

Windows Server 2019 Scale Out File Server Cluster using PetaSAN

Version 1.0



Revision History

Date	Version	Description
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1. Purpose

The purpose of this guide is to show how to create a Windows 2019 Scale Out File Server Cluster using PetaSAN for its underlying scale-out storage.

2. Pre-requisites

This guide assumes the reader has followed the Quick Start guide and has deployed a working PetaSAN cluster. We will be using the same subnet assignments as given in the Quick Start example.

Additionally this guide requires:

- 2 x Windows Server 2019 named sofs-1 and sofs-2 with 3 physical interfaces. These will act as our 2 SOFS servers
- 1 x Windows Server 2019 named AD with 1 physical interface This will act as our Active Directory server. We will also use it for central cluster management of the SOFS nodes.

3- Why PetaSAN and SOFS?

SOFS has become the most popular solution for storing data for applications such as Hyper-V and SQL Servers. PetaSAN is ideal for use as the underlying storage for SOFS due to the following:

- PetaSAN provides scale-out storage at the disk block level, whereas SOFS provides scale-out at the file system and file share levels.
- A single PetaSAN disk can serve as the main storage volume for SOFS, making administration much simpler. In PetaSAN, a single disk is served by all storage nodes in parallel.
- PetaSAN storage is symmetric allowing all SOFS servers to run in Direct IO mode, concurrently writing to the same shares, for details on Direct IO, please refer to https://blogs.technet.microsoft.com/josebda/2013/10/30/automatic-smb-scale-out-rebalancing-in-windows-server-2012-r2/
- PetaSAN uses cloud based technology which supports storage over-commitment, it is possible to create a very large flat disk whose initial size exceeds physical storage available and then add physical storage as needed.



4. Network setup

The Windows servers used in this guide are configured with the following IP addresses

	AD	sofs-1	sofs-2
Management	10.0.1.50	10.0.1.51	10.0.1.52
Gateway	10.0.1.1	10.0.1.1	10.0.1.1
iSCSI 1		10.0.2.51	10.0.2.52
iSCSI 2		10.0.3.51	10.0.3.52

5. Active Directory Setup

5.1 Setup the AD Server

On the designated node for AD, add the role "Active Directory Domain Services" and reboot





After reboot, select "Promote the server to a domain controller"

a		Server Manager	_ 0 ×
Server Ma	anager • Dashboard	- 🕄 🍢 Manage Tools	View Help
Dashboard Local Server All Servers AD DS	WELCOME TO SERVER MANAG	Post-deployment Configura Configuration required for Active Directory Domain Services at AD Promote this server to a domain controller Task Details	
■ File and Storage Services ▷	QUICK START	Add roles and features Add other servers to manage	
	WHAT'S NEW 4	Create a server group	Hida
	LEARN MORE ROLES AND SERVER GROUPS Roles: 2 Server groups: 1 Server	total: 1	
	AD DS	1 File and Storage 1 Services 1	
	Manageability	Manageability	
	Events	Events Performance	
	Performance	BPA results	
	BPA results		
			~
🗄 占 🖉 👸		• •	10:55 AM 10/1/2016

In the configuration wizard choose "Add a new forest" and enter the domain name "demo.local"

a .	Active Directory Domain Services C	Configuration Wizard	_ D X
Deployment Configuration Domain Controller Options Additional Options Paths Review Options Prerequisites Check Installation Results	Active Directory Domain Services C iguration Select the deployment operation Add a <u>domain</u> controller to an existin Add a new domain to an <u>e</u> xisting fore and a new forest Specify the domain information for this of <u>R</u> oot domain name:	Configuration Wizard Ing domain est operation demo.local	TARGET SERVER ad
	More about deployment configurations	evious Next >	II Cancel



Enter the password

i 🖻 🖉 /	- D X		
Domain Controller	Options		TARGET SERVER ad
Deployment Configuration Domain Controller Options DNS Options Additional Options Paths Review Options Prerequisites Check Installation Results	Select functional level of the new forest a Forest functional level: Domain functional level: Specify domain controller capabilities Obmain Name System (DNS) server Global Catalog (GC) Read only domain controller (RODC) Type the Directory Services Restore Mod Password: Confirm password:	and root domain Windows Server 2012 R2 Windows Server 2012 R2 Image: Server 2012 R2 Im	
	More about domain controller options		
	< Pre	evious Next > Install	Cancel

Reboot system when done.

