主机相关 存储配置 **孙清雷** 2019-03-26 发表

受测设备为StoreVirtual 3200 iSCSI, LHOS 13.6

## 配置步骤

测试环境中主机端为DL380Gen8,万兆网卡为NC552,VMware ESXi 6.5u1。

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A Back	Getting Started Summary	Monitor Configure Permission	s VMs Datastore:	s Networks Update Mana	ager	
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	Model	StoreEasy 3830 Gateway Storage	Attribute	Value		
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Confgure > Storage > iSCSI Software Adapters,可见IQN。

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ESXi主机端使用万兆网卡创建Teaming并添加至iSCSI Software Adapter。

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	VM Startup/Shutdown	9 iSCSI-02 (vSwitch1)	💌 vmk2 🔮 C	ompliant	Not used	mnic5 (10 Gbit/s, Full)	
	Agent VM Settings						
	Swap file location						
	Default VM Compatibility						
	- System						
	Licensing						
	Time Configuration						

Vmk1 IP为192.168.1.181, Vmk2 IP为192.168.1.182。

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	Time configuration						

存储端1号控制器bond0 IP为192.168.1.161。

SV3200-881060-SC1 - 5	Storage Co 🗙 🕂			_ 🗆 X
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Device Network Gateway Mask Flags			
eth2 0.0.0.0 10.12.172.1 0.0.0.0 UG			
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band0 192.168.1.0 0.0.0.0 255.255.255.0 U			
TCP/IP Communication Manager IP Addresses			
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SV3200-882416-SC2 -	Storage Cr 🗙 🕂		_ <b>_</b> X
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•	State	Manager status is normal, Store process state is normal, StoreVirtual OS Connection, Repair status is normal, Normal	
SV3200-8B1060-	Storage system	51402EC00094CA40	
SCI	Serial number	PELXQA3LM200FO	
13.6.00.0241.0	Manager	Coordinating manager	
<b>•</b>	Locate	Off	
	StoreVirtual OS version	13.6.00.0241.0	
• SV3200-8B2416-	Latest patches	136-003-00, 11/20/2018 12:2318 PM 136-005-00 11/15/2018 3:49:03 PM	
SC2		136-007-00, 11/15/2018 4:40:04 PM	
13600.02410		136-001-00, 11/15/2018 2:23:21 PM	
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创建存储池。





oreVirtual V Create St	torage Pool					?	Q 8 1
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	ISNS servers						
		optional					
	Type	Standard				- 1	
Storage Sys	tems						
<ul> <li>Name</li> </ul>		P Address S	Site StoreVirtual C	S Version Raw Capacity	(TiB)		
• 51402	EC00094CA40 1	92.168.1.161,192.168.1.162	none 13.6.00.0241.0		3.27 ×		
Add st	orage systems	7					
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主机端iSCSI Software Adapter, Targets > Dynamic Discovery, 点击Add。

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输入存储池VIP。

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	Licensing Time Configuration Authentication Services			

Static Discovery可见存储端双控的bond IP以及设备名称。





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	VM Startup/Shutdown				
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	Default VM Compatibility				
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StoreVirtual > Servers, 创建服务器。



由于主机端已添加存储池VIP,即进行了Iscsi Discovery操作,故存储端创建服务器时,可选择Choose from available initiators。

Create - Server - StoreV	irtual × +				_ <b>D</b> X
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StoreVirtual $\sim$	Create Server			?	Å   🖉   8   ?
Servers 0	Name	SunQinglei-ESXi6.5			
+ Create server	Description		optional		
Name	AASM server		optional		
No servers	AASM server port		optional		
	Boot Volume Set boot volume	No			
	ISCSI				
	Initiator	Choose from available initiators     Manually configure the initiator     Select initiator	Select		
	CHAP CHAP required	No.		_	
		Create	Create + C	ancel	

其中可见主机端IQN。

Create - Server - StoreVir	rtual X	+	_ <b>D</b> X
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+ Create server		all 1 Initiator Node Name A IP	
Name		ign.1998-01.com.vmware:5bf97728-e259-9ce8-3591-1458d0b24c60-2cc7fe18 192.168.1.181	
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		Select Cancel	
		Choose from available initiators     Manually configure the initiator	
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Create - Server - StoreV	/irtual × +			_ <b></b>
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ivo servers	AASM server port		optional	
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	CHAP CHAP required	No		
		Create	Create + Cancel	

