# 在Hyperflex中配置数据保护

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# 简介

本文档介绍如何在Hyperflex中配置复制。

## 先决条件

要求

Cisco 建议您了解以下主题:

- 统一计算系统管理器(UCSM)
- HyperFlex
- vCenter
- 网络
- DNS

### 使用的组件

本文档中的信息基于以下软件和硬件版本:

- HyperFlex Connect 5.0.2d
- Hyperflex Stretch群集

- Hyperflex标准集群
- UCSM 4.2(1升)
- vCenter 7.0 U3



注意:由于两个集群的数据保护要求具有相同的Hyperflex数据平台版本,因此集群的大小 和类型可以不同。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原 始(默认)配置。如果您的网络处于活动状态,请确保您了解所有命令的潜在影响。

## 背景信息

Hyperflex数据保护为您提供灾难恢复计划。它允许您具有复制到远程群集的自动快照。受保护虚拟 机的快照将发送到远程群集,具体取决于在群集中配置的频率。但是,只有最近拍摄的快照仍保留 在目标群集上。

### 其他背景信息

- 在配置IP范围时,最佳做法是分配比集群中存在的节点更多的IP,以备将来规划扩展时使用。
- 两端的MTU必须相同。
- 复制网络必须在同一VLAN的两个集群中使用相同的IP子网。

## 步骤

第1步:登录到Hyperflex系统并转到左操作窗格中的复制选项:

=	nect	Ф 🔺 З	U 2		
⑦ Dashboard	REPLICATION CONFIGURATION   Configure Network		Actions	~	
MONITOR Q Alarms	cluster pairing Pair Cluster				
습 Events Î Activity					
ANALYZE					
PROTECT					
MANAGE					
Datastores					
<ul> <li>ISCSI</li> <li>Virtual Machines</li> </ul>					
↓ Upgrade ↓ Web CLI					
Kubernetes					

复制选项

#### 第2步:点击配置网络选项,填写每个字段的信息并单击下一步:

= -shades HyperFlex Connect					Q ▲ 3 👔	JU 2 🛞	0 2
② Dashboard	REPLICATION CONFIGURATION	Configure Replication Network		08			
MONITOR Q Alarms	CLUSTER PAIRING Pair Cluster	VLAN Configuration IP &	Bandwidth Configuration Test Configuration	on			
슈 Events		Select an existing VLAN		-			
ANALYZE		Create a new VLAN					
PROTECT		VLAN Name UCS Manager host IP or					
MANAGE		FQDN User name					
System Information Datastores		Password		•			
ISCSI     Virtual Machines			Cancel	Next			
✓ Upgrade ➤ Web CLI							
Kubernetes							

配置复制网络

步骤3.设置复制网络的IP信息,添加子网、网关和IP范围。分配IP范围后,单击Add IP Range,然

#### 后单击Configure。

=										
Ø	Dashboard	REPLICATION CONFIGURATION	Configure Replication Network							
MO	NITOR	CLUSTER PAIRING Pair Cluster	VLAN Configuration	IP & Bandwidth Configu	ration Test	t Configuration				
Ĥ	Events		Subnet	p.q.r.s/ <number bits<="" of="" th=""><th>ž.</th><th></th><th></th><th></th><th></th><th></th></number>	ž.					
Î	Activity		Gateway	IPv4 address in the form	nat, 192.169.0.10					
ANA	MLYZE Declaration		IP Range	From	To	Add IP Range				
6400	Performance			No records found						
PRO	Replication									
MAI	NAGE									
E	System Information		Set replication bandwidth limit			Mbit/s				
8	Datastores		Set non default MTU ()							
8	ISCSI				Ba	ck Configure				
Ţ	Virtual Machines				_					
Ŷ	Upgrade									
>_	Web CLI									
0	Kubernetes									

