Configure JBOD Drives to Unconfigured Good in UCS Servers

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Introduction

This document describes various ways to configure the drive state from Just a Bunch Of Disks (JBOD) to Unconfigured Good (UG).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Unified Computing System Manager (UCSM)
- Unified Computing System Central (UCSC)
- Cisco Integrated Management Controller (CIMC)
- Cisco Intersight
- General Knowledge of Hard Disk Drives (HDD) and Redundant Array of Independent Disks (RAID)

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, ensure that you understand the potential impact of any command.

Background Information

- This document depicts configuration of the drive state from JBOD to UG in UCSM, UCSC, CIMC, Intersight, MegaRAID, WebBIOS, and StorCLI.
- This document also highlights some features in UCSM, CIMC, and Intersight that can assist you with automatic disk state configurations.
- It is common for a Return Material Authorization (RMA) or disks out of the box to be in a JBOD drive state. Sometimes drives that are JBOD need to be changed to a UG drive state to be usable in RAID configurations. Another common reason to change JBOD to UG is when a disk that is part of a fault-tolerant RAID has failed. In this scenario, if the RMA disk is in a JBOD drive state, the change to UG can help to trigger the rebuild process.
- Some UCS policies allow RAID creation from JBOD disks, but this must be explicitly chosen.
- It can be necessary to change the drive to other states besides UG as many applications leverage JBOD over RAID. While this document highlights the change from JBOD to UG, the same steps can be taken to set any drive state, such as UG to JBOD.

Configure the Disk State from JBOD to UG

Caution: Before any configuration changes are committed, ensure you know which RAID controller manages the disks and which disk slots need to be configured.

UCSM

Navigate to the appropriate server and select Inventory > Storage > Disks. Select the disk that needs to be changed and choose Set JBOD to Unconfigured Good > Yes as shown in the image.

altalta cisco.	UCS Manager		8 👽 🙆 🚯	
ж	AI v	Equipment / Chassis / Chassis 1 / Servers / Server 1		
∎ &	Equipment Chassis Chassis 1 Fans	General Inventory Virtual Machines Installed Firmware Motherboard CIMC CPUs GPUs Memory Ada Controller LUN Disks	CIMC Sessions SEL Logs VIF Paths Health Diagnostics Faults apters HBAs NICs ISCSI vNICs Security Storage	: Events FSM S
Ē	IO Modules IO Module 1 IO Module 2 PSUs	+ - T _F Advanced Filter ↑ Export ⊕ Print Name Size (MB) S v Storage Controller SAS 1	Serial Operability Drive State	Presence
=	Server 1 Adapters	Disk 1 285148 5 Disk 2 285148	OAR:28000/300/FEPH Operable Unconfigured Good IMA-READ:300-2010/WE Operable Jbod	Equipped Equipped
а.	Adapter 1 DCE Interfaces DCE Interface 1		Set JBOD to Unconfigured Good]
	DCE Interface 3 DCE Interface 5 DCE Interface 7 HBAs	Details General FSM Statistics	This operation will Set JBOD Disk State to Unconfigured Good for Disk	
	NICs iSCSI vNICs Server 3 Server 4	Actions Set Unconfigured Bad to Good Prepare for Removal Linds Removal Linds Removal	Proper ID : 2 Vendor : Seagete Technology LLC	PID VID
	Server 7 Adapters Rack-Mounts		Serial : KCNPStatesCOLE COPYS Product Name : 300GB 6Gb SAS 10K RPM 2.5 in. HDD/hot plug/drive sled Product Variant : default	Revision mounted
	FEX Servers Server 1	Set JBOD to Unconfigured Good Enable Encryption	Part Details Drive State : Jbod	Power State

Note: Once disk state changes are committed, view the Finite State Machine (FSM) tab to see the disk configuration progress.

UCSM CLI:

<#root>

UCS-NYEST-A#

scope server 1

UCS-NYEST-A /server#

show raid-controller

<-- Run this command to determine the RAID Controller Type and ID. RAID Controller:

ID TYPE

PCI Addr

1 SAS

07:00.0 <-- This example shows the RAID Controller TYPE is SAS and the ID is 1. 7 PCH 00:31.2 UCS-NYEST-A /server#

scope raid-controller 1 sas

UCS-NYEST-A /server/raid-controller#

scope local-disk 1

<-- In this example physical disk in slot 1 is scoped to. UCS-NYEST-A /server/raid-controller/local-disk#

set admin-state unconfigured-good

UCS-NYEST-A /server/raid-controller/local-disk*#

commit-buffer

UCS Central

Navigate to the appropriate server and select Storage, then choose the disk that needs to be changed. Select the Tools Icon > Set JBOD to Unconfigured Good as shown in the image.

