QSAN Official Document

Connect to Seagate® Exos™ E 5U84 Guide

Application Note

November 2023

ANNOUNCEMENT

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Announcement
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PREFACE

Executive Summary

This application note provides technical guidance for connecting to Seagate Exos E 5U84 JBOD building block, which is a fully redundant JBOD disk enclosure, as expansion solutions of QSAN storage system. The new expansion solutions expand the capacity of QSAN storage with high density.

Audience

This document is applicable for QSAN customers and partners who are interested in purchasing Seagate Exos E 5U84 as the expansion unit of QSAN storage system. It assumes the reader is familiar with QSAN products and has general IT experience, including knowledge as a system or network administrator. If there is any question, please refer to the user manuals of products, or contact QSAN support for further assistance.

Technical Support

Do you have any questions or need help trouble-shooting a problem? Please contact QSAN Support, we will reply to you as soon as possible.

- Via the Web: https://www.qsan.com/technical_support
- Via Telephone: +886-2-77206355
- (Service hours: 09:30 - 18:00, Monday - Friday, UTC+8)
- Via Skype Chat, Skype ID: qsan.support
- (Service hours: 09:30 - 02:00, Monday - Friday, UTC+8, Summer time: 09:30 - 01:00)
- Via Email: support@qsan.com

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Information, Tip, and Caution

This document 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.

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1. GUIDELINES

In response to the arrival of the 5G era, data will grow very rapidly. Our partnership with long-standing partner Seagate enables our joint enterprise customers to provide high density storage platforms with unprecedented low TCO. Seagate Exos E 5U84 is the largest building block in the data world, delivering capacity and density without sacrificing data access speed. With an overall maximum bandwidth of 28.8 GB/s, you can access mission-critical and file data at lightning speed.

1.1. Seagate Exos E 5U84 Installation Guide

Please refer to the Seagate Exos E 5U84 installation and maintenance guide which provides information about initial hardware installation and setup, as well as removal and installation of customer-replaceable units (FRUs) for the Seagate Exos E 5U84 enclosure.



INFORMATION

Document information:

- Seagate Exos E 5U84 Hardware Installation and Maintenance Guide.

1.2. Expansion Topology and Deployment

The following images illustrate some examples of deployment types for dual controller storage system plus Seagate Exos E 5U84 expansion units. MPIO (MultiPath I/O) configurations are designed to provide HA (High Availability) data connections to ensure data consistency in the rare event of a failure in the host connectivity from a single path.

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1.2.1. One QSAN Storage / One Seagate JBOD / Dual Path

The following figure shows an example of an XCubeSAN or XCubeNXT series connected to a Seagate Exos E 5U84 using mini-SAS HD to mini-SAS HD cable (SAS 12G expansion cable, SFF-8644 to SFF-8644).

Step details are described below.

1. Connect the SAS cable from QSAN CTRL 1 EXP1 to JBOD A port of IOM A.
2. Connect the SAS cable from QSAN CTRL 2 EXP1 to JBOD A port of IOM B.

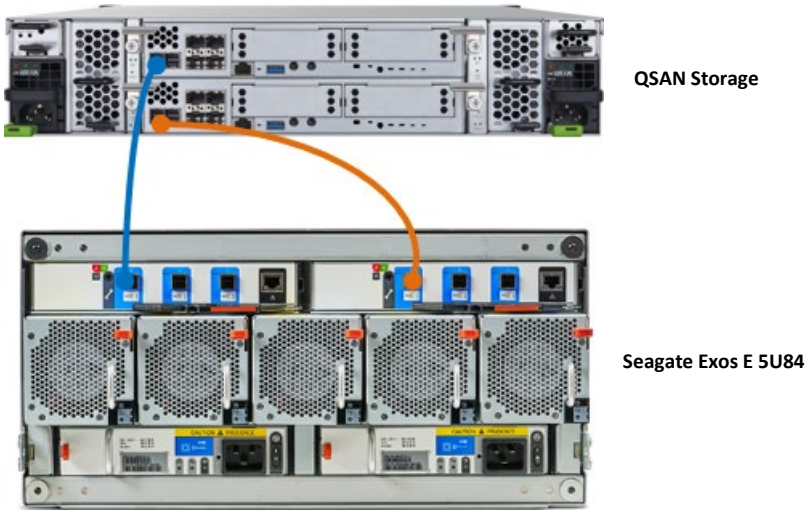


Figure 1-1 One QSAN Storage / One Seagate Exos E 5U84 / Dual Path

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CAUTION

Seagate Exos E 5U84 **DOES NOT** support SAS 12G expansion cable with Wake-on-SAS.