服务器创建完成。



服务器的会话视图可见主机端网卡与存储端控制器端口bond形成的四条路径。

SunQinglei-ESXi6.5 - Serve	rs - Ste × +			_ 0
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ervers 1				
+ Create server	SunQinglei-ESXi6.5	Sessions ~ 🗧		Actions
Name A	iSCSI sessions	1		
SunQinglei-ESXi6.5	Initiator node name	qn.1998-01.com.vmware:5bf97728-e259-9ce8	-3591-1458d0b24c60-2cc7fe18	
	Initiator IP/Port	<ul> <li>Session Identifier</li> </ul>	Target IP/Port	Target Storage Controller
	192.168.1.181/0	23d0000010001	192.168.1.161/3260	SV3200-8B1060-SC1
	192.168.1.182/0	23d0000020002	192.168.1.161/3260	SV3200-8B1060-SC1
	192.168.1.181/0	23d0000030007	192.168.1.162/3260	SV3200-8B2416-SC2
	192.168.1.182/0	23d0000040008	192.168.1.162/3260	SV3200-8B2416-SC2

StoreVirtual > Volumes, 点击Create Volume, 创建存储卷。

- Volumes - StoreVirtual × +		_ <b>D</b> X
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■ Volumes - StoreVirtual × +         ← → C       ▲ Not secure   https://10.12.173.205/#/volumes/show/overview         ★       → C       ▲ Not secure         StoreVirtual ∨       Q Search       SV32005CSHMG       → A         ♥ Volumes ○       All statuses ∨         ●       ■       ■         ●       Name       ▲ Reported Size (GiB) ▲         No volumes       No volumes		
Volumes 0 All statuses ~  Create volume = III Name _ A Reported Size (GIB) A No volumes	No volumes	

设置存储卷大小为500GiB,精简配置模式,数据保护级别为NR0。

Create - Volume - Store	Virtual × +				_ <b>_</b> X
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StoreVirtual 🗸	Create Volume			?	8 2
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a Nama	Name	TestVolume			
No volumes	Description		optional		
	Size	500 GiB ~			
	Quantity	1			
	▼ Advanced Options				
	Allocation	Thinly provisioned $\  \   \lor$			
	Data protection level	Network RAID-0 (None) 🗸			
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	After vol	ume creation, the amount of free capacity in the storage pool will be 2130:	17 GiB (99%).		
			Create	Cancel	

存储卷已创建完成。

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Volumes 1 A	l statuses 🗸				
Create volume	=	🥑 TestVolur	ne Overview - 🗧		Actions
Name	A Reported Size (GiB) A	General >		Utilization >	
TestVolume	500				
		Description	none	Allocation	Thinly provisioned
		Storage pool	SV3200iSCSI-Pool	Reported size	500 GiB
		Status	• OK	Consumed capacity	0.5 GiB
		State	Normal	Shared capacity	0 GIB
		Data protection leve	Network RAID-0 (None)		
		Allocation	I hinly provisioned		
		Adaptive Optimization	Permitted		
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		Server	none		
		Exports	none		
		A			
		Snapshot Summa	ry >	Snapshot Schedul	es >
		Snapshots	none	Schedules	none

选择存储卷, Action - Export to server or server cluster, 将存储卷导出至服务器, 即映射操作。

- TestVolume - Volumes - StoreVir × +		×
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♥ Volumes 1 All statuses ∨		
+ Create volume	⊘ TestVolume Overview ~ <	Create Actions V
Name A Reported Size (GIB) A     TestVolume 500	General >       Description     none       Storage pool     SV3200(SCSI-Pool       Status     • OK       State     Normal       Data protection level     Network RAID-0 (None)       Allocation     Thinky provisioned       Adaptive     Permitted       Optimization     Server       Server     none       Exports     none	Utilization >         Create snapshot           Allocation         Thily pr           Reported size         500 GB           Consumed capacity         05 GB           Shared capacity         05 GB           Vertice         Reported size           Device         OGB
	Snapshot Summary >	Snapshot Schedules >
	Snapshots none	Schedules none