配置复制网络

#### 第4步:验证并应用配置后,完成后,点击关闭:

=										
Ø	) Dashboard	REPLICATION CONFIGURATION	Configure Replication	Netwo	ork					
мo	NITOR Alarms	CLUSTER PAIRING Pair Cluster	VLAN Configuration	on	IP & Bandwidth Configuration	Test Configuration	-			
	Events Activity		Creating DR Network Status: Success 01/30/2024 7:48:59 PI	л						
AN.	ALYZE 1 Performance		[100]	4	Starting Configuration - Succeeded					
PRO	DTECT Replication		[103]	1	Configure Replication Vian - Succeeded Validate Cluster State - Succeeded					
MA	NAGE		[104]	*	Configure vian for Controller Succeeded					
	Datastores		[106]	Č,	Configure vian for Controller					
	ISCSI					Close				
`↑ >_	Upgrade Web CLI									
0	Kubernetes									

DR网络配置

第五步:在另一个集群中配置网络。对于此示例,第二个集群是延伸的,因此两个UCSM凭证都是 必需的。如果适用,请填写信息并单击Next:

= diada HyperFlex Connect				
⑦ Dashboard	REPLICATION CONFIGURATION	Configure Replication Network		08
MONITOR	CLUSTER PAIRING Pair Cluster	VLAN Configuration	IP & Bandwidth Configuration	Test Configuration
Events		UCS Manager Credentials for	r Site A	
ANALYZE		UCS Manager host IP or FQDN User name	ədmin	
PROTECT		Password UCS Manager Credentials for	r Size B	0
MANAGE		UCS Manager host IP or FQDN		
System Information		User name Password	admir	0
Virtual Machines  Upgrade				Cancel Next
>_ Web CLI				

第二个群集网络配置

第六步: 为第二个群集上的复制网络设置IP信息,添加相同的子网、网关和IP范围。分配IP范围后 ,单击Add IP Range,然后单击Configure:

= dude HyperFlex Connect									
O Dashboard	REPLICATION CONFIGURATION Configure Network	Configure Replication Network	_	_	08				
MONITOR	CLUSTER PARING Pair Cluster	VLAN Configuration	IP & Bandwidth Config	uration Test	Configuration				
순 Events		Subnet							
ANALYZE		Gateway IP Range	From	Tó	Add IP Range				
Performance		•			0				
Replication									
MANAGE System Information		Set replication bandwidth limit			Mbit/s				
<ul> <li>Datastores</li> <li>Virtual Machines</li> </ul>		Set non default MTU 🔘		1500					
T Upgrade				Bac	k Configure				
>_ web cu									

配置网络第二个集群

步骤 7.配置完成之后,系统会显示成功状态,然后单击Close:



DR网络配置第二个集群



注意:配置网络后,最佳做法是在两个集群之间执行网络测试,以确认它们能够相互通信。使用ping测试eth2接口之间的IP可接通性。

步骤 7.创建复制对,单击Replication,然后在Cluster Pairing选项中单击Pair Cluster。为复制对名称分配一个名称,然后单击"下一步":

= dudu HyperFlex Connect						
Oashboard	REPLICATION CONFIGURATION Network Configured	Create New Replication	) Pair	08	Actions	
Alarms	CLUSTER PAIRING → Pair Cluster	Name	Remote Connection	Run Test		
		Replication Pair Name	ReplicationDemo			
ANALYZE						
PROTECT						
Replication						
System Information				Cancel Next		
Datastores						
Virtual Machines						
>_ Web CLI						
Kubernetes						

复制对

步骤 8为要成为复制对的集群提供集群管理IP或FQDN,然后单击对:

≡ dude HyperFlex Connect						
② Dashboard	REPLICATION CONFIGURATION Network Configured	Create New Replication Pair		08	Actions	
MONITOR	CLUSTER PAIRING → Pair Cluster	Name Re	emote Connection	Run Test		
슈 Events		Establish a connection to a remote cluster Management IP or FQDN				
ANALYZE		User Name	admin			
erorer		Password		0		
Replication		③ Enter single sign-on or cluster credentials	for remote cluster			
MANAGE						
Datastores				Back Pair		
<ul> <li>ISCSI</li> <li>Virtual Machines</li> </ul>						
↓ Upgrade						
Web CLI     Kubernetes						

