Troubleshoot UCS Central Globalization Blocker Issue and Orphaned LUNs Due to Storage Profile

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Introduction

This document describes two scenarios that could occur when you globalize a service profile in Cisco Unified Computing System (UCS) Central. The two issues you can see are a globalization blocker issue due to an associated storage profile and orphaned Logical Unit Numbers (LUNs). This document covers the reasons these issues can surface and how to resolve them.

Prerequisites

Requirements

This document assumes that you have knowledge of these topics:

- Cisco Unified Computing System Manager (UCSM)
- Cisco UCS Central
- Cisco UCS B-Series and C-Series servers

Components Used

- UCS 6454 Fabric Interconnect (FI)
- UCSM Version 4.1(1c)
- Cisco UCS Central Version 2.0(1m)

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

- Any issue that cannot be resolved through Cisco UCS Centrals globalization operation is considered a blocker. These blockers must all be resolved in the Cisco UCS domain or Cisco UCS Central before globalization can complete.
- Cisco UCS Central supports storage profiles in general, however, it does not allow storage profile globalization. Storage profiles and their policies would need to be created in Cisco UCS Central to be used with any service profiles that were globalized.
- A storage profile can be configured with specific policies that dictate the physical disk usage. Storage profiles are then attached to a service profile for automatic LUN creation and deployment.
- An orphaned LUN is when the service profile that contained the virtual drive has been deleted or the service profile is no longer associated with a storage profile. The LUNs data is preserved but needs to be claimed to be usable.
- The sidebar in Cisco UCS Central is on the left of the Graphical User Interface (GUI), it has quick access to icons such as profiles, policies, globalization tasks, and so forth.

Problem: Storage Profile Causes a UCS Central Blocker, When the Blocker is Fixed LUNs are Orphaned

Cisco UCS Central encounters a blocker and will fail evaluation anytime the service profile used for globalization has an associated storage profile. If the storage profile also contains LUNs they become orphaned when the storage profile is removed to clear the blocker. The LUNs remain orphaned in shared storage with their content preserved until they are reclaimed in Cisco UCS Central.

Solution

Remove the Storage Profile and Claim the Orphaned LUNs in UCS Central

Removal of the storage profile from the service profile in UCSM clears this specific blocker, described in Scenario 1. If the storage profile also contained LUNs they can be reclaimed by the creation of the proper configuration and policies in Cisco UCS Central, described in Scenario 2.

Scenario 1: Globalization Blocker Issue When a Storage Profile is Attached to the Service Profile

Fix: Launch Cisco UCSM and remove the storage profile from the service profile that has failed globalization and then re-evaluate globalization in UCS Central.

Explanation: If an attempt is made to globalize a local service profile with an associated storage profile, evaluation fails due to a blocker issue. The blocker is a storage profile associated with the service profile in UCSM, which is in the progress of globalization in Cisco UCS Central.

A Globalization task in Cisco UCS Central encounters blockers when an attempt is made to globalize a service profile with a storage profile associated, as shown in this image.

	jdellipa-localstorage Globalize Local Service Profile	Q
.	root	
	Globalization Status Number of Blockers Evaluated with Blocking Issues 1	
ø	One or more blockers have been found that prevent this service profile from being globalized. Please review the list of blockers below and resolve them. After the blockers are resolved, you can re-evaluate this service profile for g	lobalizing.
	He-Evaluate Globalization	
<	+ Export	
	Issue Recommendation	
	Local service profile: org-root/Is-jdellipa-localstorage references a storage profile. Globalization of local service profile does not support storage profile.	
	I-1 of 1	

Procedure for Scenario 1

Step 1. Launch UCS Manager and click on **Servers.** Locate and click on the service profile used for globalization. Navigate to **Storage > Storage Profiles** as shown in this image.