5.2 Joining the AD Server

On both sofs-1 and sofs-2 nodes, edit the DNS setting to point to the AD server

Internet Protocol Version 4 (TCP/IPv4) Properties				
General				
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.				
Obtain an IP address automatically				
• Use the following IP address:				
IP address:	10 . 0 . 1 . 51			
Subnet mask:	255 . 255 . 255 . 0			
Default gateway:	10 . 0 . 1 . 1			
Obtain DNS server address autor	natically			
• Use the following DNS server add	resses:			
Preferred DNS server:	10 . 0 . 1 . 50			
Alternate DNS server:	· · ·			
Validate settings upon exit Advanced				
	OK Cancel			



È.		Server Manager		- 0 ×
Server Ma	nager • Local Se	rver	• 🕄 🚩 Manage Iools	<u>V</u> iew <u>H</u> elp
🗰 Dashboard	PROPERTIES For sofs-1			TASKS
Local Server All Servers File and Storage Services	Computer name Domain	sofs-1 <u>WORKGROUP</u>	Last installed updates Windows Update Last checked for updates	Never Not cor Never
	Windows Firewall Remote management Remote Desktop NIC Teaming Ethernet0 Ethernet1 Ethernet2	Domain: On, Public: On Enabled Disabled Disabled 10.0.1.51, IPv6 enabled 10.0.2.51, IPv6 enabled 10.0.3.51, IPv6 enabled	Windows Error Reporting Customer Experience Improvement Program IE Enhanced Security Configuration Time zone Product ID	Off Not par On (UTC-0: Not act
	Operating system version	Microsoft Windows Server 2012 R2 Standard	Processors	Intel(R) ~ ~
	EVENTS All events 130 total		[TASKS 💌
	Filter			\odot
	Server Name ID SOFS-1 1014 SOFS-1 8198 SOFS-1 8200	Severity Source Error Microsoft-Windows-Security-SPP Error Microsoft-Windows-Security-SPP Error Microsoft-Windows-Security-SPP	Log Date and Time Application 10/2/2016 1:51:00 AM Application 10/2/2016 1:51:00 AM Application 10/2/2016 1:51:00 AM	×
			- R 17	1:54 AM 10/2/2016

Then in "Server Manager -> Local Server" click on "WORKGROUP" in the "Domain" field.

In "System Properties", click "Change..."

	System Properties X				
Computer Name Hardwa	re Advanced Remote				
Windows uses on the network	Windows uses the following information to identify your computer on the network.				
Computer description:					
	For example: "IIS Production Server" or "Accounting Server".				
Full computer name:	sofs-1				
Workgroup:	WORKGROUP				
Vorkgroup: WORKGROUP To rename this computer or change its domain or workgroup, click Change. Change					
	OK Cancel Apply				



Enter "demo.local" in the domain field

Computer Name/Domain Changes			
You can change the name and the membership of this computer. Changes might affect access to network resources.			
Computer name:			
sofs-1			
Full computer name: sofs-1.demo.local			
More			
Member of			
Domain:			
demo.local			
O Workgroup:			
OK			

Enter the AD password



This should be all for joining the domain, please repeat the same steps for sofs-2.



6. Configuring node roles

On both sofs-1 and sofs-2 add the "File Server" Role.

a .	Add Roles and Features Wizard	
Select server role	S	DESTINATION SERVER hyperv-1.demo.local
Before You Begin	Select one or more roles to install on the selected server.	
Installation Type	Roles	Description
Server Selection	Active Directory Federation Services	File Server manages shared folders
Server Roles	Active Directory Lightweight Directory Services	and enables users to access files on this computer from the network
Features	Active Directory Rights Management Services	uns computer nom the network.
Confirmation	Application Server	
	DHCP Server	
	DNS Server	
	Fax Server	
	File and iSCSI Services	
	File Server	
	BranchCache for Network Files	
	 Data Deduplication 	
	DFS Namespaces	
	DFS Replication	
	□ File Server Resource Manaœer v	
	< III >	
	< <u>P</u> revious <u>N</u> ext >	Install Cancel

On the AD server as well on sofs-1 and sofs-2 add the "Failover Clustering" feature.