配对集群

m

步骤 8群集配对后,所有内容都设置为在同一复制页内的两个群集之间开始Datastore映射。屏幕上 会显示映射数据存储选项,请单击该选项:

= dude HyperFlex Connect						Â	₽ <sup>2</sup>	0	©   ₽
Dashboard     MONITOR	REPLICATION CONFIGURATION Network Configured	BANDWIDTH UMIT Unlimited					Actions		×.
Q Alarms ☆ Events	Cluster Pairing ReplicationDemo	DATASTORE MAPPED → Map Datastores					Actions		Ŷ
Activity	OUTGOING REPLICATION Active	VMs 0 To protect vi	rtual machines, go to the Virtual Machines page, sel	ect one or more virtual ma	chines and click Protect	Protection G	roups		
ANALYZE	INCOMING REPLICATION	VMs 0				Protection G	iroups		
PROTECT	Local VMs Remote VMs Replication Activity	Replication Pairs				Last refreshed	at: 01/30/20	24 5:44:56	о ма
C Replication	Protection Group   All Protected VMs   Standalone Pro	tected VMs							
MANAGE	✓ Edit Schedule	Sroup × Unprotect		P	ause				
System Information	Virtual Machine Name	<ul> <li>Protection Status</li> </ul>	Last Protection Time	Direction	Protection Group		Inter	val	
Datastores			No records found						
🗟 iscsi									
Virtual Machines									
>_ Web CLI									
Kubernetes									

映射Datastore

步骤 9在弹出窗口中,会显示Datastore映射,在左侧显示集群中的可用Datastore,并显示一个下拉 菜单,其中包含尝试保护VM的成对集群中的可用Datastore:

= dude HyperFlex Connect									
⑦ Dashboard	REPLICATION CONFIGURATION Network Configured	Datastore Mapping		08			Actions	Ŷ	
Alarms	Cluster Pairing ReplicationDemo	Create datastore pairs by mapping datastores or remote cluster. Ensure you have sufficient space	on this cluster with appropriate e on the datastores.	datastores on the			Actions		
암 Events	OUTGOING REPLICATION	Local Datastore	Remote Datastore		or more virtual mac	hines and click Protect	Protection Groups		
ANALYZE	INCOMING REPLICATION	10 GIB	Replication Demo	Space: 1 GiB) 🗸			Protection Groups		
PROTECT	Local VMs Remote VMs Replication Activ						Last refreshed at: 01/31/20	24 3 24 03 PM	
Replication	Protection Group   All Protected VMs   Standalor Z Edit Schedule — Remove from Group + Act				Pa	use			
System Information	Virtual Machine Name		Cancel	Map Datastores	ction	Protection Group	Inter	val	
E Datastores			No records found						
ାରେ । iscsi									
Virtual Machines									
↑ Upgrade									
Web CLI     Kubernetes									

映射Datastore



注意:可以在两个站点之间相互映射datastore,例如,Cluster1可以将datastore映射到 cluster2,Cluster2可以将datastore映射到cluster1,而无需任何额外配置。

步骤 10映射Datastore后,请定义保护组,指定名称并选择时间段以保护要与其关联的虚拟机。最 后,指定保护组的启动时间,然后单击Create Protection Group。

🕑 Dashboard		Create Protection Group		08		
MONITOR	REPLICATION CONFIGURATION Network Configured	Protection Group Name	Demo			Actions V
순 Events	Cluster Pairing ReplicationDemo	Protect virtual machines in this group every	1 hour	l v		Actions V
ANALYZE	OUTGOING REPLICATION	Start protecting the virtual machines immediately     Start protecting the virtual machines at	1:00 am		or more virtual machines and click Protect	Protection Groups 0
PROTECT	INCOMING REPLICATION	Cluster time zone Current time on cluster	(UTC -06:00 CST) 5:05:49 AM			Protection Groups © 0
MANAGE	Local VMs Remote VMs Replication Activ					Last refreshed at: 01/31/2024 10.09.30 PM
System Information	Protection Groups	Use VMware Tools to quiesce the virtual machine			Pause	
iscsi	+ Create Group 🖌 🔋 🛛 🗸		Cancel	Create Protection Group	Direction Protection	Group Interval
↓ Virtual Machines ↑ Upgrade				No records found		
Web CLI     Kubernetes						

