

How to enable MPIO in Windows Server 2022

SAN and FAS Series White Paper

September 2022

PREFACE

Information, Tip and Caution

This manual uses the following symbols to draw attention to important safety and operational information.



INFORMATION:

INFORMATION provides useful knowledge, definition, or terminology for reference.



TIP:

TIP provides helpful suggestions for performing tasks more effectively.



CAUTION:

CAUTION indicates that failure to take a specified action could result in damage to the system.

TABLE OF CONTENT

Preface.....	1
Information, Tip and Caution.....	1
Table of Content.....	2
Audience	3
Environment	3
Topology.....	3
Configuration.....	4
Setting IP	錯誤! 尚未定義書籤。
Install MPIO.....	8
Use iSCSI initiator to login	10
Apply MPIO configuration	12
Conclusion.....	13
Apply To	13
References	1313
Announcement.....	14
Appendix	15
Related Documents	15
Technical Support.....	15

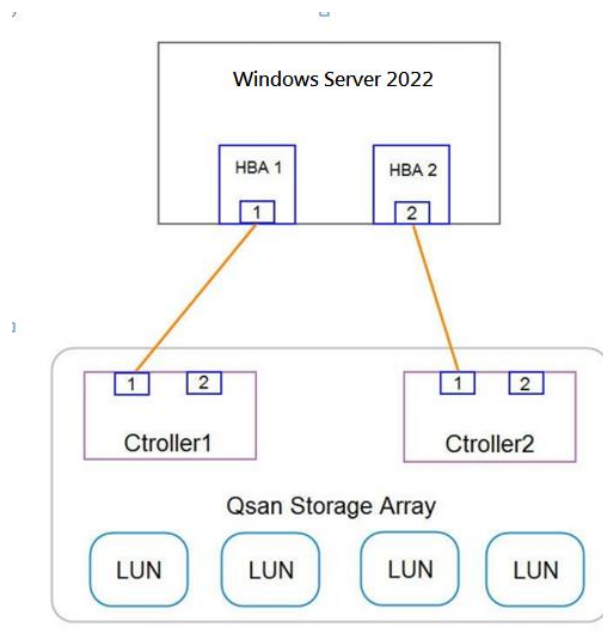
AUDIENCE

In this document, we will guide users to understand how to configure MPIO for Qsan storage in Windows Server 2022. Although the MPIO driver is also available in the Qsan Storage Service installer, we strongly recommend that the customers use the Multipath I/O in the Windows Server 2022 instead of the Qsan MPIO driver.

Environment

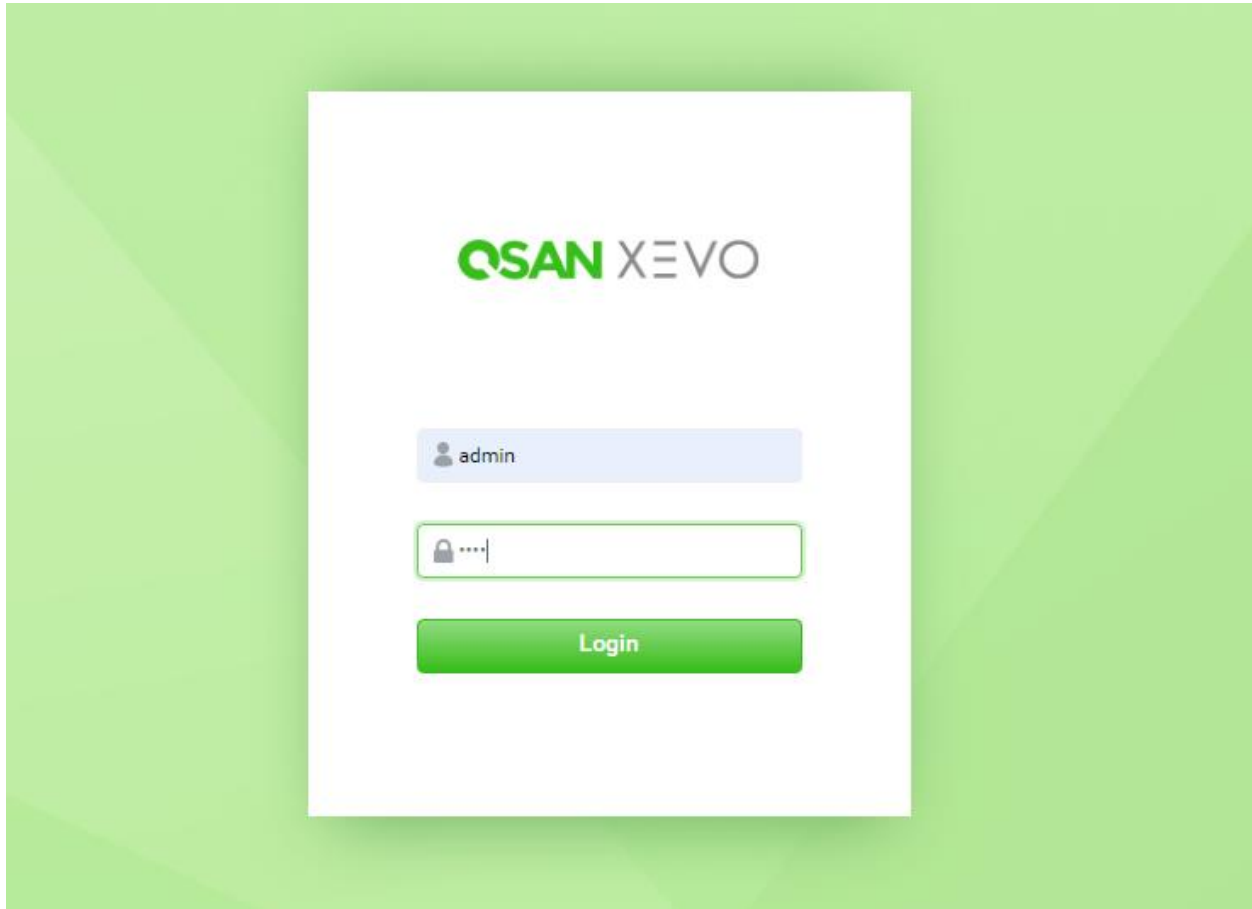
Host OS	Windows Server 2022
Storage	XS3324D/XF2026D/XF3126D
Firmware	V2.2.0
RAM	16GB
iSCSI data port	192.168.175.70/24 192.168.175.70/24

