# Solução de problemas do UCS SAN

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### **Introduction**

Este documento fornece dicas úteis de solução de problemas para o Unified Computing System (UCS) SAN.

### **Prerequisites**

### **Requirements**

A Cisco recomenda que você tenha conhecimento da UCS SAN.

### **Componentes Utilizados**

Este documento não se restringe a versões de software e hardware específicas.

### **Conventions**

Consulte as <u>Convenções de Dicas Técnicas da Cisco para obter mais informações sobre</u> <u>convenções de documentos.</u>

### **Dicas para Troubleshooting**

#### Verifique se o vHBA tem FLOGI na estrutura da SAN.

1. Faça login no UCS CLI e conecte-se ao NXOS.
# connect nxos a|b
(nxos)# show npv flogi-table

UCS-250-A# connect nxos							
Cisco Nexus Operating System (NX-OS) Software							
TAC support: http://www.cisco.com/tac							
Copyright	Copyright (c) 2002-2011, Cisco Systems, Inc. All rights reserved.						
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the GNU Ge	eneral	Public I	icense (GPL) version 2.0	) or the GNU			
Lesser Ger	neral	Public Li	icense (LGPL) Version 2.3	l. A copy of each			
such licer	nse is	s availabl	le at				
http://www	J.oper	source.or	g/licenses/gpl-2.0.php a	and			
http://www	J.oper	source.or	g/licenses/lgpl-2.1.php				
UCS-250-A	(nxos)	# show np	ov flogi-table				
OTTOTAL					CONTRACTOR CONT & C		
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SERVER INTERFACE	vsan	FCID	PORT NAME	NODE NAME	EXTERNAL INTERFACE		
SERVER INTERFACE  vfc3299	VSAN	FCID Ox5e00ec	PORT NAME 20:bb:0a:03:00:00:00:1d	NODE NAME 50:01:23:45:44:55:66:cf	EXTERNAL INTERFACE fc2/1		
SERVER INTERFACE vfc3299 vfc3454	VSAN 1000 1000	FCID 0x5e00ec 0x5e0105	PORT NAME 20:bb:0a:03:00:00:00:1d 20:00:00:25:b5:b0:25:2d	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e	EXTERNAL INTERFACE fc2/1 fc2/1		
SERVER INTERFACE  vfc3299 vfc3454 vfc3468	VSAN 1000 1000 1000	FCID 0x5e00ec 0x5e0105 0x5e00d8	PORT NAME 20:bb:Oa:O3:00:00:00:1d 20:00:00:25:b5:b0:25:2d 20:00:00:25:b5:b0:05:1f	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e 20:00:00:25:b5:a0:05:1f	EXTERNAL INTERFACE fc2/1 fc2/1 fc2/1		
SERVER INTERFACE  vfc3299 vfc3454 vfc3468 vfc3468 vfc3474	VSAN 1000 1000 1000 1000	FCID 0x5e00ec 0x5e0105 0x5e00d8 0x5e00d2	PORT NAME 20:bb:0a:03:00:00:00:1d 20:00:00:25:b5:b0:25:2d 20:00:00:25:b5:b0:05:1f 20:00:00:25:b5:b0:05:3f	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e 20:00:00:25:b5:a0:05:1f 20:00:00:25:b5:a0:05:0f	EXTERNAL INTERFACE fc2/1 fc2/1 fc2/1 fc2/1		
SERVER INTERFACE  vfc3299 vfc3454 vfc3468 vfc3474 vfc3506	VSAN 1000 1000 1000 1000 1000	FCID 0x5e00ec 0x5e0105 0x5e00d8 0x5e00d2 0x5e0103	PORT NAME 20:bb:0a:03:00:00:00:1d 20:00:00:25:b5:b0:25:2d 20:00:00:25:b5:b0:05:1f 20:00:00:25:b5:b0:05:3f 20:00:00:25:b5:b0:25:3f	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e 20:00:00:25:b5:a0:05:1f 20:00:00:25:b5:a0:05:0f 20:00:00:25:b5:a0:25:1e	EXTERNAL INTERFACE fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1		
