

Dell Storage with Microsoft Storage Spaces Cabling Guide



Notes, cautions, and warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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About this document

This document provides information about cabling the Dell Storage with Microsoft Storage Spaces (DSMS) solution. Cabling diagrams in this document describe the SAS cable interconnections between servers and the storage enclosures, and SAS cable interconnections between the enclosures, where required. For clarity, this cabling information is repeated in the tables that are listed after each diagram. To successfully deploy this solution, you can also see the *Dell Storage with Microsoft Storage Spaces Deployment Guide* available at Dell.com/support.

This document is intended to support DSMS configurations, which have unique solution SKUs called Solution IDs. These DSMS solution IDs are required when ordering a DSMS configuration, and to access the benefits such as performance and sizing, optimized server and storage components, single-payload updates, and solution-level technical support. If you are in a geographical area outside of the US, the solution IDs are not available at this time. However, you may reference the configuration name instead. For the complete list of configuration solution IDs, see [Dell Storage with Microsoft Storage Spaces Configurations and Solution IDs](#) available at Dell Tech Center.

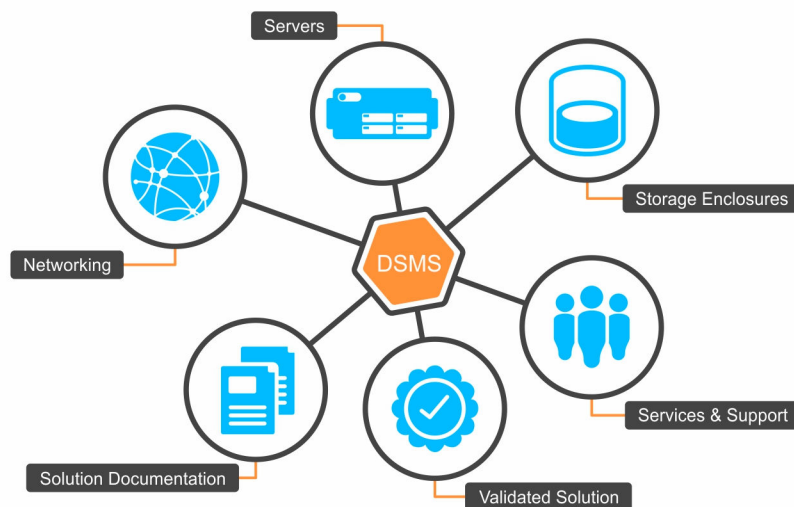


Figure 1. The correct solution ID connects you to all the solution has to offer, including Dell Services and Support.

Cabling the servers to the storage enclosures

Dell recommends that you label all SAS cable connectors with an identifying sticker or tag for easy identification and troubleshooting purposes.

The cabling configurations provide high availability between servers and storage enclosures where each server has two redundant SAS paths to each enclosure and to each disk. Each path must go through one

of the two EMM units in each enclosure. In some instances, the dual path between each server and each enclosure is accomplished by linking two enclosures together.

After attaching each SAS cable, make sure that each cable is seated firmly in to the SAS ports by gently pulling outwardly on the cable. When you turn on the storage enclosure, the green LED near each SAS port glows indicating that a SAS connection is started.

Server and enclosure port numbering

The following figures show the enumeration of the ports on the HBAs within the server.

