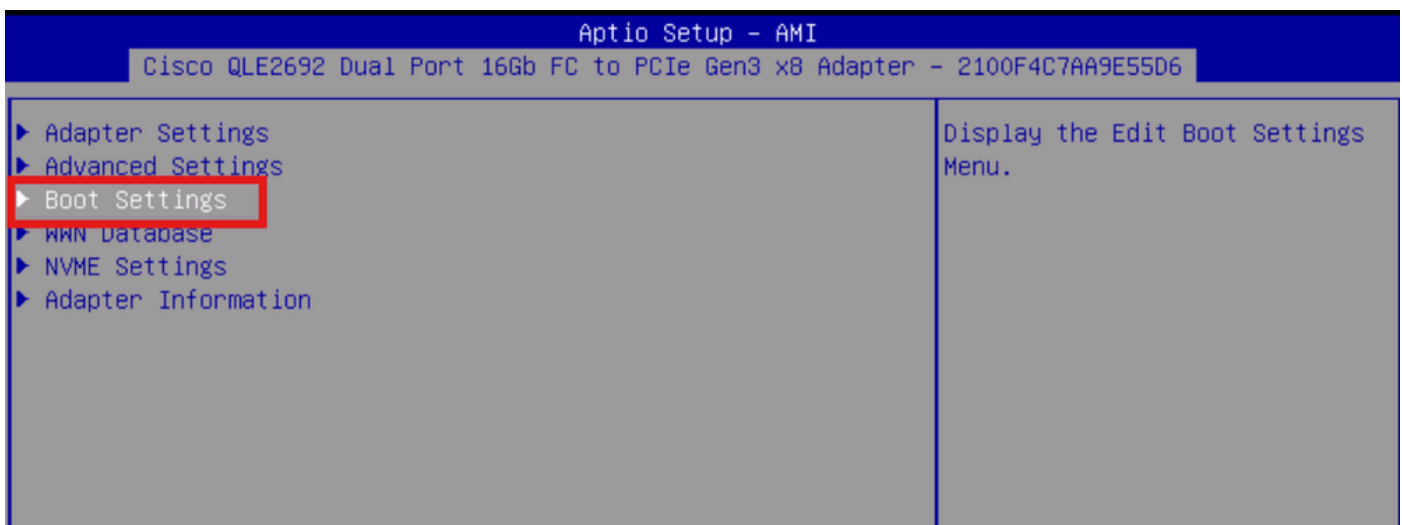
Press F2 to Enter to the BIOS Setup

- Navigate to **Advanced** and select the **Cisco QLE2692**. The number is at the end is the World Wide Port Name (WWPN).