点击Select,选择已创建的服务器,测试中为方便区分,设置LUN为101。



存储卷导出至服务器后,选择存储卷的导出视图,可见存储卷的导出信息,目前存储卷的活动存储控制器为2号控制器。

TestVolume - Volumes - StoreVir × +		_ <b>D</b> X
← → C ▲ Not secure   https://10.12.173.20	/#/volumes/show/connections/r/lhos/v2/volumes/42?f_sort=name%3A	asc 🖈 🛛 :
StoreVirtual 🗸 🔍 Search		sv3200iscsi-mg
♥ Volumes 1 All statuses ∨		
+ Create volume	⊘ TestVolume Exports ~ ≥	Actions 🗸
Name     A Reported Size (GiB) A	* Export to server or server cluster	
TestVolume 500	Server or Server Cluster	UN Permissions Active Storage Controller
	<ul> <li>SunQuojai:ESX6.5</li> </ul>	101 Reed/Write SV2200- 2 X BB2410-SC2

服务器的连接视图中可见存储卷与服务器之间的4条路径。

SunQinglei-ESXi6.5 - Server	s-Str × +		
→ C 🔺 Not sec	ure   https://10.12.173.205/#/servers/show/connections/r/l	hos/v2/servers/41?f_sort=name%3Aasc	☆ \varTheta
toreVirtual $$	Q Search		sv3200isCSI-MG
ervers 1			
+ Create server	SunQinglei-ESXi6.5 Connections ~ \$		Actions ~
Name A	+ Export volume or snapshot		
SunQinglei-ESXi6.5	▼ ● Volume or Snapshot	LUN Permissions	Active Connections
	▼ • <u>TestVolume</u>	101 Read/Write	4 🖉 🗙
	Initiator IP/Port	Session Identifier Target IP/Port	Target Storage Controller
	192.168.1.182/0	23d0000020003 192.168.1.161/3260	SV3200-8B1060-SC1
	192.168.1.181/0	23d0000010004 192.168.1.161/3260	SV3200-8B1060-SC1
	192.168.1.182/0	23d000004000f 192.168.1.162/3260	SV3200-8B2416-SC2
	192.168.1.181/0	23d0000030010 192.168.1.162/3260	SV3200-8B2416-SC2

主机端iSCSI Software Adapter下可见存储卷对应的设备。

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Back	Getting Started Summary Monitor	Configure Permissions VMs Datastores Networks Update Manager	
		Storage Adapters	
■ 10.12.174.3 ■ SunQinglei-DC	✓ Storage	+ 🛃 🛙 🖾 🐚 -	Q Filter -
🖵 🗊 SunQinglei-Cluster	Storage Adapters	Adapter Type Status Identifier	
10.12.172.222	Storage Devices	Emulex LPe12000 8Gb PCIe Fibre Channel Adapter	
Boundaright	Datastores	S vmhba2 Fibre Cha Online 20:00:00:90:fa	b5:e2:58 10:00:00:90:fa:b5:e2:58
	Host Cache Configuration	Swmhba3 Fibre Cha Online 20:00:00:90:fa	b5:e2:59 10:00:00:90:fa:b5:e2:59
	Protocol Endpoints	Patsburg 4 port SATA IDE Controller	
	I/O Filters	-	,
	✓ Networking	Adapter Details	
	Virtual switches	Properties Devices Paths Targets Network Port Binding Advanced	Options
	VMkernel adapters	B B - All Articope - Ph -	C Ellar
	Physical adapters		Tura Constitu
	TCP/IP configuration	LEETHAND ISCSI Disk (naa 6000eb3789/722/d00000000000022)	101 disk 500.00 GB
	Advanced		
	✓ vintual machines		
	VM Startup/Shutdown		
	Agent VM Settings		
	Default MI Compatibility		
	- Suctom		
	→ System     Licensing		
	Time Configuration		
	rine comgatation	4	