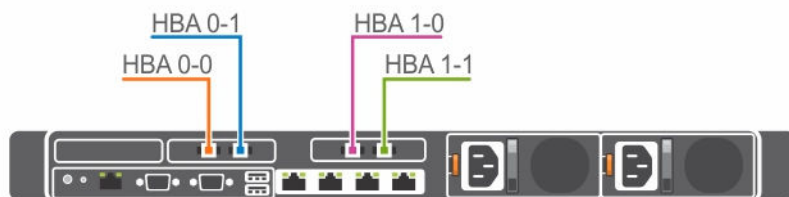


Figure 2. Rear view of DSMS 630 server showing location of HBA ports

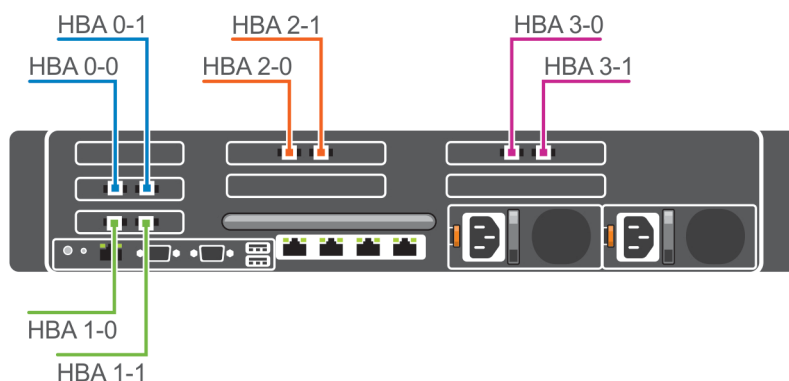


Figure 3. Rear view of DSMS 730 server showing location of HBA ports

 **NOTE:** Dell does not support having HBAs located in the lower two, full-height, PCI slots (slots 5 and 7).

The following figures show the enumeration of the ports on the HBAs within the storage enclosure.

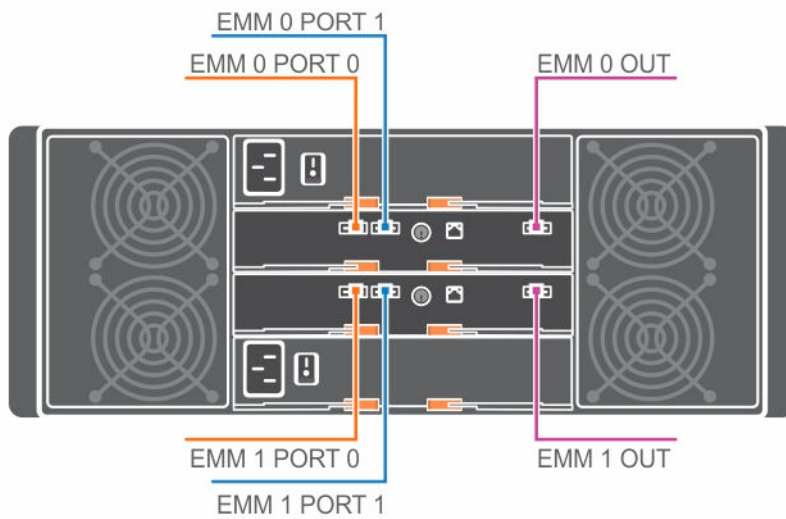


Figure 4. Rear view of DSMS 3060e storage enclosure showing location of HBA ports

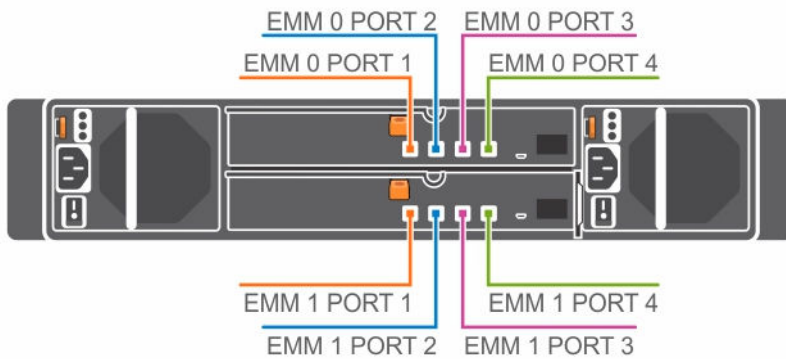


Figure 5. Rear view of DSMS 1400 series storage enclosure showing location of HBA ports

Use these figures as a point of reference when cabling the storage enclosures to the servers. The SAS HBAs installed in the servers in your solution may not always match the figures displayed here. However, the same cabling guidance is applicable.