Propertie	Properties for: Service Profile jdellipa-localstorage									
< General Storage Profil	Storage	Network iSCSI v isk Configuration Polic	NICs vMedia Polic y vHBAs vHB	sy Bo A Initiator	oot Order Groups	Virtual Machines	s FC Zones	Policies	Serve	
Actions	Actions									
Modify Storag	ge Profile		Name	: Raid	-0-StorPro					
			Description :							
			Storage Profile Instance : org-root/profile-Raid-0-StorPro							
Local LUNs	LUN Set	Controller Definitions	s Security Policy	Faults						
Te Advanced F	Filter 🛧 Export	🖶 Print								
Name		RAID Level	Size (MB)		Config St	ate	Deploy Name	3	LUN ID	
Data1		RAID 0 Striped	30720		Applied		Data1		1000	
Data2		RAID 0 Striped	10240		Applied		Data2		1001	
	•									

Step 2. Navigate to **Modify Storage Profile > Storage Profile Policy** and click the **Storage Profile** drop-down menu and select **No Storage Profile** and click **OK**.

Properties	s for: Service Profile	e jdellipa-locals	torage	Modify St	orage	Profile			
General	Storage Network iSCS	I vNICs vMedia Policy	Boot Ord	Specific Storag	e Profile	Storage Profile Policy			
Storage Profile	Local Disk Configuration Pol	icy vHBAs vHBA	Initiator Group	Storage Profile:	Raid-0-St	orPro 🔻		Create Storage Prof	ile
Actions		Storage Profile Policy		Name	Select S	torage Profile to use			
Modify Storage	e Profile	Name Description	Raid-0-Sto	Description : LUNs	No Storage	ege Profile Profiles			
		Storage Profile Instance	: org-root/pr	Local LU	RAID1-E Raid-0-	Boot StorPro	s	Security Policy	
Local LUNs	LUN Set Controller Definitio	ns Security Policy	Faults	Te Advance	test		_	Order	Fractional Size (
Te Advanced Fil	iter 🛧 Export 🖷 Print			Data1	Global P	olicies	-	Not Applicable	0
Name	RAID Level	Size (MB)	0	Data2	LUN-TE	10		Not Applicable	0
Data1	RAID 0 Striped	30720	A						
Data2	RAID 0 Striped	10240	A						
Details									
									ОК

Note: Any previously deployed LUNs Configuration State is now Orphaned, instead of Applied and Online.

Eq	Equipment / Chassis / Chassis 1 / Server 3													
	General	Inventory	y Virtual Machines		Installed Firmware		CIMC Sessions		SEL Logs	VIF Paths	Health	Diagn	gnostics	
	Motherboard	CIMC	CPUs	GPUs	Memory	Adapters	HBAs	NICs	iSCSI vN	ICs Securi	ty Sto	rage	Persis	
	Controller	LUNs	Disks											
	+ - T/A	dvanced Filter	♠ Expo	rt 🖷 Print										
	Name		Size (MB)	_	Raid T	уре	Conf	ig State		Deploy Action	1	Opera	ability	
	▼ Storage Co	ontroller												
	Virtual D	Drive Data1	30720		RAID () Striped	Orph	aned		No Action		Opera	able	
	Virtual D)rive Data2	10240		RAID () Striped	Orph	aned		No Action		Opera	able	

Step 3. Launch Cisco UCS Central and from the sidebar, click on **Globalization Tasks.** Doubleclick the proper globalization task name and click **Re-Evaluate Globalization > Yes.**

Note: If the storage profile was the only blocker, evaluation succeeds. If there are any other blockers besides the storage profile, they have to be resolved for a successful evaluation.



Step 4. Select Start Globalization in Cisco UCS Central and click Yes as shown in this image.

Note: If there are any Pool, Policy, or Advanced Policy Conflicts, they need to be resolved before you Start Globalization.

ж.	Jdellipa-	localstorage Glob	alize Local Service P	rofile					
	This local service profile is ready to be globalized You cannot make any changes to local service profile or domain once evaluation started. If any changes are made, you must re-evaluate the local service profile before continuing globalization.								
Ø	Globalization Stat	tus with Success Start Globaliz	Pool Confil O	icts	Policy Conflicts	Advanced Policy Conflicts 0			
a									
<	Pools	Name	Assigned ID	Туре	Assigned Pool	Status			
< //	Pools	Name Fabric-A root	Assigned ID 00:25:85:19:80:08 Glob	Type	Assigned Pool global-default	Status No Conflict Edit Resolution			
< //	Pools	Name Fabric-A root UUID-Base	Assigned ID 00:25:85:19:80:08 67c41019:3fb9-4a8e-00	Type alize	Assigned Pool global-default UUID-Global	Status No Conflict Edit Resolution No Conflict			
< *	Pools Policies Advanced	Name Fabric-A root UUID-Base root <	Assigned ID 00:25:85:19:80:08 67c41019:3fb9-4a8e-00 Are 1	Type alize you sure you want to globalize this Local Set	x global-default UUID-Global uvice Profile?	Status No Conflict Edit Resolution No Conflict Edit Resolution			