📥 Add Roles and Features Wizard 📃 🗖 🗙			
E Select features Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	Add Roles and Features Wizard Select one or more features to install on the selected server. Features Client for NFS Data Center Bridging Direct Play Enhanced Storage Failover Clustering Group Policy Management IIS Hostable Web Core	DESTINATION SERVER hyperv-1.demo.local Description Failover Clustering allows multiple servers to work together to provide high availability of server roles. Failover Clustering is often used for File Services, virtual machines, database applications, and mail applications.	
	Ink and Handwriting Services Internet Printing Client IP Address Management (IPAM) Server ISNS Server service LPR Port Monitor Management OData IIS Extension Media Foundation	. Install Cancel	

Reboot each node when done.



7. Connecting the PetaSAN disks

We need to create 2 disks in PetaSAN:

- 1. Disk1: 100TB x 4 paths with CHAP authentication. This will serve as the main data store for the SOFS shares.
- 2. Disk2: 1G x 4 paths with CHAP authentication. This will serve as a quorum disk, this is used by Windows Clustered Shared Volumes (CSV) to control concurrent access to the first disk from multiple machines.

We need to connect to these 2 disks from both sofs-1 and sofs-2 servers. Please refer to *Connecting to PetaSAN from Windows 2019 using MPIO* guide for step by step instructions.

Note that initializing and formatting the disks should be done once from one node only, for example from sofs-1.

8. Validating the cluster

As discussed earlier, we selected to use our AD server as the machine we use for cluster management. Before we create our cluster, we should let Windows validate it first by running a couple of tests.

On the AD server open the "Failover Cluster Manager"



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Next click on "Validate Configuration"

·!		
Create failover clusters, validate har your failover clusters.	rdware for potential failover clusters, and	perform configuration changes to
Overview		
A failover cluster is a set of independent or clustered servers (called nodes) are conner node begins to provide services. This proc	omputers that work together to increase t ected by physical cables and by software cess is known as failover.	the availability of server roles. The . If one of the nodes fails, another
Clusters		
Name	Role Status	Node Status
	NO RONS IOUNI.	
 Management 		
To begin to use failover clustering, first val steps are complete, you can manage the c running Windows Server 2012 R2, Window	lidate your hardware configuration, and th cluster. Managing a cluster can include c ws Server 2012, or Windows Server 2008	hen create a cluster. After these opying roles to it from a cluster 3 R2.
Validate Configuration Create Cluster		
Connect to Cluster		
 More Information 		

In the validation wizard, add both sofs-1 and sofs-2

嘲	Valio	date a Configuration Wizard	x
Select Se	ervers or a Cluster		
Before You Begin Select Servers or a Cluster	To validate a set of serve To test an existing cluster	ers, add the names of all the servers. , add the name of the cluster or one of its nodes.	
Testing Options Confirmation Validating Summary	Enter name: Selected servers:	Browse. sofs-1.demo.local Sofs-2.demo.local Remove < Previous Next > Cancel	



Next choose to run all tests

Validate a Configuration Wizard
ptions
Choose between running all tests or running selected tests. The tests examine the Cluster Configuration, Hyper-V Configuration, Inventory, Network, Storage, and System Configuration. Microsoft supports a cluster solution only if the complete configuration (servers, network, and storage) can pass all tests in this wizard. In addition, all hardware components in the cluster solution must be "Certified for Windows Server 2012 R2." Run gll tests (recommended) Run only tests I gelect More about cluster validation tests keeperiod keeperiod
•

The wizard will take a couple of minutes to run various tests; these include many important storage failover and validation tests for our PetaSAN disks.