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SERVER INTERFACE  vfc3299 vfc3454 vfc3468 vfc3468 vfc3506 vfc3506 vfc3528 vfc3607	VSAN 1000 1000 1000 1000 1000 1000	FCID 0x5e00ec 0x5e0105 0x5e00d8 0x5e00d2 0x5e0103 0x5e010a 0x5e010a	PORT NAME 20:bb:0a:03:00:00:00:1d 20:00:00:25:b5:b0:25:2d 20:00:00:25:b5:b0:05:3f 20:00:00:25:b5:b0:25:3f 20:00:00:25:b5:b0:25:3f 20:00:00:25:b5:b0:05:1a 20:00:00:25:b5:b9:30:02	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e 20:00:00:25:b5:a0:05:1f 20:00:00:25:b5:a0:05:0f 20:00:00:25:b5:a0:25:1e 20:00:00:25:b5:a0:05:01 50:01:23:45:44:55:66:bf	EXTERNAL INTERFACE fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1		
SERVER INTERFACE  vfc3299 vfc3454 vfc3468 vfc3474 vfc3506 vfc3528 vfc3607 vfc3611	VSAN 1000 1000 1000 1000 1000 1000 1000	FCID 0x5e00ec 0x5e0105 0x5e00d8 0x5e00d2 0x5e0103 0x5e010a 0x5e010a 0x5e00eb 0x5e00ca	PORT NAME 20:bb:0a:03:00:00:00:1d 20:00:00:25:b5:b0:25:2d 20:00:00:25:b5:b0:05:1f 20:00:00:25:b5:b0:25:3f 20:00:00:25:b5:b0:25:1a 20:00:00:25:b5:b0:05:1a 20:00:00:25:b5:b9:30:02 20:00:00:25:b5:b0:05:00	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e 20:00:00:25:b5:a0:05:1f 20:00:00:25:b5:a0:05:0f 20:00:00:25:b5:a0:25:1e 20:00:00:25:b5:a0:05:01 50:01:23:45:44:55:66:bf 20:00:00:25:b5:a0:05:06	EXTERNAL INTERFACE fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1		
SERVER INTERFACE vfc3299 vfc3454 vfc3468 vfc3474 vfc3506 vfc3528 vfc3607 vfc3611 vfc3611 vfc3617	VSAN 1000 1000 1000 1000 1000 1000 1000 10	FCID 0x5e00ec 0x5e0105 0x5e00d8 0x5e00d2 0x5e0103 0x5e010a 0x5e010a 0x5e00eb 0x5e00ca 0x5e00c4	PORT NAME 20:bb:0a:03:00:00:00:1d 20:00:00:25:b5:b0:25:2d 20:00:00:25:b5:b0:05:1f 20:00:00:25:b5:b0:25:3f 20:00:00:25:b5:b0:25:1a 20:00:00:25:b5:b0:05:1a 20:00:00:25:b5:b0:05:00 20:00:00:25:b5:b0:05:00	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e 20:00:00:25:b5:a0:05:1f 20:00:00:25:b5:a0:05:0f 20:00:00:25:b5:a0:05:01 50:01:23:45:44:55:66:bf 20:00:00:25:b5:a0:05:06 20:00:00:25:b5:a0:36:0f	EXTERNAL INTERFACE fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1		
SERVER INTERFACE vfc3299 vfc3454 vfc3468 vfc3468 vfc3506 vfc3528 vfc3528 vfc3607 vfc3611 vfc3617	VSAN 1000 1000 1000 1000 1000 1000 1000 10	FCID 0x5e00ec 0x5e0105 0x5e00d8 0x5e00d2 0x5e0103 0x5e010a 0x5e00eb 0x5e00ca 0x5e00c4	PORT NAME 20:bb:0a:03:00:00:00:1d 20:00:00:25:b5:b0:25:2d 20:00:00:25:b5:b0:05:1f 20:00:00:25:b5:b0:25:3f 20:00:00:25:b5:00:05:1a 20:00:00:25:b5:b9:30:02 20:00:00:25:b5:b0:05:00 20:00:00:25:b5:b0:05:00	NODE NAME 50:01:23:45:44:55:66:cf 20:00:00:25:b5:a0:25:2e 20:00:00:25:b5:a0:05:1f 20:00:00:25:b5:a0:05:0f 20:00:00:25:b5:a0:25:1e 20:00:00:25:b5:a0:05:01 50:01:23:45:44:55:66:bf 20:00:00:25:b5:a0:05:06 20:00:00:25:b5:a0:36:0f	EXTERNAL INTERFACE fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1 fc2/1		