Topology



CONFIGURATION

1. Login XEVO UI.



2. In **System** tab, go to Data Ports to iSCSI Ports, and click set IP address.

The screenshot shows the OSAN XEVO management interface. The top navigation bar includes 'Dashboard', 'Storage', 'Hosts', 'Protection', 'Analysis', 'System', and 'Messages'. The 'System' tab is active, and the 'Data Ports' sub-tab is selected. Below the navigation, there are sections for 'Data Port Overview' and 'iSCSI Ports'. The 'iSCSI Ports' section contains a table with columns: CTRL, Interface, Location, Port, Status, LAG, IP Address, Gateway, VLAN ID, Jumbo Frame, and MAC Address. The table lists four iSCSI ports. The 'Set IP Address' option is highlighted in a red box. Below the table, there are 'iSCSI Settings' options: 'Set Link Aggregation', 'Set Default Gateway', 'Set VLAN ID', 'Set Jumbo Frame', and 'Ping Host'.

CTRL	Interface	Location	Port	Status	LAG	IP Address	Gateway	VLAN ID	Jumbo Frame	MAC Address
1	iSCSI (10Gb)	Onboard	LAN1	1 Gb/s	N/A	192.168.175.70		N/A	Disabled	00:13:78:f9:a7:02
1	iSCSI (10Gb)	Set IP Address	LAN2	Down	N/A	8.8.8.8		N/A	Disabled	00:13:78:f9:a7:03
2	iSCSI (10Gb)	Set Link Aggregation	LAN1	1 Gb/s	N/A	192.168.175.71		N/A	Disabled	00:13:78:f9:a7:0c
2	iSCSI (10Gb)	Set Default Gateway	LAN2	Down	N/A	192.168.12.1	192.168.12.254	N/A	Disabled	00:13:78:f9:a7:0d

3. Set IP address of controller1 LAN1 to 192.168.175.70/24.

The 'Set IP Address' dialog box shows the following configuration:

- DHCP ?
- Static
- IP Address: 192.168.175.70
- Subnet Mask: 255.255.255.0
- Gateway: (empty)

Buttons: Cancel, Apply

4. Set IP address of controller2 LAN1 to 192.168.175.71/24.

Set IP Address

DHCP ?

Static

IP Address

Subnet Mask

Gateway

5. Open “cmd” to confirm that you can ping to the set IP.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.20348.169]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ping 192.168.175.70

Pinging 192.168.175.70 with 32 bytes of data:
Reply from 192.168.175.70: bytes=32 time<1ms TTL=128
Reply from 192.168.175.70: bytes=32 time<1ms TTL=128
Reply from 192.168.175.70: bytes=32 time<1ms TTL=128
Reply from 192.168.175.70: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.175.70:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