保护组创建

#### 保护组注意事项

- 保护组定义数据保护的行为方式。
- 它允许您指定保护虚拟机的频率。
- 从5分钟到24小时,也即开始保护的时间。
- 它可以是即时或特定时间。
- 可以启用VMware工具使虚拟机静音。

系统将显示一条成功消息,指示保护组已创建,并显示在"保护组"区域中:

C Replication	Local VMs Remote VMs Rep	lication Activity Replication Pairs				Last refreshed at: 01/31/	2024 10:57:59 PM O			
MANAGE	Protection Group   All Protected VMs   Standalone Protected VMs									
	Protection Groups	Edit Schedule — Remove from Group +	Add to Group X Unprotect		Pau	se				
iscsi	+ Create Group 🖌 🔒	Virtual Machine Name	<ul> <li>Protection Status</li> </ul>	Last Protection Time	Direction	Protection Group	Interval			
🖵 Virtual Machines	Demo (0 VM)			No records found						
'∱ Upgrade	Active 0 5 minutes									
>_ Web CLI										
Kubernetes										

已创建保护组

步骤 11创建保护组后,最后一步是将其分配到要保护的虚拟机。导航到虚拟机选项卡,选择要保护 的虚拟机,然后单击保护:

☆ Events	Virtu	Virtual Machines								Last refreshed at: 02/01/2024 12:03:44 AM		
ANALYZE	🗋 Rea	) Ready Clones 💿 Snapshot Now 💿 Schedule Snapshot 🖄 Protect . 🔿 Power On 🔢 Suspend 😋 Power Off								€ v Filter	Eilter	
Performance		Name	↑ Status	IP Address	Guest OS	Host Name	Protection Status	Snapshots	Snapshot Schedule	Storage Provisioned	Storage Used	
PROTECT		Cisco-HX-Data-Platform-Installer- v5.0.2e-42642-esx	Powered On		Ubuntu Linux (64- bit)		Unprotected			24 GIB	24 GIB	
MANAGE		Installer 4.5	Powered On	-	Ubuntu Linux (64- bit)		Unprotected	1		27.6 GIB	7.5 GIB	
E System Information												
🗏 Datastores												
🕼 iscsi	1 ite	m selected										
Virtual Machines	1 - 3 of	3										
↑ Upgrade												

虚拟机保护

此时将显示一个弹出窗口。要附加创建的保护组,请选择它,然后单击Protect Virtual Machine:

Protect Virtual Machine		$\odot \otimes$					
Add to an existing protection group	Demo	~					
O Protect this virtual machine independently							
Protect this virtual machine every	1 hour						
Start protecting the virtual machines immediately							
<ul> <li>Start protecting the virtual machines at</li> </ul>	1:00 am	Θ					
Cluster time zone	(UTC -06:00 CST)						
Current time on cluster	6:35:47 AM						
Use VMware Tools to quiesce the virtual machine							
	Cancel Protect Virtual I	Machine					

选择保护组

### 受保护后,VM将显示为保护组的受保护状态。

슈 Events ① Activity	Virtu	Virtual Machines									Last refreshed at: 02/01/2024 12:11:22 AM	
Ready Clones © Snapshot Now © Schedule Snapshot © Protect. © Power On II Suspend © Power Off									🖻 🖌 🛛 Filte	r		
A Performance		Name	Status	IP Address	Guest OS	Host Name	Protection Status	Snapshots	Snapshot Schedule	Storage Provisioned	Storage Used	
PROTECT		Cisco-HX-Data-Platform-Installer- v5.0.2e-42642-esx	Powered On		Ubuntu Linux (64- bit)		Unprotected			24 GIB	24 GiB	
MANAGE		Installer 4.5	Powered On		Ubuntu Linux (64- bit)		Protected (Demo)			27.6 GIB	7.5 GIB	
System Information												
E Datastores												
G ISCSI	1 ite	m selected										
Virtual Machines	1 - 3 of	1-30/3										
Upgrade     Upgrade												
>_ Web CLI												
Kubernetes												