W		Validate a Configuration Wizard		x
Validating	9			
Before You Begin Select Servers or a	The following v amount of time.	ralidation tests are running. Depending on the test select	ion, this may take a significant	
Cluster	Progress	Test	Result	
Testing Options	100%	Validate Disk Arbitration	The test passed.	
Carling	100%	Validate Disk Failover	The test passed.	
Confirmation	100%	Validate File System	The test passed.	
Validating	100%	Validate Microsoft MPIO-based disks	The test passed.	
Summary	100%	Validate Multiple Arbitration	The test passed.	
	100%	Validate SCSI device Vital Product Data (VPD)	The test passed.	
	100%	Validate SCSI-3 Persistent Reservation	The test passed.	
	0%	Validate Simultaneous Failover	Taking Test Disk 1 off	
	100%	Validato Storago Sazogo Romistont Resonution	The test errord	
	Test is currently	y running.	Cancel	



Once completed, the wizard displays a cluster validation report.



If all is good, leave the "Create the cluster now using the validated nodes" checked and click on the "Finish" button.

9. Cluster Creation

After successful validation, the create cluster wizard is displayed





Enter the cluster name, for example "SOFS Cluster"

We need to assign an IP address for the cluster and specify which network interface it will use.

Windows will display a list of candidate interfaces to choose from, it will not list interfaces it thinks are not appropriate, such as those used for iSCSI storage.

In our example we chose IP 10.0.1.100 for our cluster. When clients connect to our SOFS, they connect using this IP.

- 1		Create Cluster Wizard	×
Access P	oint for Adminis	tering the Cluster	
Before You Begin	Type the name you v	vant to use when administering the cluster.	
Access Point for Administering the Cluster	Cluster N <u>a</u> me:	SOFS-Cluster	
Confirmation	The NetBIOS nam	ne is limited to 15 characters. One or more I	IPv4 addresses could not be configured
Creating New Cluster	address.		
Summary		Networks	Address
		10.0.1.0/24	10.0.1.100
		< <u>P</u> revi	ous Next > Cancel

Note: In our simple setup, the SOFS cluster IO resides on the same network as our Management traffic. For setups requiring better isolation, we could have added a fourth interface card and created a subnet specifically for SOFS IO traffic.



Click "Next"

i	Create Cluster Wizard	X
Confirma	tion	
Before You Begin Access Point for Administering the	You are ready to create a cluster. The wizard will create your cluster with the following settings:	
Cluster Confirmation Creating New Cluster Summary	Cluster: SOFS-Cluster Node: sofs-2.demo.local Node: sofs-1.demo.local IP Address: 10.0.1.100	< >
	Add all eligible storage to the cluster. To continue, click Next.	
	< <u>P</u> revious <u>N</u> ext > Ca	ncel

Click "Next", then "Finish"

ii		Create Cluster Wizard	×
Summary			
Before You Begin Access Point for Administering the Cluster	You have succ	cessfully completed the Create Cluster Wizard.	
Confirmation		Create Cluster	~
Creating New Cluster			
Summary	Cluster: Node: Node: Quorum: IP Address:	SOFS-Cluster sofs-2.demo.local sofs-1.demo.local Node and Disk Majority (Cluster Disk 2) 10.0.1.100	~
	To view the report crea To close this wizard, cli	ated by the wizard, click View Report. Ick Finish.	<u>V</u> iew Report
			<u>F</u> inish



Once the cluster is created, go to Storage -> Disks

Right click on the 100 TB disk add select "Add to Cluster Shared Volumes"

種			Failover (Cluste	r Manager				_ D X
File Action View Help									
🗢 🔿 🙎 🖬 🚺 🖬			_			_			
📲 Failover Cluster Manager	Disks (2)								Actions
▲ 🕸 SOFS-Cluster.demo.local	Search					Q,	Queries 🔻		Disks 🔺
Nodes	Name	Status	Assigned To		Owner Node	Disk Number	Capacity	Infe	🛃 Add Disk
🔺 📇 Storage	📇 Cluster Disk 1	Online	Available Stor					100 TB	Move Available >
🔠 Disks	Eluster Disk 2	Online	Disk Witness		Bring Online			1.00 GB	View
Pools					Add to Cluster Shared	Volumos			Refresh
Cluster Events				-	Add to cluster shared	volumes	17		Z Help
_				80 60	Information Details				- nep
				11	Show Critical Events				Cluster Disk 1 🔺
					More Actions		•		Bring Online
					Remove				Take Offline
					Properties				Add to Cluster
									Information Det
									Show Critical Ev
									More Actions
	<		ш					>	Remove
	V III Cluster Dis	k 1							Properties
	· <()								🛛 Help
	Volumes (1)								
		(5.)							
	New Volume	(F:)	•						
	NTFS 100.0	TB free of 100.0 T	В						
Disks: Cluster Disk 1									
H L D	自己								5:36 AM