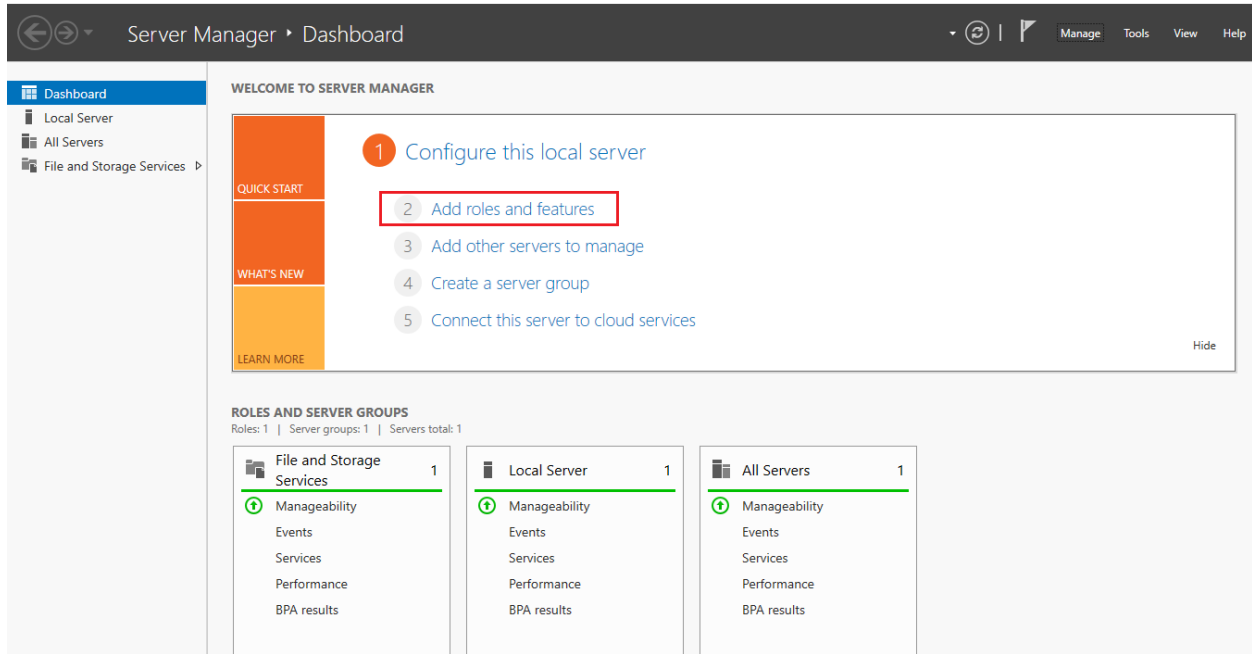
C:\Users\Administrator>ping 192.168.175.71

Pinging 192.168.175.71 with 32 bytes of data:
Reply from 192.168.175.71: bytes=32 time<1ms TTL=128
Reply from 192.168.175.71: bytes=32 time<1ms TTL=128
Reply from 192.168.175.71: bytes=32 time<1ms TTL=128
Reply from 192.168.175.71: bytes=32 time<1ms TTL=128

