Configure Direct Attached Storage in Intersight Managed Mode Domain.

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Introduction

This document describes the configuration of Direct Attached Storage (DAS) for Intersight Managed Mode (IMM) Domains.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- UCS and IMM knowledge
- Storage Area Networking (SAN)
- Fiber Channel Concepts

Components Used

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

- UCS-FI-6454, Firmware 4.2(11)
- UCSX-210C-M6, Firmware 4.2(11)

Note: The minimum supported Firmware version for Intersight Managed Mode is 4.1(3).

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.

Background Information

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

- Virtual Storage Area Network (VSAN) ID
- Fibre Channel Over Ethernet (FCOE) VLAN ID
- World Wide Port Name (WWPN) from initiators and targets
- Logical Unit Number (LUN) ID

Server and Domain profiles configuration, the Policies and Pools required are:

- VSAN Policy
- Port Policy
- Boot Order Policy
- SAN Connectivity Policy
- WWPN Pool
- Fibre Channel Zone Policy

Direct Attached Storage (DAS)

IMM-managed servers have the ability to build a Zone database just like UCSM. With DAS there is no need to have a Fiber Switch to push the *zoning*. This example uses this topology:



Topology

Configure

1. UCS Domain Profile

Step 1. Configure VSAN Policy.

• Navigate to **Policies** > **Create Policy** and select **VSAN**.

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Select UCS Domain Profile and then VSAN

- Name the policy and add the required VSAN(s) to it. This example uses VSAN-A 100 and FCOE VLAN 1000.
- Select **Storage** for VSAN Scope.

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	Policies Pools		FCoE VLAN ID * 1000	1 - 4093 ITEMS /	AVAILABLE	
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Storage VSAN is required for DAS configuration.

Note: VSAN scope **Storage** is required for DAS networks.

Step 1.2 Configure Port Policy.

• Navigate to **Policies** > **Create Policy** and select **Port**.

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Create Port Policy

• Enter a Name and select the Switch model from the list. Then, configure Unified Ports or Breakout

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ed).	<	Cancel	Next

Port Policy Name

• In Port Roles Select the ports required for FC Storage and click on Configure.



Port Role

D Tip: If required configure additional interfaces as Servers ports or Ethernet Uplink ports in this step.

• Select the Role as FC Storage, Admin speed, and desired VSAN.

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Port Role

Step 1.3 Configure Switch Control Policy

In a UCS Domain, The FC switching mode can be End Host or Switch. Switch mode allows the Fabric Interconnect to connect directly to a storage device. Fibre Channel switch mode is useful in models where there is no SAN (for example, a single Cisco UCS system connected directly to storage). The Switch Control Policy configures FC switching mode for an IMM Domain.

• Navigate to **Policies** > **Create Policy** and select **Switch Control**.

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Switch Control Policy

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• Select FC Switch Mode and then click on Create.

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	Templates Policies Pools		Enable VLAN Port Count Optimization MAC Address Table Aging Time Default Custom This option sets the default MAC address	Never aging time to 14500 seconds for t	he End Host mode.			
		ĸ	Link Control Global Settings Message Interval 15 0 0 7 - 90 Paceureri Action 0 Cancel			Back	Crea	te

FC Switch Mode

Step 1.4 Edit or Create the Domain Profile

• You can now add the policies to the Domain profile. Go to **Profiles** tab > **UCS Domain Profiles** > **Edit** Domain profile (if a profile already exists) or **Create** domain profile and then Add the required policies to your Domain Profile.

2. Server Profile

Step 2.1 Create a Server Profile.

- Navigate to the **Policies** tab > **Create UCS Server Profile**.
- Enter a Name and select the Target Platform.

Step 2.2 Create a San Connectivity Policy

- Attach an existing San Connectivity Policy to the Profile or create a new one
- Enter a **Name** for the policy.
- Select the WWNN pool and Add the required VHBAs.

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San Connectivity Policy

Step 2.3 Configure VHBA Settings

• Edit the VHBA with the required configuration, such as Name, WWPN, and other adapter policies.

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				When Simple Placement is selected, the Slot ID and vHBAs are deployed on the first VIC. The Slot ID de MLOM, and thereafter it keeps incrementing by 1, si	I PCI Link are automatically determined by the syste termines the first VIC. Slot ID numbering begins with tarting from 1.	m			

VHBA Settings

• Continue with the policy selection for VHBA, then **click** in FC Zone select Policy(s), **Create** a new or **Select** Existing FC Zone policy from the list

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Select FC Zone Policy

Step 2.4 Create FC Zone Policy

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FC Zone

• Select Single Initiator - Single Target or Single Initiator Multiple target, then click on Add Target



FC Zone Targets

• Configure Target(s) with correspondent WWPN, Fabric ID, and VSAN.

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FC Zone Target Configuration

Step 3. Boot From SAN (Optional)

If the server boots from SAN Add the target(s) to the Boot policy

Step 3.1 Configure Boot Options

Add San Boot and Virtual Media options

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Boot Options

Step 3.2 Configure SAN Boot options

Enter the WWPN of the Target with their corresponding VHBA Name.

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SAN Boot Options

Note: Interface Name MUST match with the name given previously to the VHBA.



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Boot Options

Troubleshoot

To Verify the FC Port is properly configured

```
FI-A # connect nxos
FI-A (nxos) # show interface fc 1/1
FI-A (nxos) # show running-config interface fc 1/1
```

To verify the initiators list on Fabric Interconnect

FI-A (nxos) # show flogi database vsan <vsan id>

To verify VHBA configuration in specific Server Profile

FI-A (nxos) # show run interface | grep prev 1 next 10 <Server Profile's Name>