NOTE: When you view the back of a server, HBA ports are numbered left to right, and then top to bottom.

Cabling the systems

This section provides information about cabling the system and supported configuration details.

When you are ready to cable your servers and enclosures, use the port numbers described in the section [Server and enclosure port numbering](#) along with the cabling diagrams and tables to correctly connect your servers and storage enclosures.

Supported configurations are listed in the following rules and guidelines:

- Every server has two connections to every enclosure.
- When using the DSMS 1400 with the DSMS 730, each server must have one SAS HBA for each enclosure (up to four enclosures).
- When using the DSMS 3060e, for configurations having more than two servers and up to four enclosures, cabling between enclosures (enclosure to enclosure connections) is required at the rear end.
- A single HBA cannot have multiple connections to the same enclosure.

2x1—DSMS 630 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 630 servers and one DSMS 1400 storage enclosures.

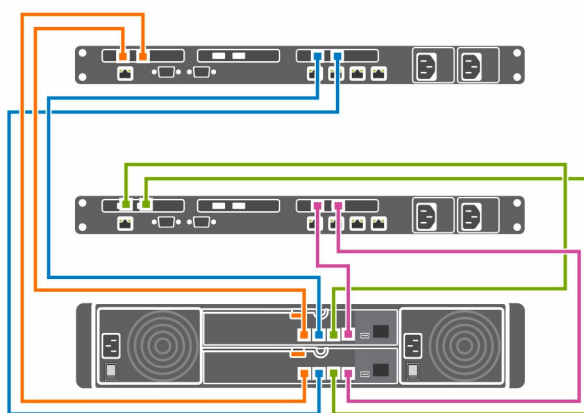


Figure 6. 2x1—DSMS 630 and DSMS 1400 series

Table 1. 2x1—DSMS 630 and DSMS 1400 series cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0	Orange	Enclosure 0 EMM 0–Port 0	Server HBA 0-0	Green	Enclosure 0 EMM 0–Port 2
Server HBA 0-1	Orange	Enclosure 0 EMM 1–Port 0	Server HBA 0-1	Green	Enclosure 0 EMM 1–Port 2
Server HBA 1-0	Blue	Enclosure 0 EMM 0–Port 1	Server HBA 1-0	Pink	Enclosure 0 EMM 0–Port 3
Server HBA 1-1	Blue	Enclosure 0 EMM 1–Port 1	Server HBA 1-1	Pink	Enclosure 0 EMM 1–Port 3

2x1—DSMS 630 or 730 and DSMS 3060e

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and one DSMS 3060e storage enclosures.

 **NOTE:** The information provided in this section are also valid for the DSMS 630 server.

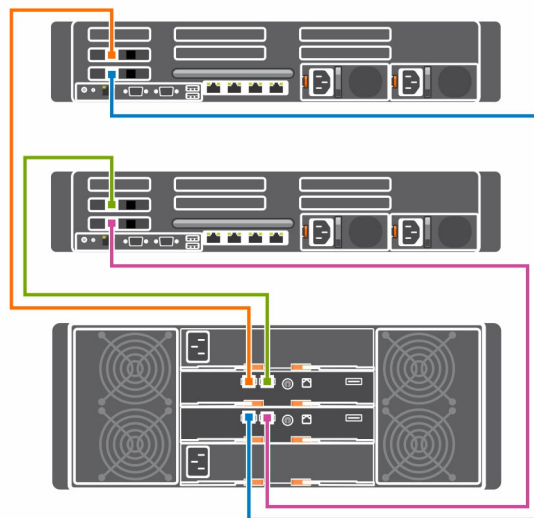


Figure 7. 2x1—DSMS 630 or 730 and DSMS 3060e

Table 2. 2x1—DSMS 630 or 730 and DSMS 3060e cabling table

Server 0	Cable Color Coding		Server 1	Cable Color Coding	
Server HBA 0-0	Orange	Enclosure 0 EMM 0-Port 0	Server HBA 0-0	Green	Enclosure 0 EMM 0-Port 1
Server HBA 1-0	Blue	Enclosure 0 EMM 1-Port 0	Server HBA 1-0	Pink	Enclosure 0 EMM 1-Port 1

2x1—DSMS 730 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and one DSMS 1400 storage enclosure.