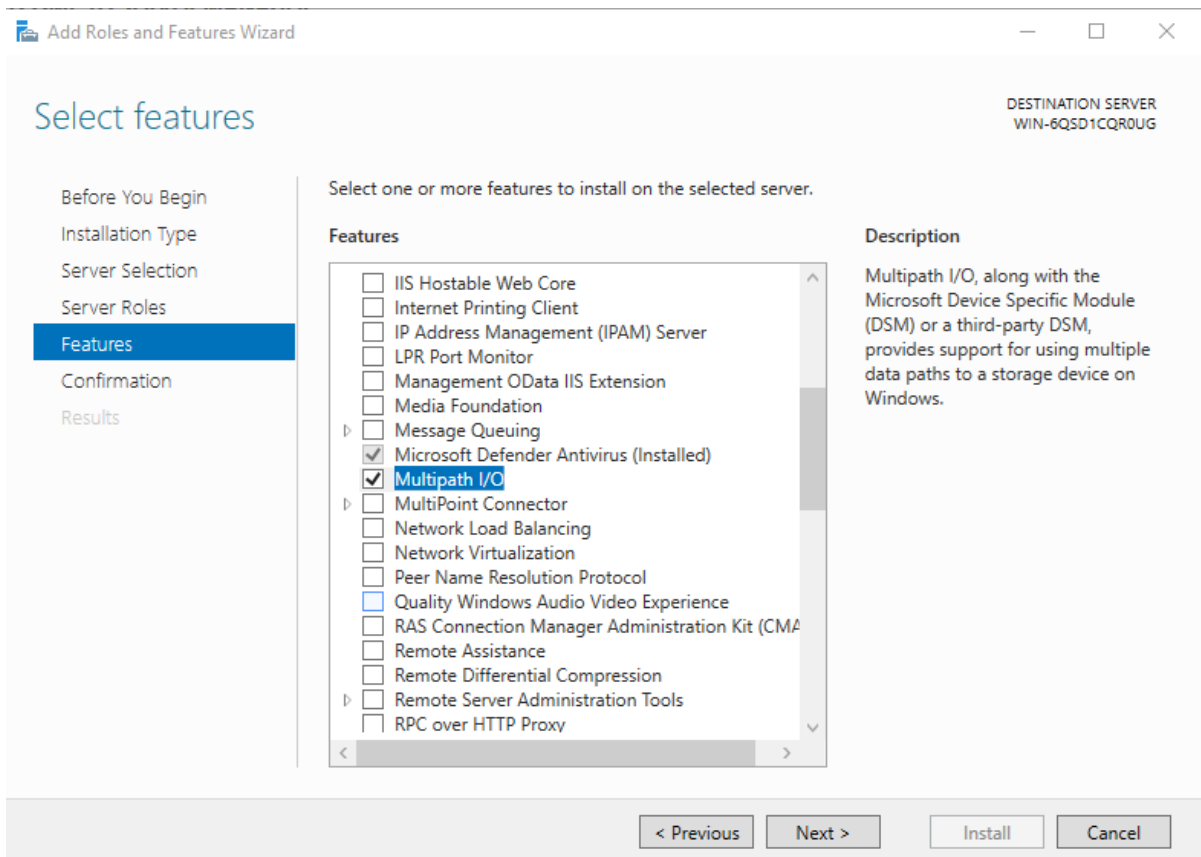
Ping statistics for 192.168.175.71:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Administrator>
```

6. Open the Server Manager window, and click Add Features.



7. Check the item of Multipath I/O, and click Next button below to install this new feature.



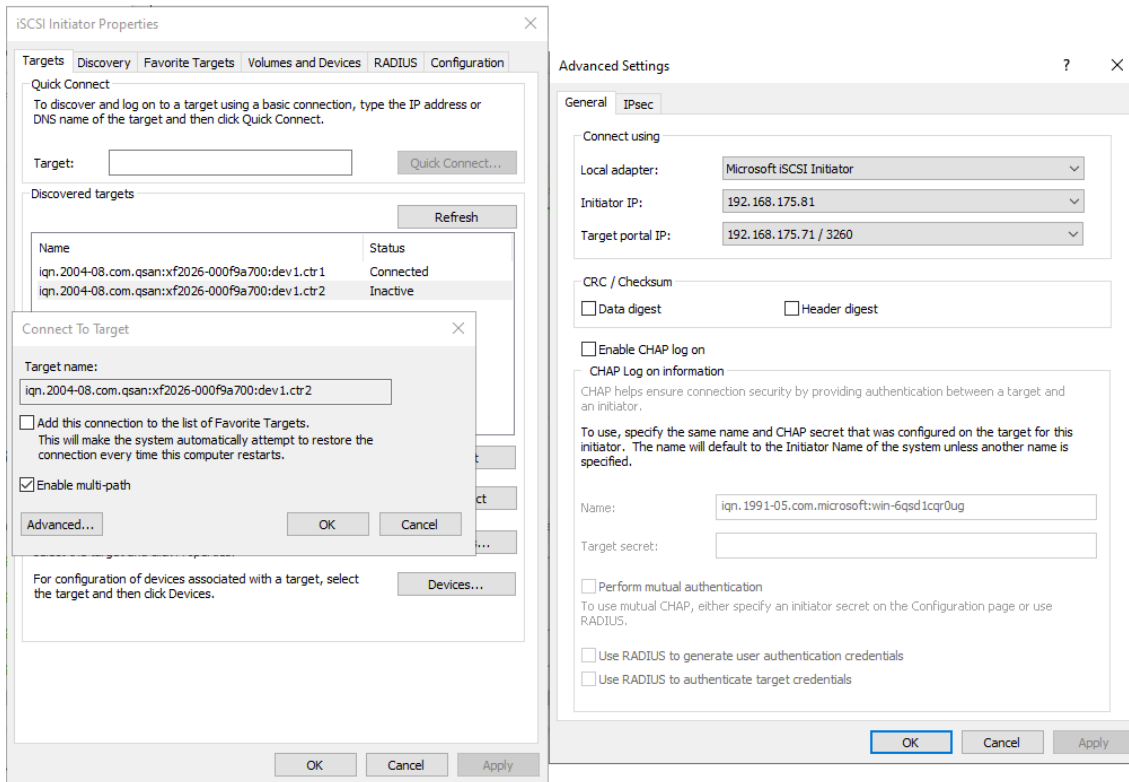
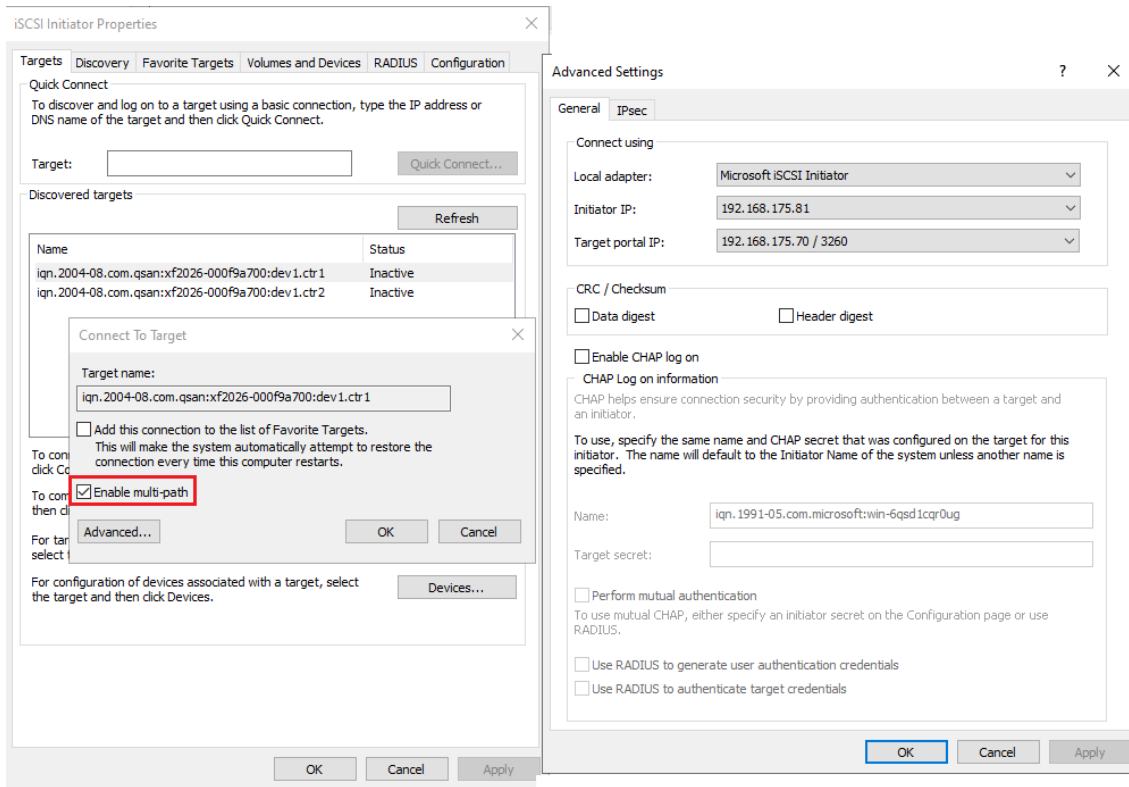
8. Create pool and volume and hostgroup, and map LUN "Volume_01".

The screenshot displays the QSAN XEVO management console interface. The top navigation bar includes 'Dashboard', 'Storage', 'Hosts', 'Protection', 'Analysis', 'System', and 'Messages'. The 'Hosts' section is active, showing a list of host groups with 'HostGroup_001' selected. The main content area displays the configuration