Hyper-V SMB 3.0. STORAGE

An SMB file share can now store virtual machine (VM) and SQL Server resources in addition to traditional end-user files like office documents.

SMB protocol is a network file sharing protocol allowing applications to read and write to files and requesting services from a file server. Windows Server 2012 introduces the new 3.0 version of SMB. Now, a Windows Server 2012 Hyper-V host can use a SMB 3.0 file shares as shared storage for storing virtual machine (VM) configuration files, VHDs, and Checkpoints.

This will bring you the following advantages:

- **Ease of provisioning and management**. You can manage file shares instead of storage fabric and LUNs.
- **Increased flexibility**. You can dynamically migrate virtual machines or databases in the data center.
- Ability to take advantage of existing investment. You can use your existing network with no specialized storage networking hardware.
- **Reduced capital expenditures**. Capital expenses (acquisition costs) are reduced.
- **Reduced operating expenditures**. You can reduce operating costs because there is no need for specialized storage expertise.

Create an SMB file share by using Server Manager

- 1- In Server Manager on the left, click File and Storage Services.
- 2- Click Tasks, and then click New Share to open the New Share Wizard.
- 3- On the Select Profile page, select SMB Share Applications, and click Next.

	New Share	Wizard
Select the profi Select Profile Share Location Share Name Other Settlings Permissions Confirmation Results	File for this share File share profile: SMB Share - Quick SMB Share - Advanced SMB Share - Applications NFS Share - Quick NFS Share - Advanced	Description: This profile creates an SMB file share with settings appropriate for Hyper-V, certain databases, and other server applications.
		e Presidour Nest V Create Cancel

4- On the Share Location page, select a server and a volume, and click Next.

Select Profile	Server:					
Share Location	Server Name	Status	Cluster F	lole	Owner Node	
Share Name	DC01	Online	Not Clus	tered		
Other Settings						
	 Share location: Select by volume: 					
	Volume	Free Space	Capacity	File Syster	m	
	C:	126 GB	140 GB	NTFS		
	D:	127 G8	128 GB	NTFS		
	E	128 GB	128 GB	NTFS		
	The location of the volume.	file share will be a new fok	der in the \S	hares direc	ctory on the se	elected
	0 T					
	 Type a custom path 	5 C				

5- On the Share Name page, specify a name for the new share, and click Next.

řa		New Share Wizard	_ D X	
Specify share na	ame			
Select Profile	Share name:	HyperV-FS		
Share Location Share Name	Share description:			
Other Settings				
Permissions				
Confirmation	Local path to share:			
Results	E:\Shares\HyperV-R	E\Shares\HyperV-FS		
	If the folder doe Remote path to sha	s not exist, the folder is created. re:		
	\\DC01\HyperV-FS			
		< Previous Next > Create	Cancel	

- 6- Click Next in the Configure Share Settings page
- 7- On the Permissions page, click Customize Permissions.

Select Profile Share Location Share Name Other Settings Permissions	If this share will be used for Hyper-V, y remote management of the Hyper-V h Permissions to access the files on a sh permissions, and, optionally, a central Share permissions: Everyone Full Cont Evides commissions	ou may need to e ost. ire are set using a access policy. rol	nable constrained delegation to enable combination of folder permissions, share
Confirmation Tresults	Type Principal Allow BUILTIN/Users Allow BUILTIN/Users Allow CREATOR OWNER Allow NT AUTHORITY/SYSTEM Allow BUILTIN/Administrators Allow BUILTIN/Administrators	Access Special Read & execute Full Control Full Control Full Control	Applies To This folder and subfolders This folder, subfolders, and files Subfolders and files only This folder, subfolders, and files This folder, subfolders, and files This folder only

8- Click Add, click Select a Principal, and then click Object Types.

wner:	Administrators (contoso\Adm	ninistrators) Change		
Permission	s Share Auditin	g Effective Access		
ermission Type	entries: Principal	Access	Inherited from	Applies to
& Allow	Administrators (contoso\Ad	Full control	None	This folder only
& Allow	Administrators (contoso\Ad	Full control	E/\	This folder, subfolders and files
& Allow	SYSTEM	Full control	E:\	This folder, subfolders and files
& Allow	CREATOR OWNER	Full control	E:\	Subfolders and files only
& Allow	Users (contoso\Users)	Read & execute	E:\	This folder, subfolders and files
Allow	Users (contoso\Users)	Special	E/	This folder and subfolders
Add	Remove View			
	haitana			
Add	Remove View			

		Permission Entry for HyperV-FS	_ 0
Principalt	Select a principal		
Туре	Allow	v	
Applies to:	This folder, subfolders and files	v	
Basic permi	ssions		Show advanced permission
	Full control		
	Modify		
	✓ Read & execute		
	List folder contents		
	Read .		
	Write		
	Special permissions		
Only app	A these permissions to objects and/or container	s within this container	Clear all
	,		
Add a cond	ition to limit access. The principal will be grante	d the specified permissions only if conditions are met.	
			OK Cancel

9- In Object Types, click to select Computers, and click OK.

	Permission Entry for HyperV-FS
Select User, Computer, Service Account,	or Group X
Select this object type:	
User, Group, or Built-in security principal	Object Types
From this location:	
contoso.com	Locations
Enter the object name to select (mamples):	
	Object Types
s	elect the types of objects you want to find.
	North Lance
Advanced	opect types.
Read	Service Accounts
Wite	Computers
Special permissions	Mat Groups ▼ St. Lineux
Only apply these permissions to objects and/or cont	
Add a condition to limit access. The principal will be g	OK Oreal
	OK. Cancel
Add a condition	

10- In my case I entered Sever01 (the server we are running Hyper-v on), and click OK. and in the Permissions Entry, select Full Control, and click OK. (repeat with server02.

13- On the Permissions page, click Next and Click Create to create the SMB file share.

Create a virtual machine and virtual hard disk file on the file share

1- Open Hyper-V Manager. and from the Actions pane, click New and then click Virtual Machine. And the New Virtual Machine wizard opens. Click Next.

2- On the Specify Name and Location page, type a name and location (using a UNC path) I used VM1 and the UNC we just created in step 1.



3- In the specify generation I left the defaults and clicked Next.

4- On the Assign Memory page, specify enough memory to start the guest operating system. I set it to 1024

6- On the Configure Networking page, connect the virtual machine to a switch you have created when you installed Hyper-V or create a new one.

7- On the Connect Virtual Hard Disk and Installation Options pages, choose Create a virtual hard disk. Click Next

8- In the Installation Option, Decide if you want to install it now or wait until you're done. In my case I selected the Install the operating system later since i'm running my current lab already in Hyper-v and it's not a good idea to start a virtual machine on an hypervisor that is already running on a virtualized machine....)

%	New Virtual Machine Wizard
Installation (Options
Before You Begin Specify Name and Location	You can install an operating system now if you have access to the setup media, or you can install it later.
Specify Generation	 Install an operating system later
Assign Memory	 Install an operating system from a bootable CD/DVD-ROM
Configure Networking	Meda
Connect Virtual Hard Disk	Physical CD/DVD drive: E:
Installation Options	O Image file (.iso): Browse
Summary	Install an operating system from a bootable floppy disk Media Media Media
	Install an operating system from a network-based installation server Your network adapter is disconnected. To perform a network-based installation, return to the Configure Networking page and connect the network adapter.
	< Previous Next > Finish Cancel

8- On the Summary page, verify your selections and then click Finish.

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