

How to move a Virtual Machine to Microsoft Failover Cluster

2025

StarWind Documents





Trademarks

"StarWind", "StarWind Software" and the StarWind and the StarWind Software logos are registered trademarks of StarWind Software. "StarWind LSFS" is a trademark of StarWind Software which may be registered in some jurisdictions. All other trademarks are owned by their respective owners.

Changes

The material in this document is for information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, StarWind Software assumes no liability resulting from errors or omissions in this document, or from the use of the information contained herein. StarWind Software reserves the right to make changes in the product design without reservation and without notification to its users.

Technical Support and Services

If you have questions about installing or using this software, check this and other documents first - you will find answers to most of your questions on the <u>Technical Papers</u> webpage or in <u>StarWind Forum</u>. If you need further assistance, please <u>contact us</u>.

About StarWind

StarWind is a pioneer in virtualization and a company that participated in the development of this technology from its earliest days. Now the company is among the leading vendors of software and hardware hyper-converged solutions. The company's core product is the years-proven StarWind Virtual SAN, which allows SMB and ROBO to benefit from cost-efficient hyperconverged IT infrastructure. Having earned a reputation of reliability, StarWind created a hardware product line and is actively tapping into hyperconverged and storage appliances market. In 2016, Gartner named StarWind "Cool Vendor for Compute Platforms" following the success and popularity of StarWind HyperConverged Appliance. StarWind partners with world-known companies: Microsoft, VMware, Veeam, Intel, Dell, Mellanox, Citrix, Western Digital, etc.

Copyright ©2009-2018 StarWind Software Inc.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written consent of StarWind Software.



Description

There are several ways to add VMs into a newly configured cluster. Besides creating a new VM from scratch (applicable mostly for new deployments), an administrator might need to migrate an existing VM to the cluster. This article covers the scenario when VMs are already located on a Hyper-V host that is a part of the cluster and they should be added to that cluster and moved to the cluster shared volume so the VMs can live migrate between the cluster nodes.

Steps

NOTE: Before the migration starts, please make sure that VMs have no checkpoints created and are backed up. VMs can be migrated from one Hyper-V host to a clustered one as discussed in this article:

https://docs.microsoft.com/en-us/windows-server/virtualization/hyper-v/manage/use-livemigration-without-failover-clustering-to-move-a-virtual-machine The approach from the article above, can be used to migrate VMs directly to cluster shared volume. Herein, we describe a Failover Cluster feature that allows to move VM files from the local storage to the cluster shared volume (i.e., VMs are running on a clustered host, but they are not added to the cluster yet) and between the cluster shared volumes.

Hyper-V Manager						-	\times
File Action View Help							
🗢 🄿 🙇 🖬 🚺 🖬							
Hyper-V Manager				Ac	tions		
SW1	SW1 Virtual Machines						
	Name State CPU Usage A		New		۰,		
	E VM1	Running	0% 11	R	Import Virtual Machine		
	VM2	Running	0% 11		import virtual machine		
	VM3	Running	0% 1,	-	Hyper-V Settings		
	<				Virtual Switch Manager		
					Virtual SAN Manager		
	Checkpoints	1	Edit Disk				
		-	Inspect Disk				
					Stop Service		
				×	Remove Server		
				ช	Refresh		
					View		•
	Details			?	Help		
		No iter	n selected.	_			
	<		>				



Open Failover Cluster Manager and press **Configure Role...** under the **Roles** section.



Follow the High Availability wizard and select Virtual Machine on the next screen.





The High Availability wizard lists the VMs located on clustered nodes. Select the VMs that should be clustered and click **Next**. **NOTE:** Please do not add to the cluster a single Domain Controller VM. See more details in this KB:

https://knowledgebase.starwindsoftware.com/explanation/advice-on-how-to-place-a-dom ain-controller-in-case-of-starwind-virtual-san-usage/