for 'HostGroup_001', including its protocol (iSCSI), number of volumes (1), hosts (1), and enabled data ports (4). Below this, a table lists two iSCSI targets with their respective CTRL IDs, target names, aliases, and slot configurations. The 'Connected Volumes' section shows a single volume named 'Volume_01' with a capacity of 500.00 GB, LUN 0, and RAID Volume type. A red box highlights the 'Volume Name' and 'Capacity' columns in the 'Connected Volumes' table.

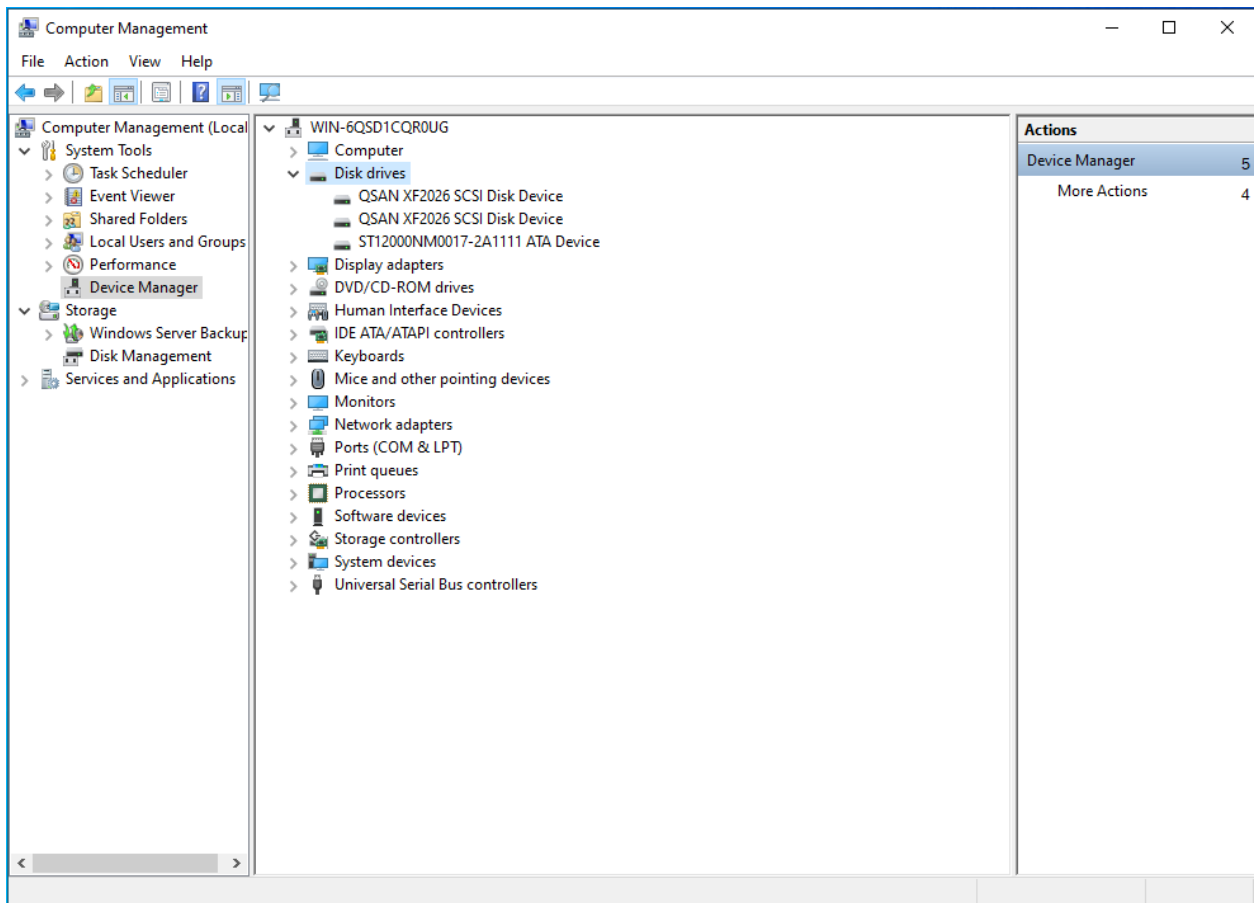
CTRL	Target Name	Alias	Slot 1	Slot 2	Onboard
1	iqn.2004-08.com.qsan:xf2026-000f9a700.dev1.ctr1	-	###		###
2	iqn.2004-08.com.qsan:xf2026-000f9a700.dev1.ctr2	-	###		###

Volume Name	Capacity	LUN	Volume Type
Volume_01	500.00 GB	0	RAID Volume

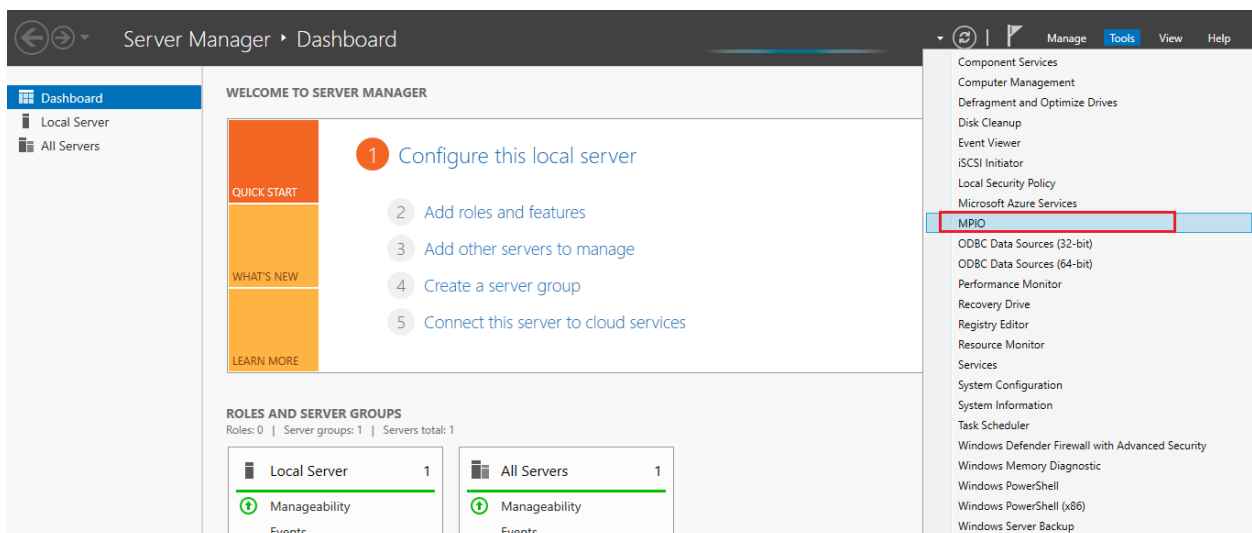