Storage Devices可见存储卷对应的磁盘设备。

Getting Stande Summary Montor       Configure Permissions Wild Datastores Networks Update Manager         U 12:17133       Storage Datastores       Storage Datastores         Storage Datastores       Storage Datastores       Storage Datastores         Storage Datastores       Storage Datastores       Configure Permissions Wild Datastores Networks Update Manager         U 12:17133       Storage Datastores       Storage Datastores         Storage Datastores       Storage Datastores       Configure Permissions Wild Datastores       Configure Permissions Wild Datastores         Storage Datastores       Storage Datastores       Storage Datastores       Configure Permissions Wild Datastores       Configure Permissions Wild Datastores         Storage Datastores       Storage Datastores       Storage Datastores       Configure Permissions Wild Datastores       Configure Permissions Wild Datastores       Configure Permissions Wild Datastores         Datastores       Datastores       Configure Permissions Wild Datastores       Configure Permissions Wild Datastores       Configure Permissions Wild Datastores       Configure Permissions Wild Datastores         Networking       Vitation SCSI Disk (maa.6000eb3769722d500000000000000000000000000000000000	Navigator I	🔋 10.12.172.222 🛛 🗞 🔒 🕞	🔝   🔞 Actions 🗸	E.
♥ 10.12.17.3         ♥ 10.10.21.73         ♥ 10.10.21.73         ♥ 10.10.21.73         ♥ 10.10.21.73         ♥ 10.10.21.73         ♥ 10.10.21.73         ♥ 10.10.21.73         ♥ 10.10.21.73         ♥ 10.12.71.73         ♥ 10.12.71.73         ♥ 10.12.71.73         ♥ 10.12.71.73         ♥ 10.12.71.73         ♥ 10.12.71.74 <td< td=""><td>Back</td><td>Getting Started Summary Monitor</td><td>Configure Permissions VMs Datastores Networks Update Manager</td><td></td></td<>	Back	Getting Started Summary Monitor	Configure Permissions VMs Datastores Networks Update Manager	
VM Startup/Shutdown     Location     MmSderkeediadsshaa.6000eb3789722d00000000000000000000000000000000000	Constant Sector Constant	Vertrage Saturdity     Within Vietname       *     Storage Adapters       Storage Adapters     Storage Adapters       Storage Adapters     Datastores       Host Cache Configuration     Protocol Endpoints       UO Filters     *       Virtual switches     Vitkernel adapters       TCPIP configuration     Advanced       Virtual Machines     Vit Startup Shutdown       Agent VM Startup Shutdown     Default VM Compatibility       • System     Licensing       Time Configuration     Time Configuration	Consigner         Extension of the constraint of the	*)

PSP默认为MRU。



## 编辑多路径,将PSP设置为RR。

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	Setting Started Summary M	onitor Configure	Permissions VMs Datastores Netwo	orks Up	date Manager				
	**	Storage Devie	ces						
SunQinglei-DC	T 10.12.172.222 - Edit Mu	Itipathing Policies for	naa.6000eb3789f722dd000000000000000	2a		?	Q Filter		-
SunQinglei-Cluster						Accele	. Drive Type	Transport	
10.12.172.222	Path selection policy:					ed	HDD	iscsi	1
Sunuingiei-vCSA	Round Robin (VMware)				· · · · ·	ported	HDD	SAS	
	Select the preferred path fo	r this policy:				ported	HDD	SAS	
	la -		Q		-				
	Runtime Name	Status	Target	LUN	Preferred				
	<ul> <li>vmhba65:C1:T0:L101</li> </ul>	Standby	iqn.2015-11.com.hpe:storevirtual.sv3	101					
	vmhba65:C0:T0:L101	Standby	iqn.2015-11.com.hpe:storevirtual.sv3	101					
	vmhba65:C3:T0:L101	<ul> <li>Active</li> </ul>	iqn.2015-11.com.hpe:storevirtual.sv3	101					
	vmhba65:C2:T0:L101	<ul> <li>Active (I/O)</li> </ul>	iqn.2015-11.com.hpe:storevirtual.sv3	101					
	•								
				OK	Cancel	4			
	✓ System	Multipathin	g Policies				Edit Mu	ultipathing	1.
	Licensing	► Path Se	election Policy Most Recently Used (VII)	lware)					Ξ.
	Time Configuration	Planad	Arroy Tupo Dolicy 10001 CATD ALLIA						
	Authentication Services	Storage	anay type Folicy view_3ATF_ALOA						

