

Configuring a SnapServer NFS Share as a VMware ESXi Datastore

September 2018



Summary

This application note describes how to use an NFS share on a SnapServer running GuardianOS 8.0.073 or later as an ESXi datastore on a VMware Hypervisor host running ESXi 5.0 or later.

Required Information, Tools, and Files

Before you begin these procedures, the following information, tools, and files are required.

Prerequisites

Prior to performing these procedures:

- Be sure you are running SnapServer GOS 8.0.073 or greater.
- If needed, access additional information on SnapServer found at the following links: https://www.overlandstorage.com/products/snapserver/index.aspx

http://docs.overlandstorage.com/snapserver

This document assumes the reader is familiar with VMware vSphere Client, vSphere Web Client, or vCenter Server as required in the VMware environment. Additional information can be obtained through VMware's online knowledge base.

Best Practices

- While both Traditional and Dynamic RAID volumes and shares can be used as VMware NFS datastores, Traditional RAID provides better response to the high input/output operations per second (IOPS) load exercised by VMware hosts.
- Solid State Drives (SSD) are recommended for the SnapServer storage to provide lower latency and higher IOPS than traditional hard disk drives.
- A 10gig Ethernet connection between the VMware host and SnapServer is recommended for higher throughput to NFS datastores.
- NFSv3 is recommended over NFSv4 for better response and throughput.
- If multiple Ethernet interfaces are used on the SnapServer to support access to the NFS datastore by the VMware host, they should be bonded together in load balancing or failover mode when connected to the same subnet.
- The NFS.MaxQueueDepth setting on the VMware host should be changed from the default 4294967295 to **64** to prevent overrunning the SnapServer with simultaneous I/O requests. This can be configured in vSphere Client under **Configuration > Software > Advanced Settings > NFS**, and requires reboot of the VMware host.

Preparing a SnapServer Share For Use as a VMware NFS Datastore

This procedure creates a new share dedicated as a VMware NFS datastore. This is recommended to avoid contention with any other file-sharing activity on the same SnapServer appliance. However, any SnapServer share can be used as a datastore with the appropriate NFS access configuration.

Perform the following steps to create a share on the SnapServer:

1. Use the SnapServer Web Management Interface to log into the server.

2. Browse to Security > Shares and click Create Share.

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S	Server Netv	VORK S	TORAGE	SECURITY	MON	IITOR	Main	TENAN	CE				
	Security Guides	Shares Lo	cal Users	Local Groups	ID Mapping	Home D	irectori	es					
Shares													
			There a	are no shares.									
Important Security Note	: Share access for the N	FS protocol is co	nfigured in	dependently fron	n share access f	or all other	r protoc	ols. <u>Vie</u>	w onlin	ie help	for moi	<u>re</u>	
		Creat	e Share	C Refresh	Close								

- **3.** Provide the following **details**:
 - Share Name (for example, **vmstore**) or accept the default.
 - Volume for the datastore to use.
 - Path on the volume to use for the datastore.
 - Optionally, add a share **Description**.
 - Click Advanced Share Properties and uncheck all protocols except NFS.

are, specify a nam	e, volume, and path to a folder.						
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4. Click Create Share.

5. Verify that the **share** was created properly.

	SERVER	NETW	/ORK	STORAGE	SECURIT	Y	MONITOR	MAINTE	NANCE	
	Secu	rity Guides	Shares	Local Users	Local Groups	ID Map	ping Hor	me Directories		
Shares										
Shares (1) 🔺	/olume			Path			Access	NFS Access	Protocols	Attributes
> vmstore	/olume1			/			Open	Default	NFS	-
ttributes: H=Hidd	en, S=Has Snap:	shot Share,	W=Web R	oot						
nportant Security	Note: Share acce	ess for the N	FS protocol	is configured ir	dependently from	m share a	ccess for all	other protocol:	s. <u>View online I</u>	nelp for more

6. Under the NFS Access column on the Shares page, click the Default link to configure NFS Access for the share.

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2	ERVER	NETW	ORK	STORAGE	SECURIT	Y Mor	IITOR	MAI	NTENA	NCE			
	Security	/ Guides	Shares	Local Users	Local Groups	ID Mapping	Home	Directo	ries				
NFS Share Access													
Add a host using the foll	owing (basic)	permissio	ons to the	exports list be	Now.								
Options: SnapS	erver defaul	t options	Rei	ad-only (ro,as	ync)								
NFS Host:			A	dd Host									
(1) NFS access (export	s) for share v	mstore.											
*(rw,insecure,async,roo	t_squash,no_	all_squas	ר)										

- 7. On the NFS Share Access page, modify the default NFS export line:
 - Change the asterisk at the beginning to the IP address of the VMware host.
 - Change the "root_squash" part to "no_root_squash."

For example, "192.168.0.1 (rw, insecure, async, no_root_squash, no_all_squash)".

- **8.** Add any **additional export entries** in the field for other VMware hosts or NFS clients that need to access the datastore share.
- 9. Click OK.