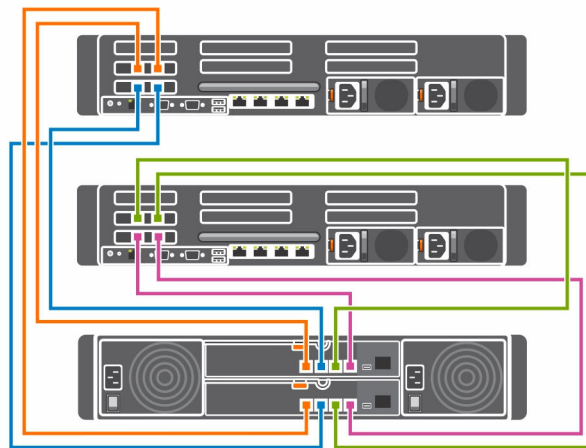


Figure 8. 2x1—DSMS 730 and DSMS 1400 series

Table 3. 2x1—DSMS 730 and DSMS 1400 series cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0	Orange	Enclosure 0 EMM 0-Port 0	Server HBA 0-0	Green	Enclosure 0 EMM 0-Port 2
Server HBA 0-1	Orange	Enclosure 0 EMM 1-Port 0	Server HBA 0-1	Green	Enclosure 0 EMM 1-Port 2
Server HBA 1-0	Blue	Enclosure 0 EMM 0-Port 1	Server HBA 1-0	Pink	Enclosure 0 EMM 0-Port 3
Server HBA 1-1	Blue	Enclosure 0 EMM 1-Port 1	Server HBA 1-1	Pink	Enclosure 0 EMM 1-Port 3

2x2—DSMS 630 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 630 servers and two DSMS 1400 storage enclosures.

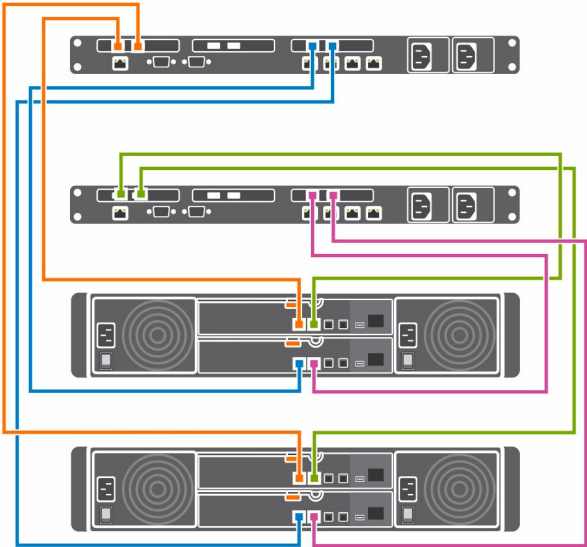


Figure 9. 2x2—DSMS 630 and DSMS 1400 series

Table 4. 2x2—DSMS 630 and DSMS 1400 series cabling table

Server 0	Cable color coding	Server 1	Cable color coding
Server HBA 0-0	Orange	Enclosure 0 EMM 0-Port 0	Green
Server HBA 0-1	Blue	Enclosure 1 EMM 0-Port 0	Green
Server HBA 1-0	Green	Enclosure 0 EMM 1-Port 0	Pink
Server HBA 1-1	Blue	Enclosure 1 EMM 1-Port 0	Pink

2x2—DSMS 730 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and two DSMS 1400 series storage enclosures.

