Configure Storage Profiles for C Series Integrated Servers with UCSM

Contents

Introduction

This document describes how to configure storage profiles for C series integrated servers with Cisco UCS (Unified Computing System) Manager (UCSM). Storage profiles allow flexibility in order to define the number of storage disks, roles and usage of these disks, and other storage parameters. Basically, you can carve out a virtual drive into different portions called Logical Unit Number (LUNs) and assign role to those LUNs.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

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, make sure that you understand the potential impact of any command.

Configure

Create Disk Group Policy

This example is valid when you use disk6-7 to create Redundant Array of Independent Disks (RAID) 1 volume that is used to carve out LUNs. You can also use Automatic Disk Group Configuration where system selects the disks, this example uses Manual configuration for demo

purposes in case you want to manually assign disks as shown in the image.

Properties

Name: **qam-c220-boot**

Description:

RAID Level: RAID 1 Mirrored ▼

○ Disk Group Configuration (Automatic)   ⦿ Disk Group Configuration (Manual)

Disk Group Configuration (Manual)

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Slot Number	Role	Span ID	
6	Normal	Unspecified	
7	Normal	Unspecified	

Create Storage Profile

 After you create **Disk Group**, create **Storage Profile** and within Storage Profile create **Boot LUN** and **Data LUN(s)**.

Local LUNs | Controller Definitions | Faults

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Name	RAID Level	Size (MB)	Config State	Deploy Name	LUN ID	Drive State	
100gb	RAID 1 Mirrored	0	Not Applied				
Data	RAID 1 Mirrored	0	Not Applied				

Details

Actions

⚒ Set LUN Name

⚒ Rename Referenced LUN

⚒ Set Online

⚒ Set Undeployed

⚒ Claim Orphaned LUN

LUN Details

Profile LUN Name: **100gb**   Order: **Not Applicable**
RAID Level: **RAID 1 Mirrored**   Size (MB) **0**
Configured Size (GB) **100**   Admin State: **Online**
Config State: **Not Applied**   Bootable **Disabled**
Deployed LUN Details
LUN New Name: Referenced LUN Name:
Deploy Name: LUN ID:

Properties

Name: **100gb**

Size (GB): 100

Fractional Size (MB): 0

Auto Deploy: ⦿ Auto Deploy   ○ No Auto Deploy

Expand To Available: ☐

Select Disk Group Configuration: qam-c220-boot ▼   ➕ Create Disk Group Policy

Properties

Name: **Data**

Size (GB): 100

Fractional Size (MB): 0

Auto Deploy: ● Auto Deploy ○ No Auto Deploy

Expand To Available: ☐

Select Disk Group Configuration: qam-c220-boot ▼   ⊞ Create Disk Group Policy

Few things to note here:

1. Bootable is disabled as Service Profile isn't applied yet.

2. Controller Definition field is left empty. It is only used with internal PCH controller for internal SSDs. The PCH Controller definition provided ability to configure a single LUN RAID across two internal SSDs connected to the onboard PCH controller.

| General | Local LUNs | Controller Definitions | Faults |

Controller Definitions

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Name

Create Boot Policy Based on Boot LUN

This example created LUN named 100gb which is intended to be a Boot LUN. So create boot policy accordingly and apply to Service Profile.

| General | Events |

Actions

🗑 Delete
📜 Show Policy Usage
🔒 Use Global

Properties

Name: **100GB_Lun**
Description:
Owner: **Local**
Reboot on Boot Order Change: ☐
Enforce vNIC/vHBA/iSCSI Name: ☑
Boot Mode: ● Legacy ○ Uefi

Warning

The type (primary/secondary) does not indicate a boot order presence.
The effective order of boot devices within the same device class (LAN/Storage/iSCSI) is determined by PCIe bus scan order.
If **Enforce vNIC/vHBA/iSCSI Name** is selected and the vNIC/vHBA/iSCSI does not exist, a config error will be reported.
If it is not selected, the vNICs/vHBAs are selected if they exist, otherwise the vNIC/vHBA with the lowest PCIe bus scan order is used.

Local Devices ⊗
CIMC Mounted vMedia ⊗
vNICs ⊗
vHBAs ⊗
iSCSI vNICs ⊗
EFI Shell ⊗

Boot Order

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Name	Order	vNIC/vHBA/iSCSI vNIC	Type	LUN Name	WWN	Slot Number	Boot Name	Boot Path	Description
◉ Local CD/DVD	1								
🖥 Local LUN	2								
🖥 Local Lun Image			Primary	100gb					

Verify

Use this section in order to confirm that your configuration works properly.

Before you apply Service Profile to the server, ensure that the disks used in Disk Group are in "Unconfigured Good" state, else error that states insufficient disks occurs at the time of service profile association. This example used Disk6-7, so they should be in "Unconfigured Good", if they are in "Online" state or "Jbod", then right click on these disks and select **Set Unconfigured Bad to Good**.