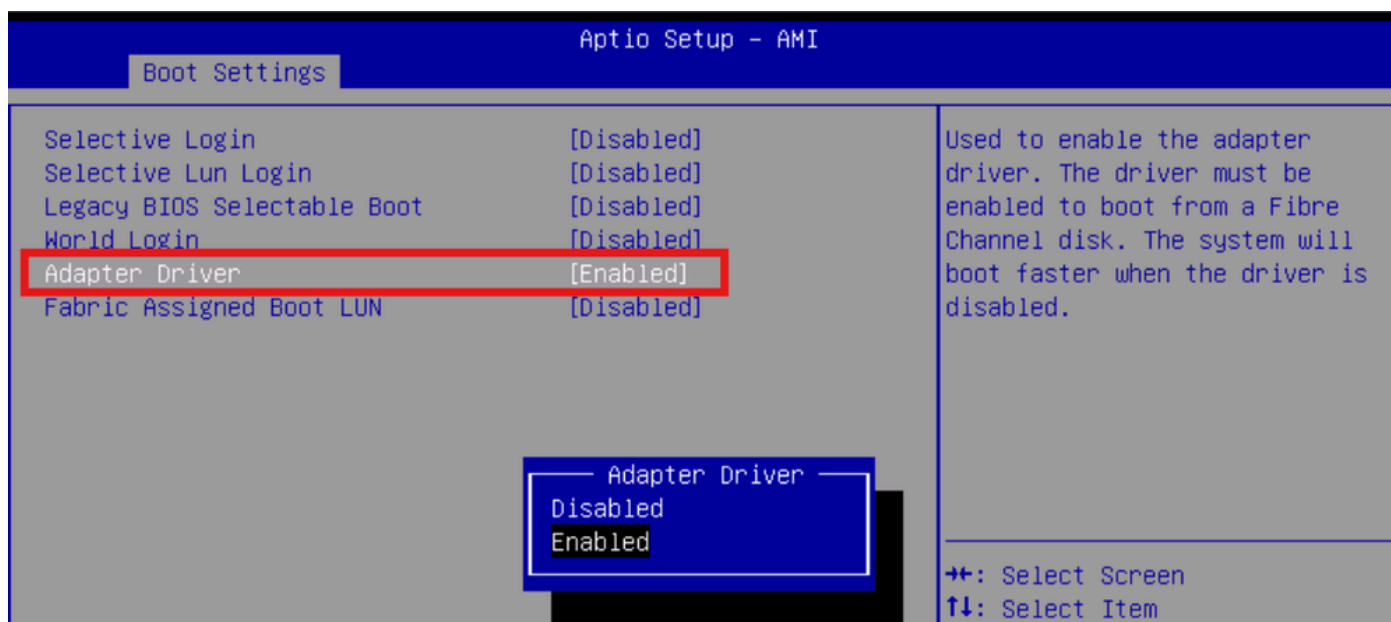
Select the Cisco QLE2692

- Select **Boot Settings**.