Creating a VMware Datastore on a SnapServer NFS Share

NOTE: The examples below use vSphere Client. The configuration is similar in other VMware interfaces.

- 1. Connect to the VMware host using VMware vSphere Client, vSphere Web Client, or vCenter Server.
- 2. On the Configuration tab, click Add Storage to launch the wizard.

Summary Virtual Machines Resource A	llocation Performance Configuration	Users Events Permissio	ons		
Hardware	View: Datastores Devices				-
Health Status	Datastores		Refresh Del	lete Add Storage	Rescan All
Processors	Identification 🛆 Device	Drive Type	Capacity	Free Type	Last Update
Memory	👔 datastore1 🛛 ATA Seria	l Attach Non-SSD	144.00 GB	134.93 GB VMFS3	9/7/2018 6:44:
 Storage 	👔 localscratch ATA Seria	l Attach Non-SSD	1.82 TB	1.13 TB VMFS3	9/7/2018 6:49:4
Networking	vmstore1696 vmstore1	l.snapen Unknown	5.00 TB	208.41 GB NFS	9/17/2018 12:0
Storage Adapters	wmstore1699 vmstore1	I.snapen Unknown	5.00 TB	208.41 GB NFS	9/17/2018 12:0
Network Adapters	wmstore1-cdimag vmstore1	l:/cdima Unknown	5.00 TB	208.41 GB NFS	9/17/2018 12:0
Advanced Settings	vmstore1-enzo vmstore1	:/enzo Unknown	5.00 TB	208.41 GB NFS	9/17/2018 12:0
Power Management					
Software	<				>
Licensed Features	Datastore Details				Properties
Time Configuration					rioperaesti
DNS and Routing					
Authentication Services					
Virtual Machine Startup/Shutdown					
Virtual Machine Swapfile Location					
Security Profile					
Host Cache Configuration					
Custom Descure Descuretion					

- 3. In the first step of the wizard, select Network File System as the storage type, and click Next.
- 4. Enter the following for the SnapServer datastore share:

🚱 Add Storage			—		×
Locate Network File System Which shared folder will be u	ised as a vSpher	e datastore?			
NAS Network File System Ready to Complete	- Properties Server: Folder: Datastore Snap1234	10.25.2.83 Examples: nas, nas.it.com, 192.168.0.1 or FE80:00:0:2AA:FF:FE9A:4CA2 /vmstore Example: /vols/vol0/datastore-001 Mount NFS read only If a datastore already exists in the datacenter for this NF to configure the same datastore on new hosts, make sure same input data (Server and Folder) that you used for th Different input data would mean different datastores eve storage is the same. Name 56-vmstore	S share and that you er e original dat n if the unde	you intenc iter the astore, rlying NFS	
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- Server Enter the server name, fully-qualified name (FQDN), or IP address of the SnapServer.
- **NOTE:** If using a hostname or FQDN, ensure the VMware host can resolve that name to the SnapServer's IP address. If using an IP address, ensure the IP is assigned statically or via a DHCP reservation. In both cases, ensure the VMware host connects to the desired SnapServer network interface to use for datastore storage communication.

- Folder Enter the SnapServer share name preceded by a forward slash (/) and, optionally, followed by an subdirectory path (for example, /vmstore).
- Mount NFS Read Only Ensure the option is <u>not</u> checked.
- Datastore Name Enter a name to uniquely identify the datastore on the VMware host (for example, "snap123456-vmstore".
- 5. Click Next to continue wizard.
- 6. Confirm the information that is shown and click Finish.
- 7. Verify the SnapServer NFS datastore appears in the Datastores list.

ardware	View:	Datastores Devices					
Health Status	Datas	tores			Refresh Del	ete Add St	orage
Processors	Ident	ification 🗠	Device	Drive Type	Capacity	Free	Туре
Memory	B	datastore1	ATA Serial Attach	Non-SSD	144.00 GB	134.93 GB	VMFS
Storage	i iii	localscratch	ATA Serial Attach	Non-SSD	1.82 TB	1.13 TB	VMFS
Networking	8	Snap123456-vmstore	10.25.2.83:/vmst	Unknown	1,023.87 G	1,013.84 G	NFS
Storage Adapters	Ū	vmstore1696	vmstore1.snapen	Unknown	5.00 TB	208.41 GB	NFS
Network Adapters		vmstore1699	vmstore1.snapen	Unknown	5.00 TB	208.41 GB	NFS
Advanced Settings		vmstore1-cdimages (vmstore1:/cdima	Unknown	5.00 TB	208.41 GB	NFS
Power Management		vmstore1-enzo	vmstore1:/enzo	Unknown	5.00 TB	208.41 GB	NFS
ftware	<						
Licensed Features	Datas	tore Details					
Time Configuration							
DNS and Routing							
Authentication Services							
Virtual Machine Startup/Shutdown							
Virtual Machine Swapfile Location							
Security Profile							
Host Cache Configuration							
System Resource Reservation							
Agent VM Settings							
Advanced Settings							

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