Verifique se o FCID do WWPN está atribuído e se o VSAN está correto.

2. Como alternativa, no switch Cisco MDS, verifique se o WWPN tem FLOGI. SV-35-06-MDS9222i# show flogi database

SV-35-06-MDS9222i# show fcns database

Verifique o zoneamento no switch MDS para certificar-se de que o vHBA (WWPN) e o destino de armazenamento estejam on-line e na mesma zona.

SV-35-06-MDS9222i# show zoneset active vsan 1000
SV-35-06-MDS9222i# show zoneset active vsan 1000   begin matao
zone name matao vsan 1000
pwwn 20:00:00:25:b5:b3:05:0f
* fcid Ox5e00ef [pwwn 50:06:01:62:44:60:44:fa] [SPA2]
* fcid 0x5e01ef [pwwn 50:06:01:6a:44:60:44:fa] [SPB2]
* fcid 0x5e00d2 [pwwn 20:00:00:25:b5:b0:05:3f]
* fcid 0x5e00d8 [pwwn 20:00:00:25:b5:b0:05:1f]
pwwn 20:00:00:25:b5:b5:05:0f <b> wwpn not online</b>
pwwn 20:00:00:25:b5:b5:05:2f

Verifique se o vHBA pode ver o destino durante a inicialização da SAN.

No UCS Manager, se o blade puder ser inicializado a partir da SAN, o UCS Manager "Ordem de inicialização real" deve ser capaz de ver o WWPN de todos os destinos.

Boot Order Details	8
Configured Boot Order Actual Boot Order	
There may be a delay of a few minutes before the actual boot order is updated.	-
Last Update: 2012-12-01T00:22:50	
🗈 🖃 🖨 Export 📚 Print	
Name	
I⊞@ CD/DVD	
HDD	
	Ξ
(2) Elx 00 50060168446044FA,00 04 1	
UCS should see the target WWPN	Ŧ
4 III II	

Ao inicializar a lâmina, pressione F2 para entrar no BIOS e navegue até o Gerenciador de inicialização. O BIOS deve ser capaz de ver o LUN para inicialização.



Para o adaptador PALO, neste estágio (quando o SO ainda não foi iniciado), você também pode se conectar ao adaptador para verificar se o vHBA tem FLOGI e PLOGI.



Depois que o SO for inicializado, a saída será diferente. Isso é esperado.



Para um adaptador M71KR-E, ao inicializar o servidor, pressione Control + E para entrar no utilitário de configuração Emulex HBA. Em seguida, escolha o vHBA e liste o dispositivo de inicialização. O vHBA deve ser capaz de ver o destino.

	Adapter	01:	S_ID:	6E00AC	PCI	Bus, 1	Devi	ce, ]	Function	(04	1,00,01)
	List of	Saved	l Boot	Devices:							
1. 2. 3. 4. 5. 6. 7. 8.	Used Used Unused Unused Unused Unused Unused Unused	DID:0 DID:0 DID:0 DID:0 DID:0 DID:0 DID:0 DID:0		WWPN : 50060 WWPN : 50060 WWPN : 00000 WWPN : 00000 WWPN : 00000 WWPN : 00000 WWPN : 00000 WWPN : 00000 WWPN : 00000	9160 958 9600 9600 9600 9600 9600 9600	44604 44604 000000 000000 000000 000000 000000	4FA 4FA 000 000 000 000	LUN : ( LUN : ) LUN : ( LUN : ( LUN : ( LUN : ( LUN : (	00 Prim 0 00 00 00 00	iary	Boot
								UN ID			
	Select a	a Boot	t Entr <u>ı</u>	): _							booting device
Ent	er <x> to</x>	D Exit	ţ	<esc></esc>	to ]	Previo	us M	lenu			

Verifique se o vHBA tem o ID de LUN correto para inicialização a partir da SAN.