On the bottom pane, the 100 TB disk volume will change from NTFS to CSVFS (Clustered Shared Volume File System), this allows the volume to be used by many SOFS nodes concurrently. Notice too that it is now accessible as "C:\ClusterStorage\Volume1"

機			Failover Cluster Ma	inager						. 🗆 🗙	
File Action View Help											
(+ +) 🖄 🖬 🔢 🖬											
R Failover Cluster Manager	Disks (2)		-						ctions		-
▲ P SOFS-Cluster.demo.local	Disks (2)				0	Queries -			Dialas		
Roles	Search				~	Queries •			JISKS		•
Nodes Starson	Name	Status	Assigned To	Owner Node	Disk Number	Capacity	100 70	Infc e	Add Dis	к	
Disks	Cluster Disk 1	Online	Diale Warana in Oursers	SOTS-2		<u>.</u>	100 18		I Move A	vailable •	
Pools	Cluster Disk 2	() Online	Disk Witness in Quorum	5015-1			1.00 GB		View	,	<u> </u>
Networks									Refresh		
Elister Events								11	? Help		
								0	Cluster Di	sk 1 🔺	
									Bring O	nline	
									🐻 Take Of	fline	
								6	lnforma	tion Det	
								1	Show C	ritical Ev	
								3	Move	,	,
								11	More A	ctions 🕨	,
	<		ш					2	Remove	from C	
	10m								Propert	es	- 1
	👻 者 Cluster Dis	k 1							Help		
								-1.			
	Volumes (1)										
	New Volume	(C:\ClusterStora	ge\Volume1)								
	CSVFS 100.	TB free of 100.	ОТВ								
	ļ										
	-									5:38 AM	
								•		10/2/201	6



Right click on "Roles" and select "Configure Role..."

础			Fail	over Cluster Mana	ger				_ □ >	×
File Action	View Help									
🗢 🄿 🙍	1			_						
Failover Clus	ter Manager Roles	(0)						Actions		
⊿ 🖞 SOFS-Clu	uster.demo.local Searc					P Queri	es 🔻 🔛 🔻 🐱	Roles		•
	Configure Role	R.	Status	Туре	Owner Node	Priority	Information	🧑 Con	figure Role	
Þ 🦲 S	Virtual Machines	۱.						Virtu	al Machine	×
	Create Empty Role							🗋 Crea	te Empty R	
10	View	•						View	i i i i i i i i i i i i i i i i i i i	F
	Refresh							C Refr	esh	
	Help							👔 Help		- 1
				No items found.						
	×									
This action enabl	es vou to select a role that	vou can configure f	or high availability.					1		
	,	,								
		超						· 😼 😘	5:40 Al 10/2/20	M 016

In the "Select Role" choose "File Server"

8 7	High Availability Wizard	X
Select Re	ble	
Before You Begin Select Role	Select the role that you want to configure for high availability	y:
File Server Type	Carl Contract Server	Description:
Client Access Point	DHCP Server	A File Server provides a central location
Select Storage	Distributed Transaction Coordinator (DTC)	on your network where files are shared
Confirmation	File Server	
Configure High		
Availability	Generic Service	
Summary	Hyper-V Replica Broker	
	GriSCSI Target Server	<u>~</u>
		Dentirus Nexts Consel
	</td <td>revious <u>N</u>ext > Cancel</td>	revious <u>N</u> ext > Cancel



Select "Scale Out File Server for application data"