High Availability V	Wizard r tual Machine					×
Before You Begin Select Role	Select the virtual	machine(s) that you	u want to configure Status	for high availa	bility. Host Server	
Select Virtual Machine Confirmation Configure High Availability Summary	VM1 VM2 VM3 2 DC2	F F S S	Running Running Running Saved Saved		SW1.starwind.local SW1.starwind.local SW1.starwind.local SW2.starwind.local SW2.starwind.local	
	Shutdown	Save				<u>Refresh</u>
				< <u>P</u> revious	<u>N</u> ext >	Cancel

Confirm the configuration by pressing **Next**.



igh Availability Wizard 😽 🖏 🖏 🖏						
tonfirmat	lion					
Before You Begin Select Role	You are ready to configure high availability for a Virtual Machine.					
Select Virtual Machine	Virtual Machine	^				
Confirmation	VM1					
Configure High Availability	VM2					
Summary	VM3					
,						
		~				
	To continue, click Next.					
	< <u>P</u> revious <u>N</u> ext > Cance	el				

Close the wizard by pressing **Finish**. Please pay attention to the Warning message about VMs disk location.



🔯 High Availability Wizard						
Summary						
Before You Begin Select Role	High availability was successfully configured for the role.					
Select Virtual Machine	Result			^		
Confirmation	VM1	Warning				
Configure High	VM2	Warning				
Availability	VM3	Waming				
Summary	Results by Category					
	Virtual Machine	Warning				
	 Warnings The following disk path was found to be required by the virtual machine "VM1", but it is on a disk that has not yet been added to the cluster: 'D:\Hyper-V\VM1'. This disk must be added to the cluster to make this virtual machine highly available. 	•		~		
	To view the report created by the wizard, click View Report. To close this wizard, click Finish.		<u>V</u> iew Report			
			<u>F</u> inish			

Once VMs are clustered, they will appear in Failover Cluster Manager. Note that, live migration will not work for the newly clustered VMs because their files are located on the local storage. To enable live migrations, VM files should be relocated to the cluster shared volume. To move VM files to a Cluster Shared Volume, prepare a separate folder for each VM on it. From the Failover Cluster Manager interface, Right-click the VM and choose **Move** -> **Virtual Machine Storage**.



闂 Failover Cluster Manag	er								-	×
File Action View Help										
🗢 🔿 🖄 🕅 🚺										
📲 Failover Cluster Mana	Role	s (3)						Ac	tions	 _
V B SW-SUP-CLS.starv	Sea	rch			q.	Queries 🔻	. • •	Ro	les	<u> </u>
Nodes	Nam	e	Status		Туре	Owner Node	Pric	-	Configure Role	
🗸 📇 Storage	1		Connect		Virtual Machine	SW1	Me		Virtual Machines	•
Disks			Start		Virtual Machine	SW1	Me		Create Empty Role	
Enclosures		0	Save		Virtual Machine	SW1	Me		View	•
Networks		0	Shut Down					Q	Refresh	
Cluster Events		۲	Turn Off					?	Help	
		2	Settings					VN	/1	
		3	Manage						Connect	
		1	Replication +					0	Start	
			Move +		Live Migration	+		0	Save	
		20	Cancel Live Migration	1	Quick Migration	•		0	Shut Down	
		٩	Change Startup Priority	X	Virtual Machine St	orage) Turn Off	
		-	Information Details				-	7	Settings	
		B	Show Critical Events						Manage	
		đ	Add Storage					1	Replication	•
	<	B	Add Resource				>	2	Move	•
	F		More Actions						Cancel Live Migration	
	~	×	Remove	-	F	Preferred Owners:	Any node	9	Change Startup Priority	•
			Properties				^		Information Details	
	Virte	101 1710			Duration			8	Show Critical Events	
	1172		CPU Usage:		0%	Up Time:	~	4	Add Storage	
	<						>		Add Resource	•
< >>	Sun	nmary	Resources						More Actions	• *
Roles: VM1										

In the Move Virtual Machine Storage wizard, check the **Source Folder Path** (i.e. local path), select the destination folder path to the cluster storage, select the VM files that should be moved to the cluster storage, press **Copy**, and press **Paste**.