Scenario 2: Claim Orphaned LUNs in UCS Central After a Successful Service Profile Globalization

Fix: Create a storage profile and local LUNs in Cisco UCS Central and associate the storage profile with the service profile. Create and claim each LUN individually, and match the original LUN names from UCSM with the newly created claim LUN names in UCS Central.

Explanation: If a storage profile is deleted or removed from its service profile, LUNs become orphaned. If any storage profile with LUNs is associated with a service profile that is used for globalization you can encounter orphaned LUNs. This happens because the storage profile must be removed from the service profile in UCSM for a successful evaluation and globalization in UCS Central.

The configuration state of any LUNs from the server(s) in UCS Central that has had its service profile globalized is now orphaned. This server previously had its LUNs created in UCSM, and now displays orphaned, as shown in this image.

Basic	LUNS	Virtual Drive Data1 1/10	000	Basic	LUNs	Virtual Drive Data2 1/1	001
Motherboard	Virtual Drive Data1 1/1000 OK	Operability	Presence	Motherboard	Virtual Drive Data1 1/1000 OK	Operability	Presence
омо	Virtual Drive Data2 1/1001 OK	OK	Equipped	CIMC	Virtual Drive Data2 1/1001		cquipped
CPUs		Key Indicators	Status	CPUs		Key Indicators	Status
000		Associated Service Profile		00.1		Associated Service Profile	
GPOS		Config State	Orphaned	0.00		Config State	Orphaned
Security		Bootable	False	Security		Bootable	False
Memory		Access Policy	Read Write	Memory		Access Policy	Read Write
Adapters		Security		L.farters		Security	
- and a second				Adapters			
Controllers				Controllers			
Storage				Storage			
LUNS				LUNS			

Procedure for Scenario 2

Step 1. Launch Cisco UCS Central, click on the **Actions** bar, type **Create Storage Profile,** and press **Enter**.

cisco	UCS Central 🗧 What are you looking for?	Create Storage Profile	admin 💶 🐥 🛠
	Image: Second Amplitude	Tasks [×] □ Profiles	
	Policies		
æ	Filters	Filter + Export 💼 Delete 🛷 Tag	
	Policy	Policy Name	Туре
	BIOS Boot	all-domain root	Server Pool Qualification Policy Parent Type: Org
ø	Chassis Firmware Package Compute Connect	global-default root	Maintenance Policy Parent Type: Org
e	Disk Group Configuration Disk Zoning Disk Zoning	global-default root	Graphics Card Policy Parent Type: Org
<	Domain Group Qualification Dynamic vNIC Connection Etherent Adapter	global-default root	Maintenance Policy Parent Type: Org
N	Flow Control	global-default root	Scrub Policy Parent Type: Org
	Show More -	global-default root	UDLD Link Policy Parent Type: Domain Group
Ē	0ra	global-default	usNIC Connection Policy

Step 2. Navigate to **Local LUNs > Add** (Add is the plus button near Local LUNs). Type in the original LUN name(s) and click **Claim Mode > Create** as shown in the image.

Note: Add a new Local LUN with claim mode on for every LUN that has been orphaned. It is recommended to match the original LUN names from UCSM in our Cisco UCS Central storage profile.