\$ 7	High Availability Wizard	x
File Serv	ver Type	
Before You Begin	Select an option for a clustered file server:	
Select Role	○ <u>Fi</u> le Server for general use	
File Server Type Client Access Point Configure High Availability Summary	Use this option to provide a central location on your network for users to share files or for server applications that open and close files frequently. This option supports both the Server Message Block (SMB) and Network File System (NFS) protocols. It also supports Data Deduplication, File Server Resource Manager, DFS Replication, and other File Services role services. (Scale-Out File Server for application data) Use this option to provide storage for server applications or virtual machines that leave files open for extended periods of time. Scale-Out File Server Resource Idea not support the SMB protocol. It does not support the NFS protocol, DFS Replication, or File Server Resource Manager. More about clustered file server options	
	< Previous Next > Cancel	

We then enter the cluster network (NetBIOS) name; in our example it is "SOFS"

Clients will access shares on the cluster using this name

8 7	High Availability Wizard
Client Ac	cess Point
Before You Begin Select Role File Server Type	Type the name that clients will use when accessing this clustered role: Name: SOFS
Client Access Point Confirmation Configure High Availability Summary	(1) The NetBIOS name is limited to 15 characters. All networks were configured automatically.
	< Previous Next > Cancel



Click "Finish" to complete.

8 0	High	h Availability Wizard	X
Summary			
Before You Begin Select Role File Server Type	High availability was su	uccessfully configured for the role.	
Client Access Point		File Conver	
Confirmation		File Server	
Configure High Availability	Distributed Network	SOFS	
Summary	OU: Subnet:	CN=Computers,DC=demo,DC=local 10.0.1.0	
			~
	, To view the report created by t To close this wizard, click Finis	the wizard, click View Report. h.	<u>V</u> iew Report
			<u>F</u> inish

We have successfully created our SOFS cluster, our next step is to add shares to it.



10. Adding Shares

To add a share, right click on the "SOFS" cluster role we added and click "Add File Share"

灎		Fai	ilover Cluster Mana	ger				_ □	x
File Action View Help									
🗢 🔿 🗾 🖬									
📲 Failover Cluster Manager	Roles (1)						Acti	ions	
⊿ SOFS-Cluster.demo.local	Search				P	Queries 🔻 🔒 🔻 🖌	Ro	les	
Roles	Name	Status	Туре	Owner Node	Priority	Information	-	Configure Role.	
Storage	SOFS	(1) Running	Scale-Out File Server	sofs-1	Mediur	n		Virtual Machine	a ▶
Networks					🕼 Start	Role		Create Empty R	
S Cluster Events					🏠 Stop	Role	-	View	\rightarrow
					🗋 Add i	File Share	3	Refresh	
					Move	, h2	•	Help	_
					() Chan	ge Startup Priority	• 0	FS	
					Inform	mation Details		Start Role	
					Show	Critical Events	-	Stop Role	
					🚱 Add I	Resource	•	Add File Share	_
					More	Actions	• 2	Move	•
					🗙 Remo	ove		Change Startup	►
	<				Prope	erties	6	Information Det	t
					Deafa	red Owners Anu node	8	Show Critical Ev	/
	SUPS				Field	and Owners. Any node		Add Resource	•
	Statue	Rupping						More Actions	•
	Priority:	Medium					×	Remove	
	Owner Node:	sofs-1						Properties	
	Distributed Network N	ame: SOFS					?	Help	
	Networks:								
	Summary Resources S	hares					4		
Roles: SOFS	ŀ								
	白 褐						- 😼	5:55 10/3	3 AM

In the wizard select "SMB Share – Applications" profile.