VM保护



注意:请确保受保护的VM属于要映射的Datastore,否则保护将失败。

故障排除

验证VM保护配置

最佳做法是监控复制选项卡下的VM保护:

MONITOR Alarms	REPLICATION CONFIGURATION Network Configured	BANDWIDTH UMIT Unlimited				Actions	×		
슈 Events Î Activity	Cluster Pairing ReplicationDemo	DATASTORE MAPPED		RECOVERY SETTINGS Configure		Actions	~		
ANALYZE	OUTGOING REPLICATION Active	VMs Protected 1 ✓ 1	Exceeds Interval O 0	Current Replication Failures <b>0</b>		Protection Group \$ 1			
PROTECT	INCOMING REPLICATION	VMs O				Protection Groups			
C Replication	Local VMs Remote VMs Replication Activity Replication Pairs Last refreshed at 02/01/2024 12:25:35 AM								
MANAGE System Information	Protection Group   All Protected VMs   Standalone Protecte	d VMs × Unprotect			Pause	€ × Filter			
Datastores     ISCSI	Virtual Machine Name	Protection Status	Last Protection Time	Direction	Protection Group	Interval			
Virtual Machines	Installer 4.5	Protected	02/01/2024 6:50:46 AM	Outgoing	Demo	Every 5 minutes			
'↑' Upgrade									
>_ Web CLI	1 - 1 of 1								
Kubernetes									

监控受保护的VM

#### 监视复制活动

可以通过单击复制活动选项卡中的以下内容来监视复制活动:

MONITOR Q Alarms	REPLICATION CONFIGURATION Network Configured		BANDWIDTH LIMIT					)		Actions ~
슈 Events 웹 Activity	Cluster Pairing ReplicationDemo		DATASTORE MAPPED			- C	RECOVERY SET Configure	TTINGS		Actions ~
ANALYZE	OUTGOING REPLICATION Active		VMs 1	Protected Exc ✓ 1 O	ceeds Inten	ral	Current Repli	ication Failures		Protection Group 8 1
PROTECT	INCOMING REPLICATION		VMs O						1	ratection Groups 0
Manage	Local VMs Remote VMs	Replication Activity Rep	lication Pairs						Là	st refreshed at: 02/01/2024 12:29:29 AM
E System Information										Filter
E Datastores	Virtual Machine	Remote Cluster	Status	Start Time	~	End Time	Pr	rotection Group	Direction	Data Transferred
liscsi	Installer 4.5	Tokio	Completed	02/01/2024 6:54:49 AM		02/01/2024 6:54:49 AM	D	emo	Outgoing	464 KIB
Virtual Machines	Installer 4.5	Tokio	Completed	02/01/2024 6:50:46 AM		02/01/2024 6:50:47 AM	D	emo	Outgoing	692 KIB
↑ Upgrade	Installer 4.5	Tokio	Completed	02/01/2024 6:46:43 AM		02/01/2024 6:46:44 AM	D	emo	Outgoing	520 KIB
>_ Web CLI	Installer 4.5	Tokio	Completed	02/01/2024 6:42:40 AM		02/01/2024 6:42:40 AM	D	emo	Outgoing	724 KiB
G Kubernetes	Installer 4.5	Tokio	Completed	02/01/2024 6:38:35 AM		02/01/2024 6:38:49 AM	D	emo	Outgoing	5.8 GIB
	1 - 5 of 5									

复制活动

## 常见问题

线对问题

可能出现配对问题:

Create New Replication Pair		∞ (2)					
Name R	emote Connection	Run Test					
S Unable to fetch the DR network configuration from remote Cluster. Please retry the operation after validating DR network configuration in remote Cluster.							
Establish a connection to a remote cluster							
Management IP or FQDN							
User Name	admin						
Password		ø					
① Enter single sign-on or cluster credential	s for remote cluster						
		Back Pair					