ultadu cisco	UCS Central	What are you looking for?	Q, admin			
	< III Dashboar	rd Servers * STAN-25-54-JCCI 1/4 *				
	F341-22	24LCSI 1/4 Server				
m.	14,77,774,7	*				
_	Basic	Storage		SAS Controller 1 Disk 1 AL14SEB1	20N	
	Motherboard	SAS Controller 1 Disk 1 DK		1.2 TB 120 SAS 10K RPM SFF HDD Overall Statue		Locator LED OFF
×	CIMC	SAS Controller 1 Diak 2 OK				
6				Key Indicators	Status	
1	CPUs			Operability	ox	
	OPUe			Presence	Equipped	
$\mathcal{M}_{\mathcal{A}}$				Drive State	JODBL.	
	Security			Oper Qualifier Reason	N/A	
	Memory			Thermal	N/A	
e				Diak FW Version	5704	
~	Adapters			Bootable	True	
× .	Controllers			Security		
	-			Resources	Total	
	- and			Size	1143455 MB	
	LUNe			Block Size	512 Bytes	

CIMC

Navigate to Storage and select the appropriate RAID Controller. Select Physical Drives and choose the disk that needs to be changed, then click Set State as Unconfigured Good as shown in the image.

	· :: :::::::::::::::::::::::::::::::::								
	🛕 / / Cisco 12G SAS Modular Raid Controller (SLOT-HBA) / Physical Drive Info ★								
Chassis 🕨	Controller Info Physica	al Drive Info	Virtual Drive Info B	attery Backup Unit Storag	e Log				
Compute	Physical Drives Physical Drives								
Networking +	✓ PD-1 ✓ PD-2	Make Glo	Global Hot Spare Care Make Dedicated Hot Spare Remove From Hot Spare Pools		Prepare For Removal				
Storage -	PD-7	Con	roller	Physical Drive Number	Status	State	Health		
otorage 🔹	PD-8	SLO.	-HBA	1	Online	online	Good		
Cisco FlexFlash		SLO	-HBA	2	Online	online	Good		
Cisco 12G SAS Modular Raid		SLO	-HBA	7	JBOD	JBOD	Good		
		SLO	-HBA	8	JBOD	JBOD	Good		
Admin 🕨									

CIMC CLI:

<#root>

C220-NYEST-1#

scope chassis

C220-NYEST-1 /chassis#

show storageadapter

<-- Run this command to determine the RAID Controller PCI Slot.

PCI Slot

Health Controller Status R O C Temperature Product Name Serial Number Firmware Package Build Product ID Battery Status Cache Memory Size Boot Drive Boot Drive is PD Product PID

MRAID

Good Optimal 62 Degrees C Cisco 12G Modular Raid Controller 51.10.0-36 12 LSI Logic Optimal 0 MB 3 true UCSC-RAID-M5 C220-NYEST-1 /chassis#

scope storageadapter MRAID

<-- Use the previous PCI Slot here. C220-NYEST-1 /chassis/storageadapter#

scope physical-drive 1

<-- In this example physical disk in slot 1 has been scoped to. C220-NYEST-1 /chassis/storageadapter/physical-drive#

make-unconfigured-good

Intersight

Navigate to the appropriate server and select Inventory > Storage Controllers. Navigate to the proper RAID Controller and select Physical Drives and choose the disk that needs to be changed. Select the Ellipsis on the top right and then Set State > Unconfigured Good > Set as shown in the image.



MegaRAID

Launch the Keyboard Video Monitor (KVM) and power cycle the server. Press Ctrl - R when MegaRAID is

displayed on the screen. Press Ctrl - N until you are on the PD Mgmt tab. Navigate to F2-Operations > Make Unconfigured Good > Enter as shown in the image.

SAS3108 BIOS Configuration Utility 5.16-0300						
VD Mgmt PD Hgnt	Ctrl Mgmt Pi	roperties				
	(Drive Management	PAGE-1			
Expander Slot Type	12G SAS PortA Capacity 838 362 CB	Rebuild	Pred:			
P3:01:01 SAS P3:01:02 SAS	838.362 GB 838.362 GB	Copyback	Support:			
P3:01:03 SAS P3:01:04 SAS P3:01:05 SAS	838.362 GB 837.258 GB 837.258 GB	Locate Place drive Online	<pre>▶ bled</pre>			
P3:01:06 SAS P3:01:07 SAS	837.258 GB 837.258 GB	Place drive Offline				
		Remove Hot Spare drive Drive Erase	D sol Sector Size:			
		Make JBOD Make unconfigured good	B B			
		Prepare for Removal	00110: 0010168			
F1-Help F2-Operati	ons ES-Refres	h Ctrl-N-Next Page Ctrl-	<pre><gotopage:2></gotopage:2></pre>			

WebBIOS

Launch the KVM and power cycle the server. Press Ctrl - H when WebBIOS is displayed, then select Drives and choose the appropriate disk. Navigate to Make Unconf Good > Go as shown in the image.