A política de inicialização associada ao perfil de serviço tem a configuração de inicialização. Verifique se o WWPN do destino está correto e se o ID do LUN também corresponde ao LUN definido no armazenamento.

Boot Order						
🛨 🖂 🛋 Filter 🖨 Export 😸 Pr	int					
Name	Order	VNIC/VHBA/ISCSI VNIC	Туре	Lun ID	WWN	14
@ CD-ROM	1					~
🗄 📃 Storage	2					
🖨 🚍 SAN primary		fc1	Primary			
SAN Target primary			Primary	0	50:06:01:60:44:60:44:FA	
🖹 🚍 SAN secondary		fc0	Secondary	<b>X</b>		
SAN Target primary			Primary	0	50:06:01:62:44:60:44:FA	
Booting LUN ID should match the Host ID from the storage controller						
Create DCSL VNLC Set DCS	L Boot Parameter	5			K Grobe Cancel	Hole
				[ ~		nep

A seguir, um exemplo do armazenamento da EMC. No grupo de armazenamento, o LUN 1301 é mapeado para o host com ID 0, que deve corresponder à ID definida na política de inicialização.

	- matao_stroage_grp	1: Storage Group Pro	perties	
Seneral LUNs	Hosts			
Show LUNs: Not	in other Storage G	Froups 💟		
Available LUNs —				
Name 🛆	ID	Capaci	ty	Drive Type
⊕– 🚰 MetaLUNs ⊕– 🗭 SP A ⊕– 🗭 SP B				
				Add
Selected LUNs — Name	ID	Capacity	Drive Type	Host ID
Selected LUNs	ID 1301	Capacity 10.000 GB	Drive Type FC	Host ID
Selected LUNs	ID 1301 1302	Capacity 10.000 GB 40.000 GB	Drive Type FC FC	Host ID 0 1
Name LUN 1301 LUN 1302 LUN 1305	ID 1301 1302 1305	Capacity 10.000 GB 40.000 GB 50.000 GB	Drive Type FC FC FC	Host ID 0 1 3
Selected LUNs	ID 1301 1302 1305 make sure th	Capacity 10.000 GB 40.000 GB 50.000 GB e LUN is mapped	Drive Type FC FC FC FC	Host ID 0 1 3 ith the
Name LUN 1301 LUN 1302 LUN 1305	ID 1301 1302 1305 make sure th right Host ID	Capacity 10.000 GB 40.000 GB 50.000 GB e LUN is mapped	Drive Type FC FC FC FC <i>to the host w</i>	Host ID 0 1 3 ith the
Name LUN 1301 LUN 1302 LUN 1305	ID 1301 1302 1305 make sure th right Host ID	Capacity 10.000 GB 40.000 GB 50.000 GB e LUN is mapped	Drive Type FC FC FC FC FC	Host ID 0 1 3 <i>ith the</i> <u>R</u> emove
Selected LUNs         Name         LUN 1301         LUN 1302         LUN 1305         Warning: HLU num         host failover softw	ID 1301 1302 1305 <i>make sure th</i> <i>right Host ID</i> nbers higher than 2 vare.	Capacity 10.000 GB 40.000 GB 50.000 GB <i>e LUN is mapped</i> 55 may result in app	Drive Type FC FC FC <i>to the host wi</i>	Host ID 1 3 <i>ith the</i> <u>R</u> emove If not supported by the