配对问题

- 确保在两个群集中都配置了复制网络。
- 确保集群之间可以相互访问。

连接问题

- 验证eth2是否存在。在每个存储控制器虚拟机上使用ifconfig命令确认已正确配置了eth2。
- 使用ping测试eth2接口之间的连接。
- 确保两个群集中的复制VLAN匹配。
- 确保在群集之间的所有路径中正确配置复制VLAN。

eth2 Link encap:Ethernet HWaddr inet addr:172 .9 Bcast:172 .255 Mask:255.255.255.0 UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:30774 errors:0 dropped:29 overruns:0 frame:0 TX packets:32960 errors:0 dropped:0 overruns:0 carrier:0 collision:0 txqueuelen:1000 RX bytes:2893235 (2.8 MB) TX bytes:3141789 (3.1 MB)
eth2:0 Link encap:Ethernet HWaddr inet addr:172 .7 Bcast:172 .255 Mask:255.255.255.0 UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
eth0:mgmtip Link encap:Ethernet HWaddr inet addr: Bcast Mask:255.255.255.0 UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
<pre>lo Link encap:Local Loopback inet addr:127.0.0.1 Mask:255.0.0.0 UP LOOPBACK RUNNING MTU:65536 Metric:1 RX packets:12876504/225 errors:0 dropped:0 overruns:0 frame:0 TX packets:12876504/225 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:2722351786798 (2.7 TB) TX bytes:2722351786798 (2.7 TB)</pre>
) hxshell:-\$ ping 172 .3 PING 172 .3 (172 .3) 56(84) bytes of data. 64 bytes from 172 .3: icmp_seq=1 ttl=64 time=0.158 ms 64 bytes from 172 .3: icmp_seq=2 ttl=64 time=0.137 ms 64 bytes from 172 .3: icmp_seq=3 ttl=64 time=0.115 ms 64 bytes from 172 .3: icmp_seq=4 ttl=64 time=0.143 ms 64 bytes from 172 .3: icmp_seq=5 ttl=64 time=0.143 ms 64 bytes from 172 .3: icmp_seq=7 ttl=64 time=0.143 ms 64 bytes from 172 .3: icmp_seq=7 ttl=64 time=0.149 ms 64 bytes from 172 .3: icmp_seq=7 ttl=64 time=0.140 ms 64 bytes from 172 .3: icmp_seq=7 ttl=64 time=0.140 ms 64 bytes from 172 .3: icmp_seq=7 ttl=64 time=0.146 ms 64 bytes from 172 .3: icmp_seq=9 ttl=64 time=0.146 ms 64 bytes from 172 .3: icmp_seq=9 ttl=64 time=0.146 ms 64 bytes from 172 .3: icmp_seq=9 ttl=64 time=0.145 ms 70 172 .3 ping statistics 9 packets transmitted, 9 received. 0% packet loss, time 8199ms rtt min/avg/max/mdev = .019 ms

Ping 测试

## 保护问题

#### **Protect Virtual Machine**

Sisco-HX-Data-Platform-Installer-v5.0.2e-42642-es ) are not paired.	sx : Unable to protect the VM, some	datastores 🗙
Add to an existing protection group	Demo	~
O Protect this virtual machine independently		
Protect this virtual machine every	1 hour	
Start protecting the virtual machines immediat	ely	
Start protecting the virtual machines at	1:00 am	Θ
Cluster time zone	(UTC -06:00 CST)	
Current time on cluster	3:45:32 AM	
Use VMware Tools to quiesce the virtual machi	ne	
	Cancel Protect Virt	ual Machine

保护问题

- 确保要保护的虚拟机属于映射的Datastore。
- 确保Datastore已正确映射。



注意:某些修复需要技术支持中心(TAC)的干预。如有必要,向TAC提交支持请求。

## 相关信息

- <u>思科HyperFlex数据平台管理指南5.0版</u>
- <u>思科技术支持和下载</u>

#### 关于此翻译

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