	Policies	Storage Profile Create	?
ж	Filters	Basic Claim Mode	^
	Policy BIOS Boot	Basic + i Local LUNs	
ø	Chassis Firmware Package	Local LUNs Creating a Local LUN in Claim Mode will prepare it to claim an orphaned LUN when the Storage Profile is applied to an associated Service Profile.	
۵	Disk Group Configuration Disk Zoning Domain Group Qualification	Controller Dets Data2	
<	Dynamic vNIC Connection Ethernet Adapter	Security ruley	
N	Flow Control Fibre Channel Adapter		
Ē	Org		J
-	root	Cancel	

Step 3. Select **Profiles** from the sidebar, locate and double-click on the proper service profile and click **Edit** on the top right (Pencil icon). Navigate to **Storage > Storage Profile** and click the edit

× jdellipa-localstorage1 Service Profile root ? jdellipa-localstorage1 Edit Service Pr Basic sptest root 🖸 Storage Profile Identifiers Storage Basic Assigned p Raid-0-SP I Local Disk Configuration Policy Connectivity <Not-/ Identifiers global-default root Not-Assigned Ungroupe Policy Usage 🔻 age Profile ofile LAN Valu FC Zones Settings Overall Sta Server type Other where you plan to apply the Storage Profile SAN Unass Server Fault Sum Storage Local LUN Name Size (GB) Fractional Size (MB) Orde Policies Policies 0 0 Data1 Not Applicable Data2 0 Applicab Settings User Labe RAID Level Defin Configu Asset Tag Desired Pe Cancel

Step 4. Select **Profiles** from the sidebar, locate, and double-click on the proper service profile. Navigate to **Storage** and click on the local LUN under **Storage Items**. Click on the **System Tools Icon > Claim Orphaned LUN** as shown in this image.

jdellipa	a-localstorage Se	rvice Profile			2	00	*.	. C	0 0	9 @	B (* •
Basic	Storage		Assigned	Assigned			Resolved					
	Local Disk Configuration Policy		global-default		global-default 🖉	global-default 🖓						
Identifiers	Storage Profile		Raid-0-SP		Raid-0-SP (2*							
Connectivity					root							-
	Storage Items	Туре	RAID Level						100			*.
FC Zones	Data1	Local LUN	Unspecified	EUGULEON					0	laim Orph	aned LU	JN
Server	Not Applied	LocalUIN	Unsected	Not Applied	Admin State							_
_	Not Applied	Local Con	onspecified	LUN Key Indicators	Status	1						
Storage	<4 1-2 of 2 +>			Bostable	Disabled							
Policies				11IN Settless	Value							
				Contra	Value							
				order	NOT Applicable							
				Size (MB)	0							

Step 4.1. Select the **LUN** box that matches the name the claim LUN is set for and click **Claim Orphaned LUN** as shown in this image.

drop-down, choose the proper storage profile name, and click Save.

jdellipa-localstorage Claim Orphaned LUN root/jdellipa-localstorage/1011									
Do not select an Orpha	Do not select an Orphaned LUN with Deploy Action set to Delete.								
LUN	ID	Size (MB)	RAID Type	Deploy Action	Configuration Status				
Data2	1001	10240	Stripe	No-Action	Orphaned				
Data1	1000	30720	Stripe	No-Action	Orphaned				
 1-2 of 2 	**								
					Cancel Claim Orphan	ied LUN			

Step 5. Select **Profiles** from the sidebar, locate, and double-click on the proper service profile. Navigate to **Storage** and confirm all of the LUNs under **Storage Items** are now applied and online.

jdellipa	jdellipa-localstorage Service Profile									
Basic	Storage		Assigned		Resolved					
	Local Disk Configuration Policy		global-default		global-default 🖉					
Identifiers	Storage Profile		Raid-0-SP	Raid-0-SP						
Connectivity					root					
	Storage Items	Туре	RAID Level	Q Data1 Local LUN						
FC Zones	Data1	Local LUN	Stripe							
Server	Applied	Local LUN	Strine	Applied	Online					
_	Applied	Local Lon	Supe	LUN Key Indicators	Status					
Storage	 1-2 of 2 			Bootable	Disabled					
Policies					Volue					
1 010100				LUN Settings	Value					

Related information

- <u>Cisco UCS Central Getting Started Guide</u>
- <u>Cisco UCS Central Server Management Guide</u>
- <u>Cisco UCS Central Storage Management Guide</u>
- <u>Release Notes for Cisco UCS Central, Release 2.0</u>
- Cisco bug ID <u>CSCvu87668</u> Globalization of a Local Service Profile (LSP) can fail even though no Storage Profile is attached to the Service Profile.
- <u>Technical Support & Documentation Cisco Systems</u>