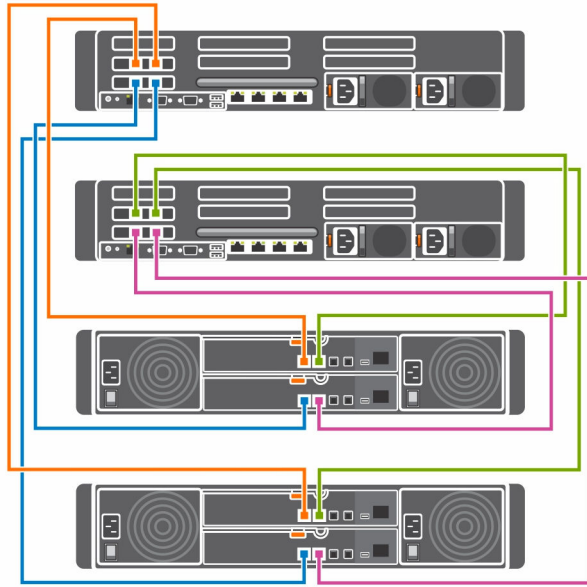


Figure 10. 2x2—DSMS 730 and DSMS 1400 series

Table 5. 2x2—DSMS 730 server to DSMS 1400 series cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0	Orange	Enclosure 0 EMM 0-Port 0	Server HBA 0-0	Green	Enclosure 0 EMM 0-Port 1
Server HBA 0-1	Orange	Enclosure 1 EMM 0-Port 0	Server HBA 0-1	Green	Enclosure 1 EMM 0-Port 1
Server HBA 1-0	Blue	Enclosure 0 EMM 1-Port 0	Server HBA 1-0	Pink	Enclosure 0 EMM 1-Port 1
Server HBA 1-1	Blue	Enclosure 1 EMM 1-Port 0	Server HBA 1-1	Pink	Enclosure 1 EMM 1-Port 1

2x3—DSMS 630 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 630 servers and three DSMS 1400 storage enclosures.

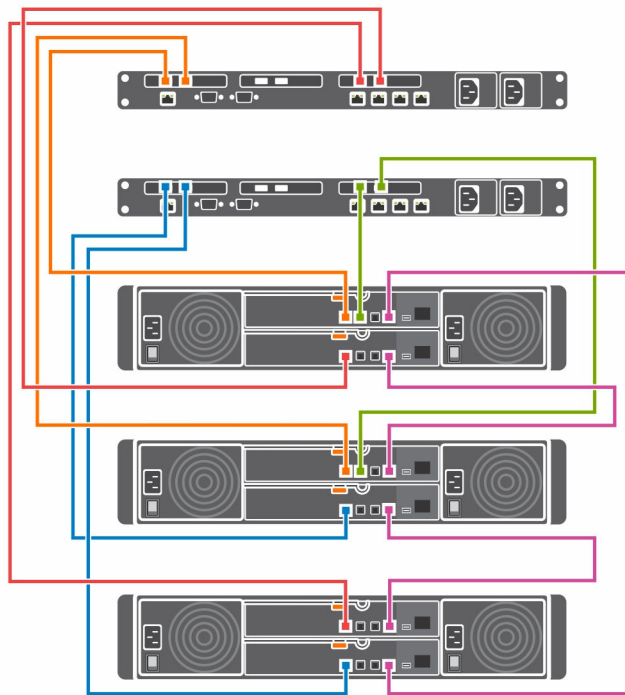


Figure 11. 2x3—DSMS 630 and DSMS 1400 series

Table 6. 2x3—DSMS 630 and DSMS 1400 series cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0	Orange	Enclosure 0 EMM 0-Port 0	Server HBA 0-0	Blue	Enclosure 1 EMM 1-Port 0
Server HBA 0-1	Orange	Enclosure 1 EMM 0-Port 0	Server HBA 0-1	Blue	Enclosure 2 EMM 1-Port 0
Server HBA 1-0	Red	Enclosure 2 EMM 0-Port 0	Server HBA 1-0	Green	Enclosure 0 EMM 0-Port 1
Server HBA 1-1	Red	Enclosure 0 EMM 1-Port 0	Server HBA 1-1	Green	Enclosure 1 EMM 0-Port 1