### Verifique se o destino FC pode ver o vHBA (WWPN) e se ele tem PLOGI para o destino.

<ul> <li>Joyce.esx.server [10.66.71.233; Fibre; Manually registered] None Assigned</li> <li>Joyce_BFS [10.66.71.220; Fibre; Manually registered; Host AgentJoyce-BFS</li> <li>Joyce_BFS_2 [10.66.71.241; Fibre; Manually registered; Host AgOuyce_BFS_2</li> <li>Lloyds-1 [10.67.80.141; Fibre; Manually registered; Host Agent n None Assigned</li> <li>Lloyds-2 [10.67.80.142; Fibre; Manually registered; Host Agent n None Assigned</li> <li>Lloyds-2 [10.66.71.26; Fibre; Manually registered; Host Agent n None Assigned</li> </ul>	Stora Iogin	nge see all ti	he vHBA	paths
E matao-u172-c1-b3 [10.66.87.194; Fibre; Manually registered; Holmatao_stroage_grp1				-14
20:00:00:25:85:A0:05:0F:20:00:00:25:85:80:05:2F	Tes	Yes	A-0	Fibre
- 🦉 20:00:00:25:85:A0:05:0F:20:00:00:25:85:80:05:2F	Yes	Yes	B-0	Fibre
- 🦉 20:00:00:25:85:A0:05:0F:20:00:00:25:85:80:05:3F	Yes	Yes	A-2	Fibre
- # 20:00:00:25:85:A0:05:0F:20:00:00:25:85:80:05:3F	Yes	Yes	B-2	Fibre
🛱– 📠 matao-ucs250-c4-b7 [10.66.87.196; Fibre; Manually registered; hmatao_storage_grp2 —				
- 🦉 20:00:00:25:85:A0:05:1F:20:00:00:25:85:80:05:0F	Yes	Yes	A-0	Fibre
- # 20:00:00:25:85:A0:05:1F:20:00:00:25:85:80:05:0F	Tes	Yes	B-0	Fibre
- 20:00:00:25:85:A0:05:1F:20:00:00:25:85:80:05:1F	Tes	Yes	A-2	Fibre
- 20:00:00:25:B5:A0:05:1F:20:00:00:25:B5:B0:05:1F	Yes	Yes	B-2	Fibre

#### Verifique se a imagem personalizada do ESXi da Cisco é usada para o SAN Boot.

Se o ESXi não conseguir ver o LUN na SAN enquanto o vHBA vê o LUN durante o estágio de inicialização, é provável que a imagem do ESXi não tenha o driver certo. Verifique se o cliente está usando a imagem personalizada do ESXi da Cisco. Acesse o site da VMware e procure "Cisco ESXi" para fazer download da imagem personalizada da Cisco.

Imagem personalizada da Cisco para ESXi 5.1.0

https://my.vmware.com/web/vmware/details?downloadGroup=CISCO-ESXI-5.1.0-GA-25SEP2012&productId=285

Imagem personalizada da Cisco para ESXi 5.0.0 U1

https://my.vmware.com/web/vmware/details?downloadGroup=CISCO-ESXI-5.0.0-U1-28AUG2012&productId=268

Imagem personalizada da Cisco para ESXi 4.1 U2

https://my.vmware.com/web/vmware/details?downloadGroup=OEM-ESXI41U2-CISCO&productId=230

Imagens ISO do vSphere 5.0 Rollp (fornece uma imagem ISO ESXi instalável que inclui drivers para vários produtos produzidos por parceiros VMware), por exemplo com o servidor C220 M3, CIMC 1.46c e LSI 9266-8i. Mesmo a imagem personalizada do ESXi não tem o driver para detectar o armazenamento local.

https://my.vmware.com/web/vmware/details?downloadGroup=ROLLUPISO\_50\_2&productId=229

Consulte também a nota de versão de rollup

http://www.vmware.com/support/vsphere5/doc/vsphere-esxi-50-driver-rollup2-release-notes.html

Verifique se o ESXi está usando o mesmo driver de fnic correto.