StorCLI

<#root>

storcli /c0 /eall /sall show <-- Run this command to determine the Enclosure ID and Disk slot. Controller = 0 Status = Success Description = Show Drive Information Succeeded. Drive Information : _____ EID:Slt DID State DG Size Intf Med SED PI SeSz Model SP _____ 252:1 6 IIBad 0 462.25 GB SATA HDD N N 512B WDC WD5003ABYX-01WERA1 U <-- In this example the Enclose storcli /c0 /e252 /s1 set good <-- Use the Enclosure ID and Slot ID above. Controller = 0 Status = Success Description = Show Drive information Succeeded. Drive Information : _____ EID:Slt State DG Size Intf Med SED PI SeSz Model DID SP _____ ----------252:1 6 UGood 0 462.25 GB SATA HDD N N 512B WDC WD5003ABYX-01WERA1 U <-- The Drive _____

Auto-Configuration for Disks

In UCSM and CIMC, specific RAID Controllers and firmware versions support an Auto-Configuration mode. Auto-Configuration automatically sets the state of newly inserted disks to whichever disk state is chosen. In UCSM, Auto-Configuration is deployed by a Storage Profile attached to the Service Profile associated with the server. Standalone C-Series servers allow Auto-Configuration to be directly set on the RAID Controller.

UCSM

Navigate to Storage > Storage Profiles > Create Storage Profile or edit a current one. Within the Auto Config Mode box,

select Unconfigured Good > Ok as shown in the image.

cisco	UCS Manager	Create Storage Profile	() ×	
ж а	All Storage / S Getting St	Name : TAC-AutoConfig		
*	Storage Profiles Storage Policies	Auto Config Mode : Unspecified Unconfigured Good JBOD RAID 0 AutoConfig Mode defines the default drive state of an unconfigured drive. Please refer to the server specification sheet for the list of storage controllers that support this mode.		
Ē		Local LUNs LUN Set Controller Definitions Security Policy	¢	
=		Name Size (GB) Order Fractional Size (MB)	_	
≡ 	4	No data available		
		🕀 Add 🖺 Delete 🔘 Info		
		OK Can	cel	

CIMC

Navigate to Storage and select the appropriate RAID Controller. Navigate to Set Physical Drive Status Auto Config Mode > Unconfigured Good > Save as shown in the image.



Default Drive Mode for Disks

Cisco Intersight allows you to set the Default Drive Mode on certain RAID Controllers and firmware versions with a Storage Policy. The Default Drive Mode is defined in the Storage Policy and attached to a Server Profile. Whichever disk state is chosen in the Storage Policy is automatically set on newly inserted disks for that server.

Intersight

Navigate to Policies > Create Policy or edit a current one. Then navigate to Storage Policy > Policy Details > Default Drive State > Unconfigured Good > Create as shown in the image.

≡	teste Intersight	🎉 Infrastructure Service 🗸	Q
*	Overview	Cisco Intersight Workload Optimizer will be performing scheduled upgrade maintenance beginning Friday June 16th 2023 4AM EDT. This banner will be updated when maintenance on your account begins. Maintenance will be completed by Sunday June 18th 2023 3AM EDT.	
	Servers	Policies > Storage	
	Chassis	Create	
	Fabric Interconnects HyperFlex Clusters Integrated Systems	Original Policy Details Policy Details Add policy details	
1	Configure	△ General Configuration	
П	Templates	Use JBOD drives for Virtual Drive creation	
1	Pools	Unused Disks State No Change	~ 0
		Default Drive State Unconfigured Good	v 0
		Secure JBOD Disk Slots	0
		M.2 RAID Configuration	
		MRAID/RAID Controller Configuration	
		MRAID/RAID Single Drive RAID0 Configuration	
		< Cancel	

Related Information

- <u>Cisco Intersight UCS Server Policies</u>
- <u>Cisco UCS Manager Storage Configuration Guide</u>
- <u>Cisco Tech Note to Map StorCLI via EFI</u>
- <u>Technical Support & Documentation Cisco Systems</u>