Table 7. Enclosure to enclosure SAS connection

Enclosure to enclosure SAS connection (■)	
Enclosure 0 EMM 0 – Port 3	↔ Enclosure 2 EMM 1 – Port 3
Enclosure 0 EMM 1 – Port 3	↔ Enclosure 1 EMM 0 – Port 3
Enclosure 1 EMM 1 – Port 3	↔ Enclosure 2 EMM 0 – Port 3

2x3—DSMS 730 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and three DSMS 1400 storage enclosures.

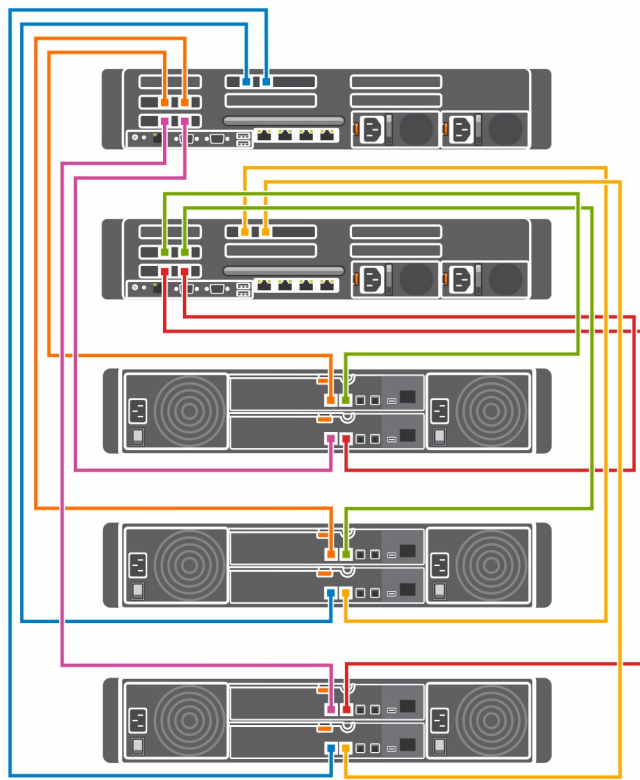


Figure 12. 2x3—DSMS 730 and DSMS 1400 series

Table 8. 2x3—DSMS 730 Server to DSMS 1400 series cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0		Enclosure 0 EMM 0–Port 0	Server HBA 0-0		Enclosure 0 EMM 0–Port 1
Server HBA 0-1		Enclosure 1 EMM 0–Port 0	Server HBA 0-1		Enclosure 1 EMM 0–Port 1
Server HBA 1-0		Enclosure 2 EMM 0–Port 0	Server HBA 1-0		Enclosure 2 EMM 0–Port 1
Server HBA 1-1		Enclosure 0 EMM 1–Port 0	Server HBA 1-1		Enclosure 0 EMM 1–Port 1
Server HBA 2-0		Enclosure 1 EMM 1–Port 0	Server HBA 2-0		Enclosure 1 EMM 1–Port 1
Server HBA 2-1		Enclosure 2 EMM 1–Port 0	Server HBA 2-1		Enclosure 2 EMM 1–Port 1

2x4—DSMS 630 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 630 servers and four DSMS 1400 storage enclosures.