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Back	Getting Started Summary Monitor	Configure Permissions VMs Datastores Networks Update Manager					
Image: Constraint of the state of	Storage     Storage Adapters     Storage Devices     Datastores     Host Cache Configuration     Protocol Endpoints     No fatire	Storage Devices          Image Devices <t< td=""><td>•</td></t<>	•				
	✓ Networking	Properties Paths					
	Vitika i adapters Vitikareni adapters TCPJP configuration Advanced Vitria Machines VM Startup/Shutdown Agent VM Settings Swop file Iocation Default VM Compatibility	Hardware Acceleration Supported Transport ISCSI Owner NMAP Sedor Format S1/n					
		Partition Details           Partition Format         Unknown           > Primary Partitions         0           > Logical Partitions         0					
	System     Licensing     Time Configuration     Authentication Services	Multipathing Policies Edit Multipathing.  Path Selection Policy Round Robin (VMware)  Storage Array Type Policy WMW_SATP_ALUA					

查看路径信息,2条路径为活动路径Active (I/O),其余2条路径为待机Standby。

vmware <sup>®</sup> vSphere Web C	lient <b>†</b> ≘	U   Administrator@VSPHERE.LOCAL +   Help +   Q Search							
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	Getting Started Summary Monitor Configure Permissions VMs Datastores Networks Update Manager								
	✓ Storage ▲ Storage Adapters       Storage Devices       Datastores	Storage Devices							
	Host Cache Configuration Protocol Endpoints UO Filters • Networking Virtual switchee	Local HP Disk (mas 600508b10. 2 disk 1.64 TB Attached Not supported HDD SAS  Properties Paths							
	VMkernel adaptors Physical adaptors TCPIP configuration Advanced ✓ Virtual Machines VM Startup/Shutdown Agent VM Settings Swap file location Default VM Compatibility ✓ System Licensing	Exterine         Status         Device           Wmhbd5C01T0L101         Standby         LEFTH4ND ISCSI Disk (naa 6000e53789/7224300000000000000000000000000000000000							
	Time Configuration Authentication Services								



基于存储卷创建datastore2,过程略。

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₩ @ <b>@</b> • ₩ 10.12.174.3	Datastores						ork In Pr
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■ SunQinglei-Cluster     ■ 10.12.172.222	Name	1 A Status	Туре	Datastore Cluster	Capacity	Free	ŝ
SunQinglei-VCSA	datastore1	Normal	VMFS 5		1.63 TB	1.59	
	4					•	
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▼ 10.12.174.3	Datastores					
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■ 10 12 172 222	Name	1 A Status	Туре	Datastore Cluster	Capacity	Free
SunQinglei-VCSA	datastore1	<ul> <li>Normal</li> </ul>	VMFS 5		1.63 TB	1.59 TB
	datastore2	<ul> <li>Normal</li> </ul>	VMFS 5		499.75 GB	498.8 GB
	46				2 Objects	Export 🕞 Copy -
• • •						<u> </u>

lavigator 📕	🗐 datastore2 🛛 🖗 🔂 😢	🔂   🙆 Actions 🗸	-
Back 🕨	Getting Started Summary Monitor	Configure Permissions Files Hosts VMs	
V 🕑 🗉 👱	"	Properties	
▼ 🖉 10.12.174.3	General		
✓	Capability sets	Name datastore2	
datastore2	Device Backing	File system VMFS 5.81	
	Connectivity and Multipathing	Drive type HDD	
		Capacity Refresh Incr	ease
		+ Capacity	
		Total Capacity 499.75 GB	
		Provisioned Space 974.00 MB	
		Free Space 498.80 GB	
		Datastore Capabilities E	Edit
		Thin Provisioning Supported	
		Storage VO Control     Disabled	
		Hardware Acceleration Supported on all hosts	
			_