Move Virtual Machine Storage				x			
In the upper pane, select a virtual machine or confirm that the Destination Folder Path is co	r specific files on a virtual machine, the prrect. Then click Start.	n drag and drop them into a	a folder in the lower pane. Review t	he upper pane to			
<u>C</u> opy 2							
File Type	Source Folder Path		Destination Folder Path				
🖃 🚦 Virtual Machine VM1							
VM1.vhdx	D:\Hyper-V\VM1\Virtual Har	rd Disks					
Checkpoints	D:\Hyper-V\VM1						
Smart Paging	D:\Hyper-V\VM1						
E Current configuration	D:\Hyper-V\VM1						
📑 Add Share 💥 Remove share 👸 🖸	2pen 📋 Paste 💥 Delete						
	Name 3	Size					
			Start	Cancel			

ai



The **Destination Folder Path** should appear in the wizard window. Press the **Start** button to start the move. VM can remain running during the move process.

Move Virtual Machine Storage						
In the upper pane, select a virtual machin confirm that the Destination Folder Path i	e or specific files on a virtual ma s correct. Then click Start.	achine, then drag and drop them ir	nto a folder in the lower	pane. Review the uppe	r pane to	
<u>с</u> ору						
File Type	Source Folder Pat	h	Destinatio	n Folder Path		
😑 📋 Virtual Machine VM1						
VM1.vhdx	D:\Hyper-V\VM1\	Virtual Hard Disks	C:\Cluster	Storage\Volume1\Hype	er-V\VM1	
Checkpoints D:\Hyper-V\VM1 C:\ClusterStorage\Volum						
Smart Paging	D:\Hyper-V\VM1		C:\Cluster	Storage\Volume1\Hype	er-V\VM1	
E Current configuration D:\Hyper-V\VM1 C:\ClusterStorage\Volume1\Hyper-V\						
<					>	
📑 Add Share 💥 Remove share 😁	<u>O</u> pen 📋 <u>P</u> aste 💥 <u>D</u> ele	te				
Cluster Storage	Name	Size				
▲ 📜 Volume1	IVM1.vhdx	4.00 MB				
A Hyper-V	Checkpoints					
▷ ↓ VM2	📄 Smart Paging					
▷ 1. VM3	Current configuration					
Volume2						
				<u>S</u> tart	Cancel	

	piogress			1 I I Y	pei-v	Manager.				
Hyper-V Manag	Jer							-	– 🗆	×
File Action Vie	w Help									
	?									
📑 Hyper-V Man	NC 4 184 11	_						Act	tions	
SW1	Virtual Machines	s cu i	CRUU		u.e^	C	0.0.0	SW	/1	•
		State	CPU Usage	A	Uptime	Status	Configurati		New	•
		Running	0%	12	00:48:40	Moving Storage (15%) - Synchronizi	8.0		Import Virtua	a
		Running	0%	12	00:48:38		8.0		Hyper-V Sett	ti
		2							Virtual Swite	
	<						>		Virtual SAN	
	Checkpoints									
									Langest Diele	
			No vir	tual mac	hine selected				Inspect Disk.	
									Stop Service	
								×	Remove Serv	/er
								U	Refresh	
									View	•
	Details							?	Help	
				No item s	elected					
< >	L									

The move progress can be monitored in Hyper-V Manager.

Once the process is completed, the VM is completely moved to the cluster storage and



can be live migrated between the cluster nodes.

Request A Product Feature

To request a new product feature or to provide feedback on a StarWind product, please email our support at support@starwind.com and put "Request a Product Feature" as the subject.



Contacts

US Headquarters	EMEA and APAC					
 +1 617 829 44 95 +1 617 507 58 45 +1 866 790 26 46 	 +44 2037 691 857 (United Kingdom) +49 800 100 68 26 (Germany) +34 629 03 07 17 (Spain and Portugal) +33 788 60 30 06 (France) 					
Customer Support Portal:	https://www.starwind.com/support					

Support Forum: <u>https://www.starwind.com/forums</u> Sales: <u>sales@starwind.com</u> General Information: <u>info@starwind.com</u>

\approx Star Wind

StarWind Software, Inc. 100 Cummings Center Suite 224-C Beverly MA 01915, USA <u>www.starwind.com</u> ©2025, StarWind Software Inc. All rights reserved.