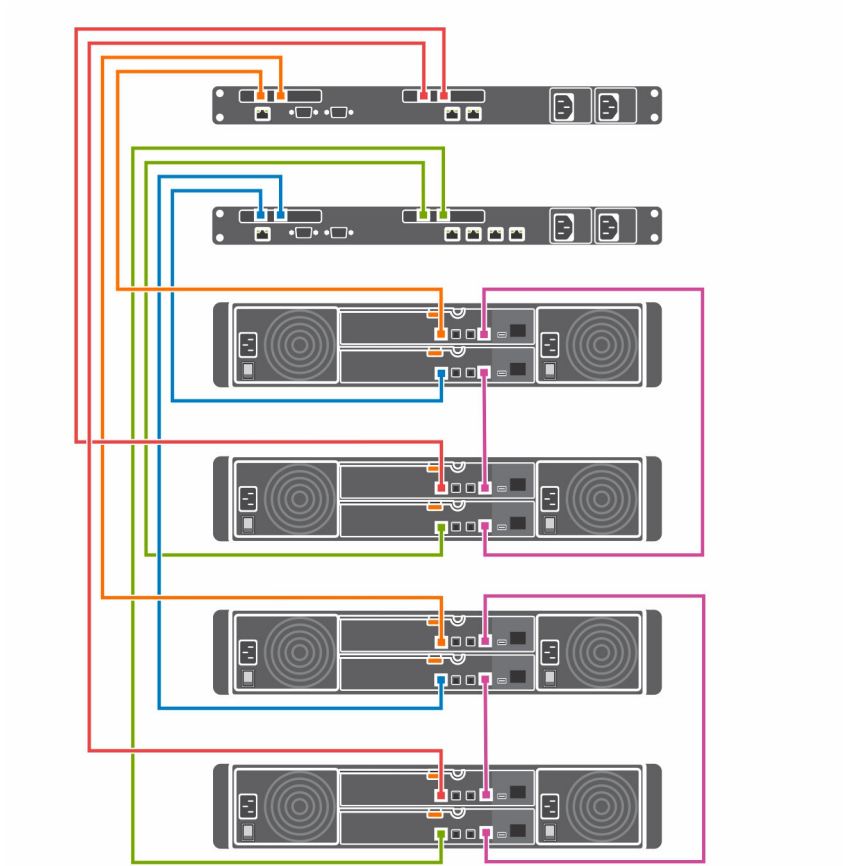


Figure 13. 2x4—DSMS 630 and DSMS 1400 series

Table 9. 2x4—DSMS 630 and DSMS 1400 series cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0	Orange	Enclosure 0 EMM 0-Port 0	Server HBA 0-0	Blue	Enclosure 1 EMM 1-Port 0
Server HBA 0-1	Orange	Enclosure 1 EMM 0-Port 0	Server HBA 0-1	Blue	Enclosure 2 EMM 1-Port 0
Server HBA 1-0	Green	Enclosure 2 EMM 0-Port 0	Server HBA 1-0	Green	Enclosure 0 EMM 0-Port 1
Server HBA 1-1	Green	Enclosure 0 EMM 1-Port 0	Server HBA 1-1	Green	Enclosure 1 EMM 0-Port 1

Table 10. Enclosure to enclosure SAS connection

Enclosure to enclosure SAS connection ()	
Enclosure 0 EMM 0 – Port 3	↔ Enclosure 1 EMM 1 – Port 3
Enclosure 0 EMM 1 – Port 3	↔ Enclosure 1 EMM 0 – Port 3
Enclosure 2 EMM 0 – Port 3	↔ Enclosure 3 EMM 1 – Port 3
Enclosure 2 EMM 1 – Port 3	↔ Enclosure 3 EMM 0 – Port 3

2x4—DSMS 730 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and four DSMS 1400 storage enclosures.

