

StarWind Virtual SAN[®] Enable iSER

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TECHNICAL PAPERS





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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.

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Annotation

Relevant Products

StarWind Virtual SAN

Purpose

This document guides on how to enable iSER (iSCSI Extensions for RDMA) support within StarWind Virtual SAN®. iSER is an advanced data transfer extension of iSCSI designed for RDMA (Remote Direct Memory Access) technology. It offers low latency, minimal CPU utilization, and inherits the security and simplicity advantages of iSCSI. Enabling iSER support in StarWind Virtual SAN can significantly enhance data transfer bandwidth, making it valuable for virtualized and cloud environments where efficient VM migration and data replication are essential.

Audience

This document is intended for IT professionals, system administrators, and storage specialists who are responsible for configuring and managing storage solutions, specifically within StarWind Virtual SAN environments.

Expected Result

The expected result is the successful enabling of iSER support within the selected StarWind Virtual SAN server.

Introduction

In addition to the industry-standard uplink protocols, StarWind Virtual SAN supports iSER, the topnotch data transfer extension of iSCSI for RDMA. The protocol has low latency and CPU utilization. What is more, it has inherited from iSCSI its security and simplicity advantages. With RDMA protocol suite, iSER supplies higher bandwidth for block storage transfers. These features are crucial for building virtualized or cloud environments, where the protocol allows boosting VMs' migration and data replication. NOTE: This guide assumes that the server and StarWind Virtual SAN are already configured.



Enabling Iser Support

- 1. Select the StarWind server where the iSER support is intended to be enabled.
- 2. Press the Configuration button.
- 3. Navigate to the Network tab.

StarWind Management Cor	nsole				– 🗆 🗙
FILE HOST TARGET TOO	OLS OPTIONS HELP				
Refresh Connect Disconnect	Add Server Remove Serve	er Add Device Add Device	advanced) Add VTL	Device Remove	Target Help
 Servers 	General Configuratio	CHAP Permissions	Access Rights	Server Log	Events Performance
▲ 🛄 SW-SUP-PC3.ST					
Storage1	Management Ir	iteriace	twork		
	Event Popup O	Dtions	Address	Port	iSER
			127.0.0.1 192.168.0.165	3260 3260	N/A N/A
	Network SINS				
	Management Ir	nterface			
	Register				
	Se Advanced Settin	ngs			
	Event Notification				
	SCSI Boot Con	-			
	丛 Experimental Fe	satures			
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4. Click Add to append new network connections.



ieneral	Configuration	CHAP Permissions	Access Rights	Server Log	Events	Performance		
M M	lanagement Interf	ace	letwork					Remove Modify Add
	vent Popup Option	15	IP Address 127.0.0.1 192.168.0.160	Port 3260 3260		P	SER (Experimental) 4/A 4/A	Speed 1 073 Mbps 108 Mbps
-	<u>etwork</u> NS							
РM	lanagement Interf	ace						
-	egister dvanced Settings							
-	vent Notifications CSI Boot Configur	ation						
	perimental Featur							

- 5. Select the network interface on which iSER should be enabled.
- 6. Click the Modify button.

Management Interface	Network			Remove Modify
Event Popup Options	IP Address	Port	iSER (Experimental)	Speed
	127.0.0.1	3260	N/A	1 073 Mbps
	169.254.0.2	3260	N/A	425 Mbps
_	2172.16.0.45	3260	N/A	1 000 Mbps
Retwork	172.16.100.45	3260	N/A	4 294 Mbps
8 <u>ISNS</u>	172.16.101.45	3260	Disabled	4 294 Mbps
Management Interface	172.16.102.45	3260	Disabled	4 294 Mbps
Register				
Advanced Settings				
C Event Notifications				
SCSI Boot Configuration				
A Experimental Features				

7. The Network Interface tab will appear.

		Network			Remove Modify Add
_	nagement Interface ent Popup Options	IP Address	Port 3260 3260	iSER (Experimental) N/A N/A	Speed 1 073 Mbps 1 000 Mbps
S isni S isni P Mar Reg	IP Address	Port	1260 1260 1260	N/A Disabled Disabled	4 294 Mbps 4 294 Mbps 4 294 Mbps
Server Se	Bnable Network Interface Denable ISER for this Interface SI	(experimental) Cancel			

8. Select Enable iSER for this Interface (experimental).



neral		Configuration	CHAP Permissio	ns Access Rights	Server Log	Events Performan	te		
Δ¥.	Mana	gement Interf	ace	Network					Remove Modify Adv
=			IP Address	Port		iSER (Experimental)	Speed		
		a shake selected		27.0.0.1	3260		N/A	1 073 Mbps	
				172.16.0.46	3260		N/A	1 000 Mbps	
_		Network Interfac	e	×	3260		N/A	4 294 Mbps	
6	Netw ISNS Mana	IP Address	face Properties	Part	3260 3260		Disabled Disabled	4 294 Mbps 4 294 Mbps	
5	Regis			3260					
	Adva Even:		ork Interface for this Interface (exp	perimental)					
	i <u>SCSI</u> Exper		OK	Cancel					

Click OK.

9. Check whether the iSER feature has been Enabled successfully.

General Configuration	CHAP Permissions	Access Rights	Server Log Ev	nts Performance	н. — — — — — — — — — — — — — — — — — — —		
Management Interf	19 12 12	twork Address 127.0.0.1 172.16.0.46 172.16.100.46	Port 3260 3260 3260		iSER (Experimental) N/A N/A N/A	Speed 1 073 Mbps 1 000 Mbps 4 294 Mbps	Remove (Modify (Add
 Network SNS Management Interfield Register Advanced Settings Event Notifications ISCSI Boot Configure Experimental Feature 	ace ation	172.16.101.46 172.16.102.46	3260 3260	[Enabled Enabled	4 294 Mbps 4 294 Mbps	

Conclusion

By leveraging iSER's RDMA technology, users can achieve lower latency, reduced CPU utilization, and higher bandwidth for block storage transfers. This enhancement is particularly valuable in virtualized environments where efficient compute resources usage and performance are critical. Enabling iSER in StarWind Virtual SAN contributes to the optimization of storage performance and overall system efficiency.



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