	New Share	Wizard _	□ X
Select the profi	le for this share		
Select Profile	File share profile:	Description:	
Share Location	SMB Share - Quick	This profile creates an SMB file share with setting	5
	SMB Share - Advanced	server applications.	ther
	SMB Share - Applications		
	NES Share - Quick		
	And Advanced		
		т	
		1	
		< Previous Next > Create Ca	incel



In the "Select the server and path for this share" accept the default values.

a	Ne	w Share Wizard		_ D X
Select the server a	nd path for th	nis share		
Select Profile	Server:			
Share Location	Server Name	Status	Cluster Role	Owner Node
Share Name	SOFS	Online	Scale-Out File	
Other Settings				
Permissions				
Confirmation				
Results				
	Share location:			
	• Select by <u>v</u> olume:			
	Volume	Free Space	Capacity File Sys	tem
	C:\ClusterStorage\	Volume1 100 TE	B 100 TB CSVFS	
	The location of the f volume.	ile share will be a new fo	lder in the \Shares di	rectory on the selected
	O <u>Type</u> a custom path:			
				<u>B</u> rowse
		< <u>P</u> revious	<u>N</u> ext >	Create Cancel

Now enter the name and description for the new share, for example "vm-disks"

-		New Share Wizard	_ D X		
Specify share nan	ne				
Select Profile	Share n <u>a</u> me:	vm-disks			
Share Location		Share for sharing VAA Dista			
Share Name	Share <u>d</u> escription:	Share for storing VM Disks			
Other Settings					
Permissions					
Confirmation	Local path to share				
Results	C:\ClusterStorage\	/olume1\Shares\vm-disks			
	If the folder doe	s not exist, the folder is created.			
	<u>R</u> emote path to share:				
	\\SOFS\vm-disks				
		< <u>Previous</u> <u>Next</u> > <u>Create</u>	Cancel		



For the share settings, accept the defaults and click "Next"

	New Share Wizard
Configure share	settings
Select Profile Share Location Share Name	Enable access-based enumeration Access-based enumeration displays only the files and folders that a user has permissions to access. If a user does not have Read (or equivalent) permissions for a folder, Windows hides the folder from the user's view.
Other Settings Permissions Confirmation Results	 Enable continuous availability Continuous availability features track file operations on a highly available file share so that clients can fail over to another node of the cluster without interruption. Allow caching of share Caching makes the contents of the share available to offline users. If the BranchCache for Network Files role service is installed, you can enable BranchCache on the share. Enable BranchCache on the file share BranchCache enables computers in a branch office to cache files downloaded from this share, and then allows the files to be securely available to other computers in the branch. Encrypt data access When enabled, remote file access to this share will be encrypted. This secures the data against unauthorized access while the data is transferred to and from the share. If this box is checked and grayed out, an administrator has turned on encryption for the entire server.
	< Previous Next > Create Cancel

For Permissions, accept the defaults and click "Next"

-	N	ew Share Wiz	zard		_ 🗆 X
Specify permission Select Profile Share Location Share Name Other Settings Permissions Confirmation Results	N If this share will be use remote management Permissions to access permissions, and, opti Share permissions: Ev Eolder permissions: Type Principal Allow BUILTIN Allow BUILTIN Allow CREATO	ew Share Wi ACCESS ed for Hyper-V, y of the Hyper-V H the files on a sh onally, a central eryone Full Cont Users Users R OWNER	vou may need to e lost. are are set using a access policy. rol Access Special Read & execute Full Control	nable constrained delegatio combination of folder perm Applies To This folder and subfolder This folder, subfolders, an Subfolders and files only	n to enable nissions, share
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Once the new share wizard is done, we should see our new share added on the lower section of the window as per below:

龝		F	ailover Cluster Mana	ager			L	_ 🗆 X
File Action View Help								
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🝓 Failover Cluster Manager	Roles (1)						Action	IS
▲ SOFS-Cluster.demo.local	Search				P	Queries 🔻 🔒 👻 👽	Role	5 🔺
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	🤳 vm-disks	C:\ClusterStorage\Volu	ume1\SHARES\VM-DISKS	SMB	Yes	Share for storing VM Disks		
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		Judies						
Roles: ClusterStorage\$								
						▲ [3 🖬	6:15 AM

That is it, our share is up and running. In our example setup, clients access the share using the name \\SOFS\vm-disks

	Run 🗙
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:	\\SOFS\vm-disks v
	\\SOFS\vm-disks
	OK Cancel Browse

Finally we can add more nodes to our SOFS cluster to increase throughput. All SOFS nodes will have simultaneous concurrent IO on the share.