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1.2.2. One QSAN Storage / Two Seagate JBODs / Dual Path

The following figure shows an example of an XCubeSAN or XCubeNXT series connected to two Seagate Exos E 5U84 using mini-SAS HD to mini-SAS HD cable (SAS 12G expansion cable, SFF-8644 to SFF-8644.

Step details are described below.

1. Connect the SAS cable from QSAN CTRL 1 EXP1 to No.1 JBOD A port of IOM A.
2. Connect the SAS cable from QSAN CTRL 1 EXP2 to No.2 JBOD A port of IOM A.
3. Connect the SAS cable from QSAN CTRL 2 EXP1 to No.1 JBOD A port of IOM B.
4. Connect the SAS cable from QSAN CTRL 2 EXP2 to No.2 JBOD A port of IOM B.

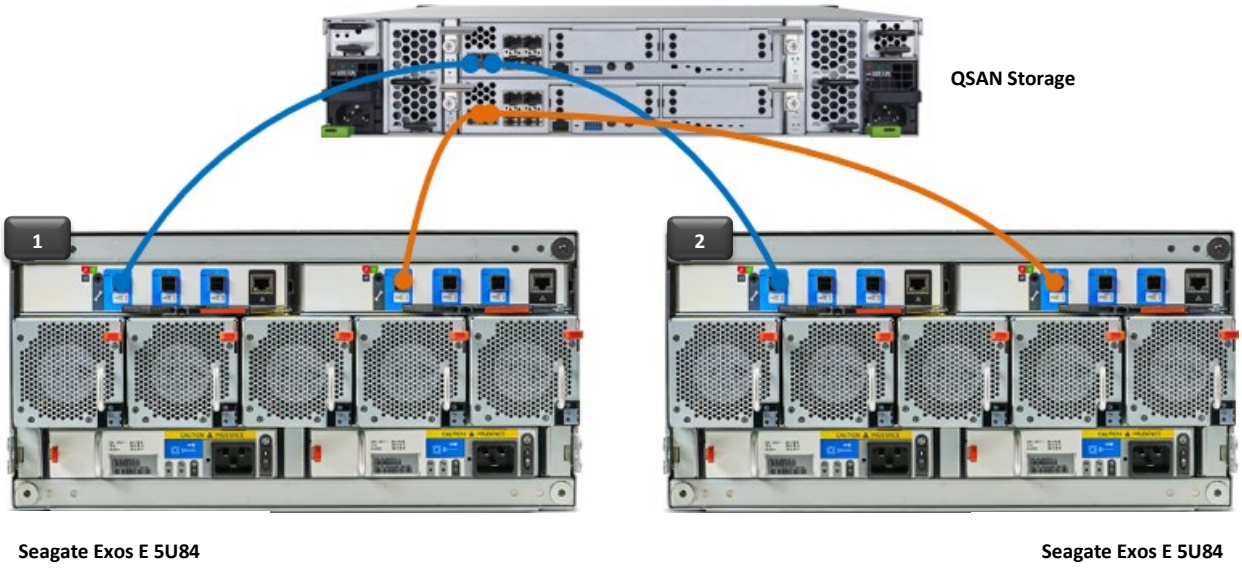


Figure 1-2 One QSAN Storage / Two Seagate Exos E 5U84 / Dual Path

1.2.3. One QSAN Storage / Four Seagate JBODs / Dual Path

The following figure shows an example of an XCubeSAN or XCubeNXT series connected to four Seagate Exos E 5U84 using mini-SAS HD to mini-SAS HD cables (SAS 12G expansion cable, SFF-8644 to SFF-8644) which is in turn connected to the third and fourth Seagate Exos E 5U84 using mini-SAS HD to mini-SAS HD cable (SAS 12G expansion active cable, SFF-8644 to SFF-8644).

Step details are described below.