Ative o SSH e o ESX SHELL e o logon no host ESXi. Em seguida, execute vmkload\_mod -s fnic.



Verifique se o host pode ver todos os caminhos para o destino de armazenamento do VMware ESXi.

- 1. Verifique as informações de LUN que podem ser vistas por qualquer vHBA.
  - ~ # esxcfg-scsidevs -c

Device Type Console Device UID Device Size Multipath PluginDisplay Name naa.6006016081f0280000e47af49150e111 Direct-Access /vmfs/devices/disks/naa.60060 16081f0280000e47af49150e111 40960MB NMP DGC Fibre Channel Disk (naa.600601608 1f0280000e47af49150e111) naa.6006016081f028007a6ffec12985e111 Direct-Access /vmfs/devices/disks/naa.600601 6081f028007a6ffec12985e111 51200MB NMP DGC Fibre Channel Disk (naa.6006016081f 028007a6ffec12985e111) naa.6006016081f02800ca79c3b09150e111 Direct-Access /vmfs/devices/disks/naa.600601 6081f02800ca79c3b09150e111 10240MB NMP DGC Fibre Channel Disk (naa.6006016081f 02800ca79c3b09150e111)

#### 2. Verifique qual vHBA pode ver quais LUNs.

~ # esxcfg-scsidevs -A

vmhba1	naa.6006016081f0280000e47af49150e111
vmhba1	naa.6006016081f028007a6ffec12985e111
vmhba1	naa.6006016081f02800ca79c3b09150e111
vmhba2	naa.6006016081f0280000e47af49150e111
vmhba2	naa.6006016081f028007a6ffec12985e111
vmhba2	naa.6006016081f02800ca79c3b09150e111

Neste exemplo acima, vmhba1 e vmhba2 podem ver os 3 LUNs.

#### 3. Verifique os caminhos para os LUNs.

~ # esxcfg-mpath -b naa.6006016081f0280000e47af49150e111 : DGC Fibre Channel Disk (naa.6006016081f02800 00e47af49150e111) vmhba1:C0:T0:L1 LUN:1 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:3f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:6a: 44:60:44:fa vmhba1:C0:T1:L1 LUN:1 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:3f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:62: 44:60:44:fa vmhba2:C0:T0:L1 LUN:1 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:2f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:60: 44:60:44:fa vmhba2:C0:T1:L1 LUN:1 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:2f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:68: 44:60:44:fa naa.6006016081f028007a6ffec12985e111 : DGC Fibre Channel Disk (naa.6006016081f028007a 6ffec12985e111) vmhba1:C0:T0:L3 LUN:3 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:3f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:6a: 44:60:44:fa vmhba1:C0:T1:L3 LUN:3 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:3f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:62: 44:60:44:fa vmhba2:C0:T0:L3 LUN:3 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:2f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:60: 44:60:44:fa vmhba2:C0:T1:L3 LUN:3 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:2f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:68: 44:60:44:fa naa.6006016081f02800ca79c3b09150e111 : DGC Fibre Channel Disk (naa.6006016081f02800ca 79c3b09150e111) vmhba1:C0:T0:L0 LUN:0 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:3f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:6a: 44:60:44:fa vmhba1:C0:T1:L0 LUN:0 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:3f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:62: 44:60:44:fa vmhba2:C0:T0:L0 LUN:0 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN: 20:00:00:25:b5:b0:05:2f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:60: 44:60:44:fa

```
vmhba2:C0:T1:L0 LUN:0 state:active fc Adapter: WWNN: 20:00:00:25:b5:a0:05:0f WWPN:
20:00:00:25:b5:b0:05:2f Target: WWNN: 50:06:01:60:c4:60:44:fa WWPN: 50:06:01:68:
44:60:44:fa
```

Neste exemplo, há quatro caminhos para cada LUN: dois de vmhba1 e dois de vmhba2.

## Informações Relacionadas

Suporte Técnico e Documentação - Cisco Systems