9. For the iSCSI storage like XF2026D, use the iSCSI Initiator to connect to the XF2026D with VD.



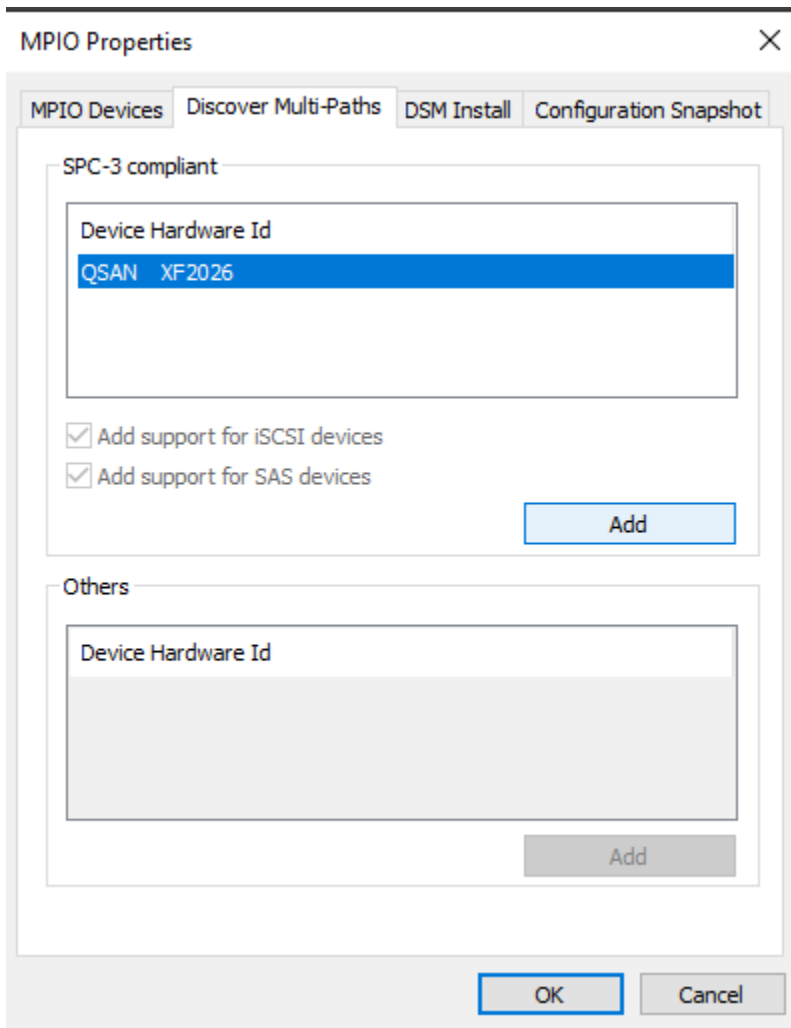
10. We take XF2026D as example, after iSCSI initiator login success, you can check “QSAN XF2026 SCSI Disk Device” in device manger. When MPIO is disable, it will show two disk device.



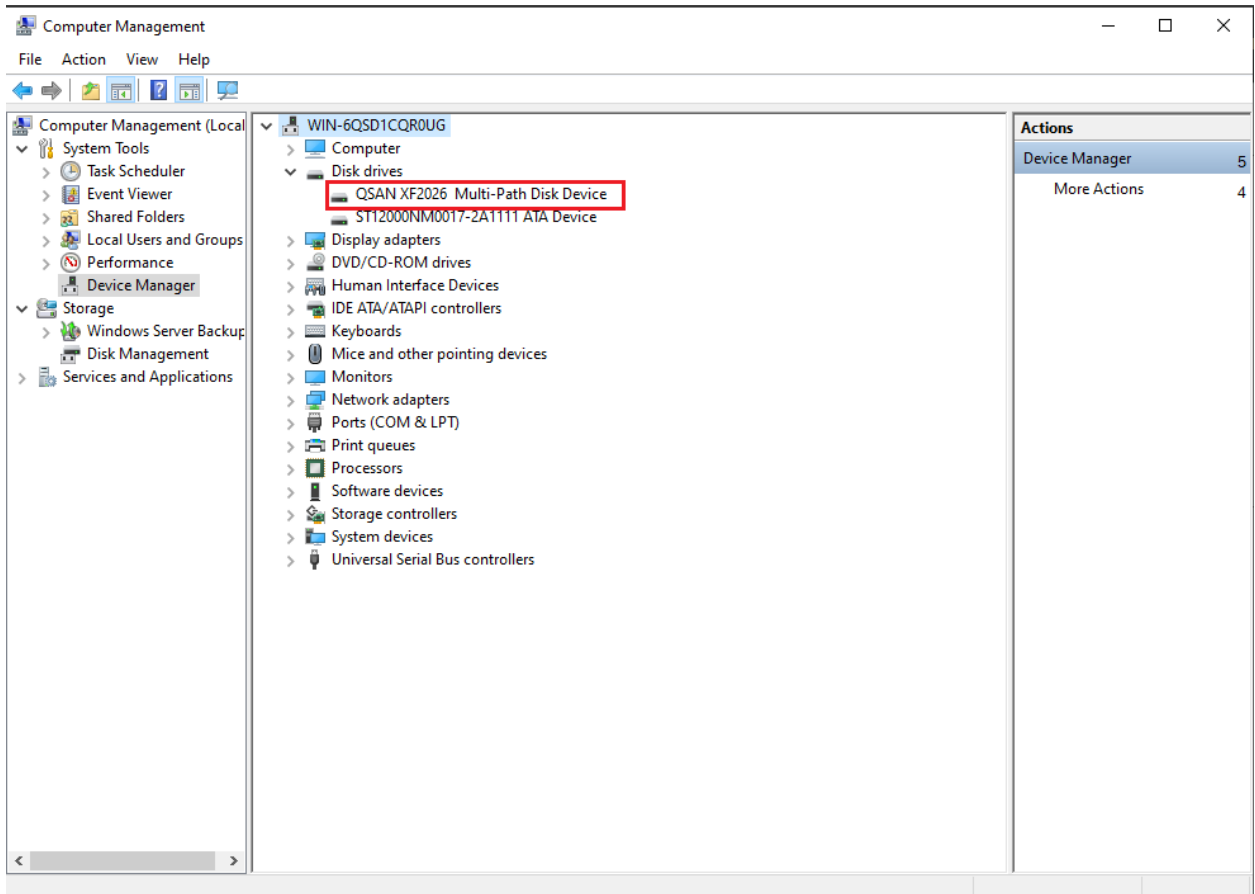
11. After adding the Multipath I/O feature, you can find MPIO in the tools of server manager.



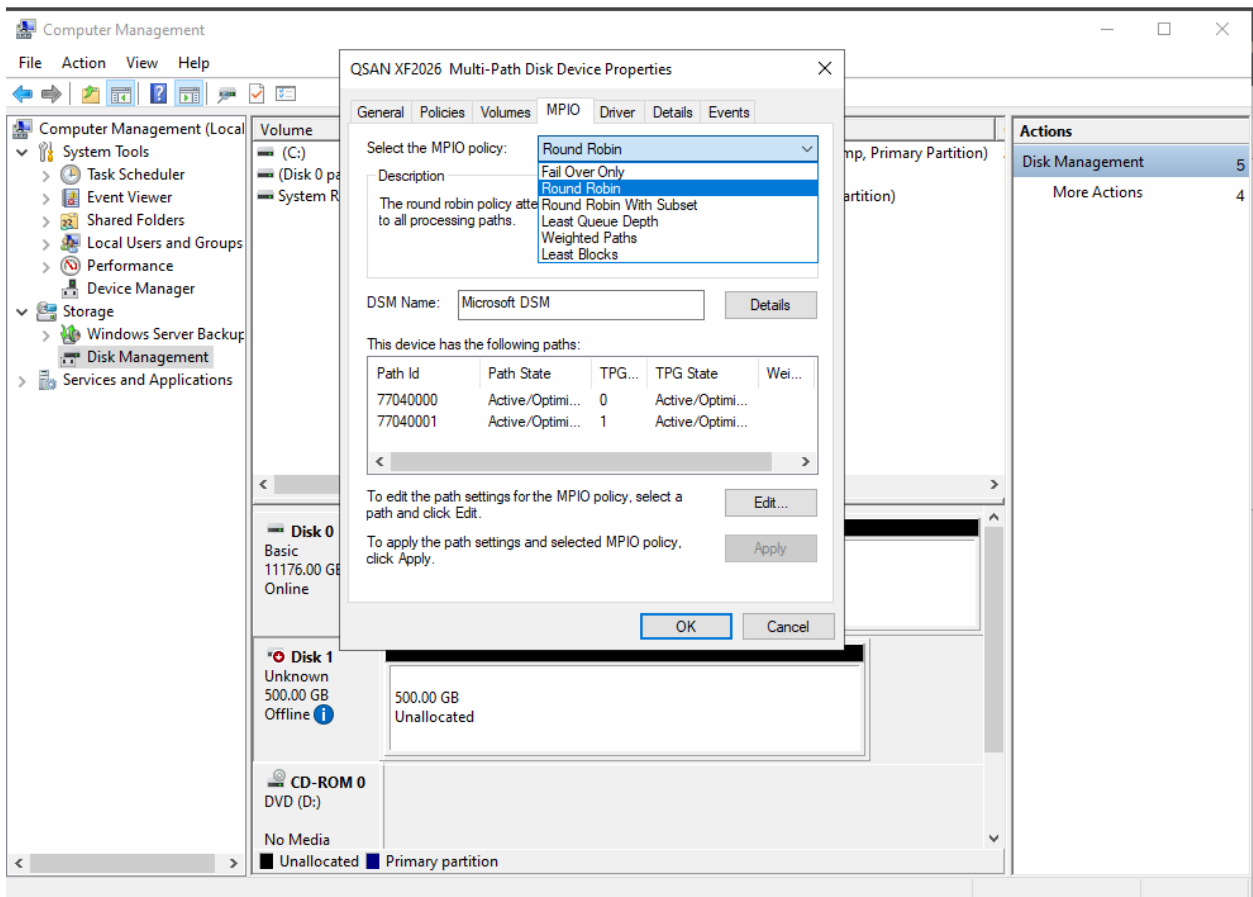
12. In MPIO Properties window, switch to the label of “Discover Multi-Paths”. Check the option of “Add support for iSCSI devices” and select “QSAN XF2026” and press “Add” button to take effect.



13. The iSCSI disk drive in “Device Manager” becomes a multi-path disk device now. It does not need to reboot server to take effect.