1. Connect the SAS cable from QSAN CTRL 1 EXP1 to No.1 JBOD A port of IOM A.

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2. Connect the SAS cable from QSAN CTRL 1 EXP2 to No.4 JBOD A port of IOM A.
3. Connect the SAS cable from QSAN CTRL 2 EXP1 to No.3 JBOD A port of IOM B.
4. Connect the SAS cable from QSAN CTRL 2 EXP2 to No.2 JBOD A port of IOM B.
5. Connect the active SAS cable from No.1 JBOD C port of IOM A to No.3 JBOD A port of IOM A.
6. Connect the active SAS cable from No.1 JBOD A port of IOM B to No.3 JBOD C port of IOM B.
7. Connect the active SAS cable from No.2 JBOD A port of IOM A to No.4 JBOD C port of IOM A.
8. Connect the active SAS cable from No.2 JBOD C port of IOM B to No.4 JBOD A port of IOM B.

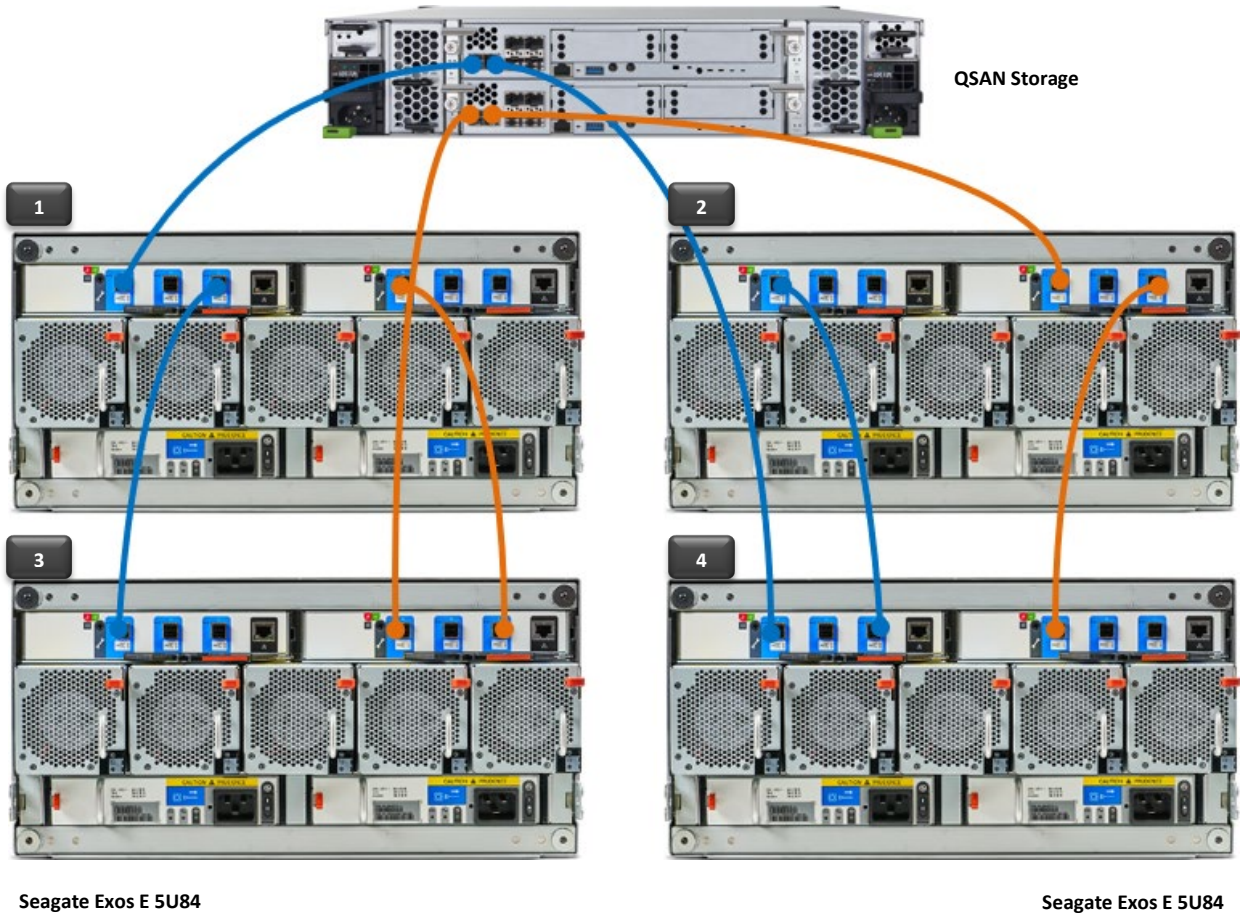


Figure 1-3 One QSAN Storage / Four Seagate Exos E 5U84 / Dual Path

1.2.4. One QSAN Storage / One XCubeDAS / One Seagate JBOD / Dual Path

The following figure shows an example of an XCubeSAN / XCubeNXT series connected to an XCubeDAS XD5300 series which is in turn connected to the second Seagate Exos E 5U84 using mini-SAS HD to mini-SAS HD cable (SAS 12G expansion cable, SFF-8644 to SFF-8644).