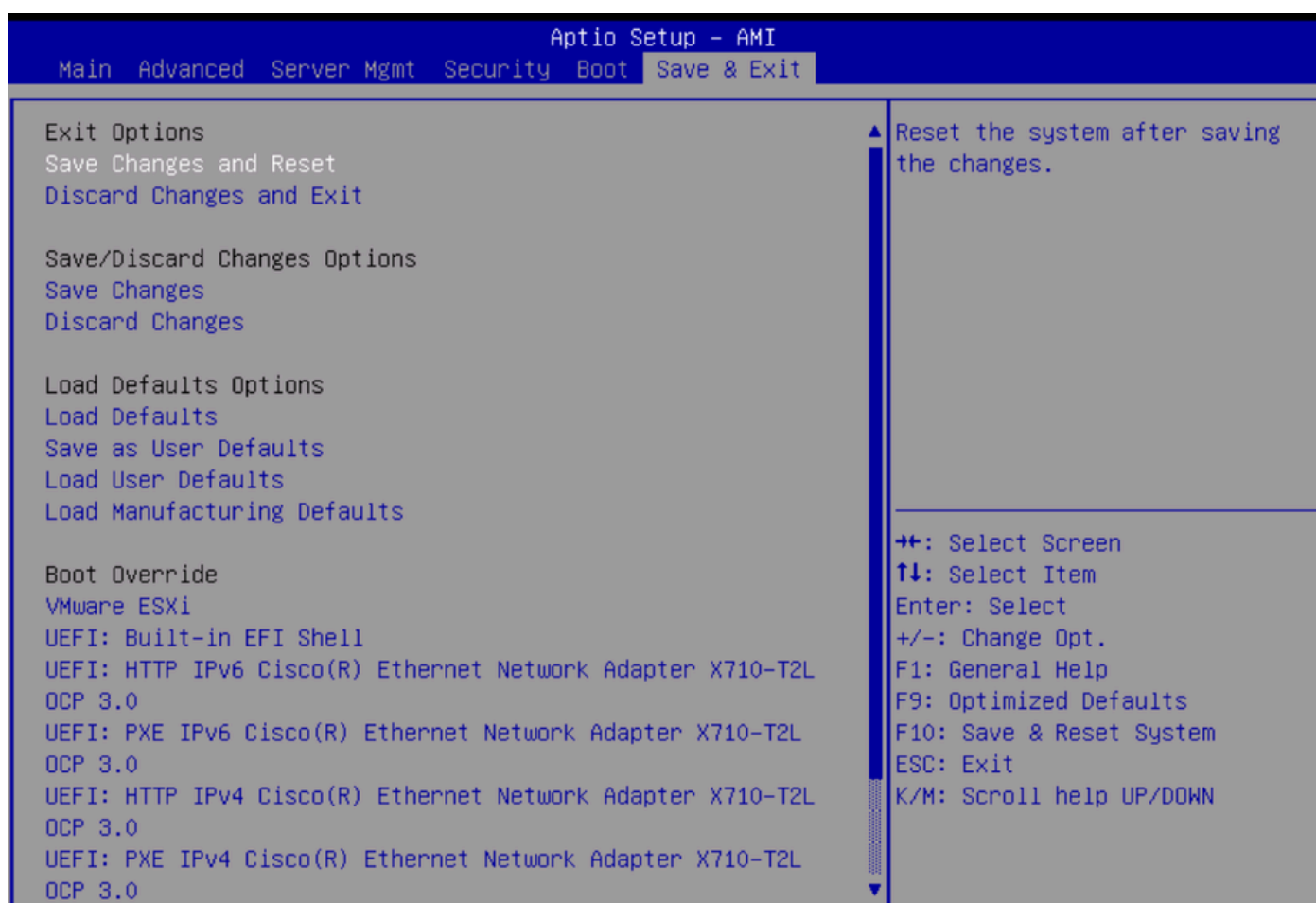
Select Boot Settings

- Select **Adapter Driver** and **Enable** it.



Select Adapter Driver

- Press **F10** or navigate to **Save & Exit** and press **Save Changes and Reset**.



Press F2 to Enter to the BIOS Setup

- After the reboot, the HBA ports WWPNs are visible on the MDS switches. Configure the **Zoning** at

the MDS to allow the communication between HBA and the Storage.

Example of MDS Zoning

In this example the MDS setup is configured in high availability mode.



Note: If you need more detail about Zoning configuration in a MDS device, please refer to [Configuring Zones and Zone Sets](#).

- MDS 1
 - Qlogic Port 0 WWPN: 21:00:f4:c7:aa:9e:55:d6 VSAN 100
 - Storage Array Port FC1 wwpn: 56:c9:ce:90:cd:93:ff:05 VSAN 100
 - Storage Array Port FC2 wwpn: 56:c9:ce:90:cd:93:ff:0a VSAN 100
- MDS 2
 - Qlogic Port 1 WWPN: 21:00:f4:c7:aa:9e:55:d7 VSAN 200
 - Storage Array Port FC1 56:c9:ce:90:cd:93:ff:09 VSAN 200
 - Storage Array Port FC2 56:c9:ce:90:cd:93:ff:06 VSAN 200
- Interface configuration for Qlogic HBA ports on both MDS switches.

```
interface fc1/27
switchport mode F
switchport description "QLOGIC - C240 M7 PORT X"
switchport trunk mode off
port-license acquire
no shutdown
```

- Zone creation on MDS switch 1.

```
zone name QLOGIC_PORT_0_STORAGE_FC1 vsan 100
member pwwn 21:00:f4:c7:aa:9e:55:d6
member pwwn 56:c9:ce:90:cd:93:ff:05
```

```
zone name QLOGIC_PORT_0_STORAGE_FC2 vsan 100
member pwwn 21:00:f4:c7:aa:9e:55:d6
member pwwn 56:c9:ce:90:cd:93:ff:0a
```

- Zoneset creation on MDS switch1.

```
zoneset name QLOGIC_HBA vsan 100
member QLOGIC_PORT_0_STORAGE_FC1
member QLOGIC_PORT_0_STORAGE_FC2
```

- Zoneset activation on MDS 1.

```
zoneset activate name QLOGIC_HBA vsan 100
```

- Zone creation on MDS switch 2.

```
zone name QLOGIC_PORT_1_STORAGE_FC1 vsan 200  
member pwwn 21:00:f4:c7:aa:9e:55:d7  
member pwwn 56:c9:ce:90:cd:93:ff:09
```

```
zone name QLOGIC_PORT_1_STORAGE_FC2 vsan 200  
member pwwn 21:00:f4:c7:aa:9e:55:d7  
member pwwn 56:c9:ce:90:cd:93:ff:06
```