Name	Size (MB)	Serial	Operability	Drive State	Presence	Technology	Bootable
Storage Controller PCH 3							
Storage Controller SAS 1							
Disk 1	285148	Z0K0HDQ80000C5382LBF	Operable	Online	Equipped	HDD	False
Disk 2	285148	Z0K0HCR90000C5393GJW	Operable	Online	Equipped	HDD	False
Disk 3	285148	Z0K0HF2P0000C5380LV8	Operable	Online	Equipped	HDD	False
Disk 4	285148	Z0K0HEYQ0000C53812RN	Operable	Online	Equipped	HDD	False
Disk 5	285148	Z0K0HDTX0000C5390KU8	Operable	Unconfigured Good	Equipped	HDD	False
Disk 6	285148	Z0K0HF5R0000C5380LV0	Operable	Unconfigured Good	Equipped	HDD	False
Disk 7	285148	Z0K0GP4W0000C533116U	Operable	Unconfigured Good	Equipped	HDD	False

Troubleshoot

This section provides information you can use in order to troubleshoot your configuration.

Once Service Profile is applied successfully, your configuration should look like this:

Name	RAID Level	Size (MB)	Config State	Deploy Name	LUN ID	Drive State
100gb	RAID 1 Mirrored	102400	Applied	100gb	1000	optimal
Data	RAID 1 Mirrored	102400	Applied	Data	1001	optimal

Details

Actions

Set LUN Name
Rename Referenced LUN
Set Online
Set Undeployed
Claim Orphaned LUN

LUN Details

Profile LUN Name: **100gb**   Order: **Not Applicable**
RAID Level: **RAID 1 Mirrored**   Size (MB) **102400**
Configured Size (GB) **100**   Admin State: **Online**
Config State: **Applied**   Bootable **Enabled**
Deployed LUN Details
LUN New Name: Referenced LUN Name: **100gb**
Deploy Name: **100gb**   LUN ID: **1000**
Drive State: **optimal**

Name	RAID Level	Size (MB)	Config State	Deploy Name	LUN ID	Drive State
100gb	RAID 1 Mirrored	102400	Applied	100gb	1000	optimal
Data	RAID 1 Mirrored	102400	Applied	Data	1001	optimal

Details

Actions

Set LUN Name
Rename Referenced LUN
Set Online
Set Undeployed
Claim Orphaned LUN

LUN Details

Profile LUN Name: **Data**   Order: **Not Applicable**
RAID Level: **RAID 1 Mirrored**   Size (MB) **102400**
Configured Size (GB) **100**   Admin State: **Online**
Config State: **Applied**   Bootable **Disabled**
Deployed LUN Details
LUN New Name: Referenced LUN Name: **Data**
Deploy Name: **Data**   LUN ID: **1001**
Drive State: **optimal**

General | Inventory | Virtual Machines | Hybrid Display | Installed Firmware | SEL Logs | CIMC Sessions | VIF Paths | Power Control Monitor | Faults | Events | FSM | Health | Statistics | Temperatures | Power

Motherboard | CIMC | CPUs | GPUs | Memory | Adapters | HBAs | NICs | iSCSI vNICs | Storage

Controller | LUNs | Disks

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Name	Size (MB)	Serial	Operability	Drive State	Presence	Technology	Bootable	
Storage Controller PCH 3								
Storage Controller SAS 1								
Disk 1	285148	Z0K0HDQ80000C5382LBF	Operable	Unconfigured Good	Equipped	HDD	False	
Disk 2	285148	Z0K0HCR90000C5393GJW	Operable	Unconfigured Good	Equipped	HDD	False	
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Disk 6	285148	Z0K0HF5R0000C5380LV0	Operable	Online	Equipped	HDD	False	
Disk 7	285148	Z0K0GP4W0000C533116U	Operable	Online	Equipped	HDD	False	

General | Inventory | Virtual Machines | Hybrid Display | Installed Firmware | SEL Logs | CIMC Sessions | VIF Paths | Power Control Monitor | Faults | Events | FSM | Health | Statistics | Temperatures | Power

Motherboard | CIMC | CPUs | GPUs | Memory | Adapters | HBAs | NICs | iSCSI vNICs | Storage

Controller | LUNs | Disks

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Name	Size (MB)	Raid Type	Config State	Deploy Action	Operability	Presence	Bootable	
Storage Controller PCH 3								
Storage Controller SAS 1								
Virtual Drive 100gb	102400	RAID 1 Mirrored	Applied	No Action	Operable	Equipped	true	
Virtual Drive Data	102400	RAID 1 Mirrored	Applied	No Action	Operable	Equipped	false	