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Step details are described below.

1. Connect the SAS cable from QSAN CTRL 1 EXP1 to QSAN JBOD CTRL 1 EXP1 port.
2. Connect the SAS cable from QSAN CTRL 2 EXP1 to QSAN JBOD CTRL 2 EXP1 port.
3. Connect the SAS cable from QSAN JBOD CTRL 1 EXP3 to JBOD A port of IOM A.
4. Connect the SAS cable from QSAN JBOD CTRL 2 EXP3 to JBOD A port of IOM B.

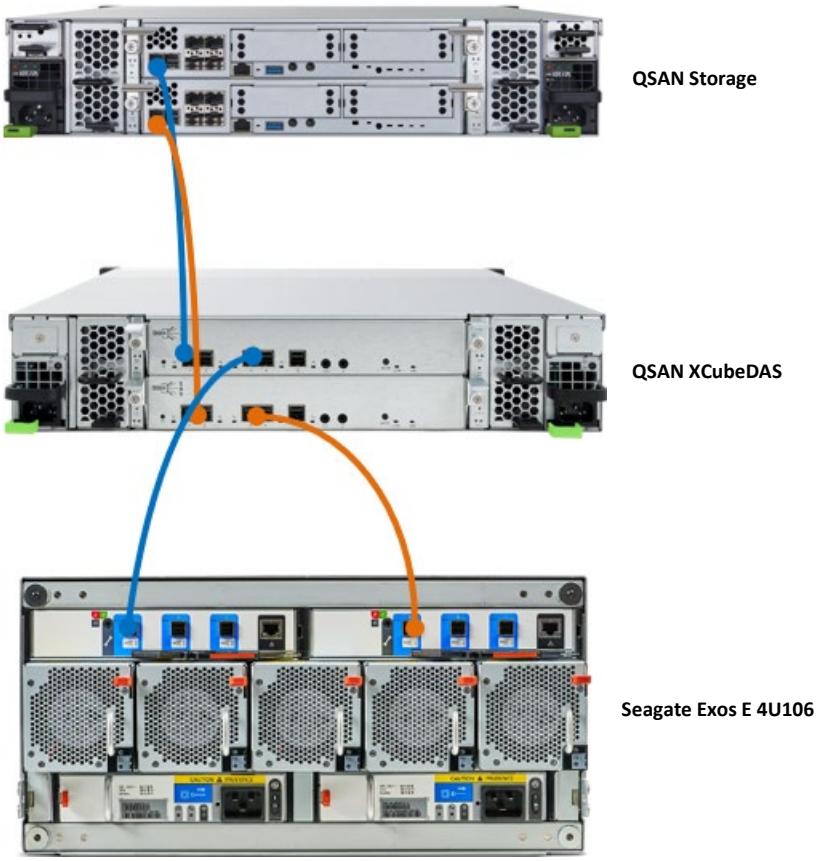


Figure 1-4 One QSAN Storage / One XCubeDAS / One Seagate Exos E 5U84 / Dual Path

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TIP

If you have multiple XCubeDAS and Seagate Exos E 5U84 as the expansion units of QSAN storage, connect XCbueDAS series models before Seagate Exos E 5U84.

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1.3. Cautions and Limitations

List the following cautions and limitations. You should be aware of the purchase and installation of Seagate Exos E 5U84.

1. The expansion capability is up to 4 expansion units using Seagate Exos E 5U84 whether there are mixed XCubeDAS series models.
2. QSAN storage does not support firmware update for Seagate Exos E 5U84.
3. Seagate Exos E 5U84 does not support SAS 12G expansion cable with Wake-on-SAS.
4. To obtain the best stability and performance, it is recommended to use the firmware version in the Appendix, and 1M to 3M cables are qualified.

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2. APPENDIX

2.1. Apply To

- XEVO firmware 2.2.0 or later.
- QSM firmware 4.0.0 or later.

2.2. Reference

Seagate Exos E 5U84

- Seagate Exos E 5U84 Datasheet
- Seagate Exos E 5U84 Hardware Installation and Maintenance Guide

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