- The multipath policy could be specified by right clicking on the multi-path disk device in the “Disk Management”, and then select Properties. In MPIO label, the load balance policy could be modified here.



Conclusion

The MPIO function is a build-in feature of Windows Server 2022 and needs to be enable and configured before using it. It took effect without reboot server. This is a advantage compared with the previous version of Microsoft Server operating systems.

Apply To

XS3324D/XF2026D/XF3126D

References

[XEVO Software Manual](#)

ANNOUNCEMENT

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APPENDIX

Related Documents

There are related documents which can be downloaded from the website.

- [All XCubeSAN Documents](#)
- [XCubeSAN QIG \(Quick Installation Guide\)](#)
- [XCubeSAN Hardware Manual](#)
- [XCubeSAN Configuration Worksheet](#)
- [XCubeSAN SANOS 4.0 Software Manual](#)
- [Compatibility Matrix](#)
- [White Papers](#)
- [Application Notes](#)

Technical Support

- Do you have any questions or need help troubleshooting a problem? Please contact QSAN Support, we will reply to you as soon as possible.
- Via the Web: https://www.qsan.com/en/contact_support.php
- Via Telephone: [+886-2-7720-6355](tel:+886-2-7720-6355) (Service hours: 09:30 - 18:00, Monday - Friday, UTC+8)
- Via Skype Chat, Skype ID: [qsan.support](https://www.skype.com/join/qsan.support) (Service hours: 09:30 - 02:00, Monday - Friday, UTC+8, Summertime: 09:30 - 01:00)
- Via Email: support@qsan.com