- Zoneset creation on MDS switch 2.

```
zoneset name QLOGIC_HBA vsan 200  
member QLOGIC_PORT_1_STORAGE_FC1  
member QLOGIC_PORT_1_STORAGE_FC2
```

- Zoneset activation on MDS Switch 2.

```
zoneset activate name QLOGIC_HBA vsan 200
```

- When the server boots up, the paths to the storage are listed. This example uses 4 paths.



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Press <F2> BIOS Setup : <F6> Boot Menu : <F7> Diagnostics
Press <F8> CIMC Setup : <F12> Network Boot
Bios Version : C240M7.4.3.5a.0.0905240935
Platform ID : C240M7

SAN	Storage	56:c9:ce:90:cd:93:ff:05	100.00 GB
SAN	Storage	56:c9:ce:90:cd:93:ff:0a	100.00 GB
SAN	Storage	56:c9:ce:90:cd:93:ff:09	100.00 GB
SAN	Storage	56:c9:ce:90:cd:93:ff:06	100.00 GB

Cisco IMC IPv4 Address : 10.31.123.26
Cisco IMC MAC Address : EC:F4:0C:60:EB:08

Verify

Verify the HBA and the Storage Arrays are successfully logged in the fabric. Open an **ssh session** to the MDS Switches and verify the wwpns with the **show flogi database command**. Example:

```
MDS-01# show flogi database
```

```
-----  
INTERFACE VSAN FCID PORT NAME NODE NAME  
-----
```

```
fc1/27 100 0x163100 21:00:f4:c7:aa:9e:55:d6 20:00:f4:c7:aa:9e:55:d6  
fc1/47 100 0x160100 56:c9:ce:90:cd:93:ff:05 56:c9:ce:90:cd:93:ff:00  
fc1/48 100 0x160400 56:c9:ce:90:cd:93:ff:0a 56:c9:ce:90:cd:93:ff:00
```

```
MDS-02# show flogi database
```

```
-----  
INTERFACE VSAN FCID PORT NAME NODE NAME  
-----
```

```
fc1/27 200 0x742a00 21:00:f4:c7:aa:9e:55:d7 20:00:f4:c7:aa:9e:55:d7  
fc1/47 200 0x740200 56:c9:ce:90:cd:93:ff:09 56:c9:ce:90:cd:93:ff:00  
fc1/48 200 0x740300 56:c9:ce:90:cd:93:ff:06 56:c9:ce:90:cd:93:ff:00
```

Verify all the wwpns have a valid fcid assigned and are active (with the star * sign) with the **show zoneset active command**.

```
MDS-01# show zoneset active
```

```
zone name QLOGIC_PORT_0_STORAGE_FC1 vsan 100  
* fcid 0x163100 [pwwn 21:00:f4:c7:aa:9e:55:d6]  
* fcid 0x160100 [pwwn 56:c9:ce:90:cd:93:ff:05]
```

```
zone name QLOGIC_PORT_0_STORAGE_FC2 vsan 100  
* fcid 0x163100 [pwwn 21:00:f4:c7:aa:9e:55:d6]  
* fcid 0x160400 [pwwn 56:c9:ce:90:cd:93:ff:0a]
```

```
MDS-02# show zoneset active
```

```
zone name QLOGIC_PORT_1_STORAGE_FC1 vsan 200  
* fcid 0x742a00 [pwwn 21:00:f4:c7:aa:9e:55:d7]  
* fcid 0x740300 [pwwn 56:c9:ce:90:cd:93:ff:06]
```

```
zone name QLOGIC_PORT_1_STORAGE_FC2 vsan 200  
* fcid 0x742a00 [pwwn 21:00:f4:c7:aa:9e:55:d7]  
* fcid 0x740200 [pwwn 56:c9:ce:90:cd:93:ff:09]
```