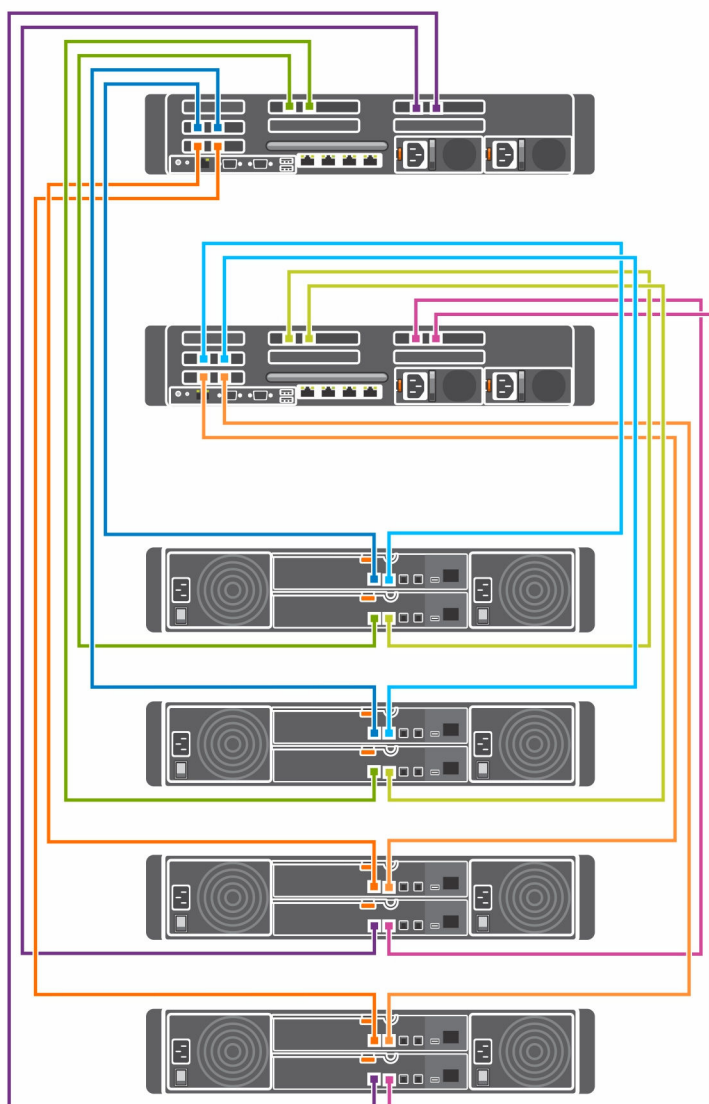


Figure 14. 2x4—DSMS 730 and DSMS 1400 series

Table 11. 2x4—DSMS 730 server to DSMS 1400 series cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0	■	Enclosure 0 EMM 0–Port 1	Server HBA 0-0	■	Enclosure 0 EMM 0–Port 2
Server HBA 0-1	■	Enclosure 1 EMM 0–Port 1	Server HBA 0-1	■	Enclosure 1 EMM 0–Port 2
Server HBA 1-0	■	Enclosure 2 EMM 0–Port 1	Server HBA 1-0	■	Enclosure 2 EMM 0–Port 2

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 1-1	Orange	Enclosure 3 EMM 0-Port 1	Server HBA 1-1	Orange	Enclosure 3 EMM 0-Port 2
Server HBA 2-0	Light Green	Enclosure 0 EMM 1-Port 1	Server HBA 2-0	Light Green	Enclosure 0 EMM 1-Port 2
Server HBA 2-1	Light Green	Enclosure 1 EMM 1-Port 1	Server HBA 2-1	Light Green	Enclosure 1 EMM 1-Port 2
Server HBA 3-0	Purple	Enclosure 2 EMM 1-Port 1	Server HBA 3-0	Pink	Enclosure 2 EMM 1-Port 2
Server HBA 3-1	Purple	Enclosure 3 EMM 1-Port 1	Server HBA 3-1	Pink	Enclosure 3 EMM 1-Port 2

2x2—DSMS 630 or 730 and DSMS 3060e

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and two DSMS 3060e storage enclosures.

 **NOTE:** The information provided in this section is also valid for the DSMS 630 server.

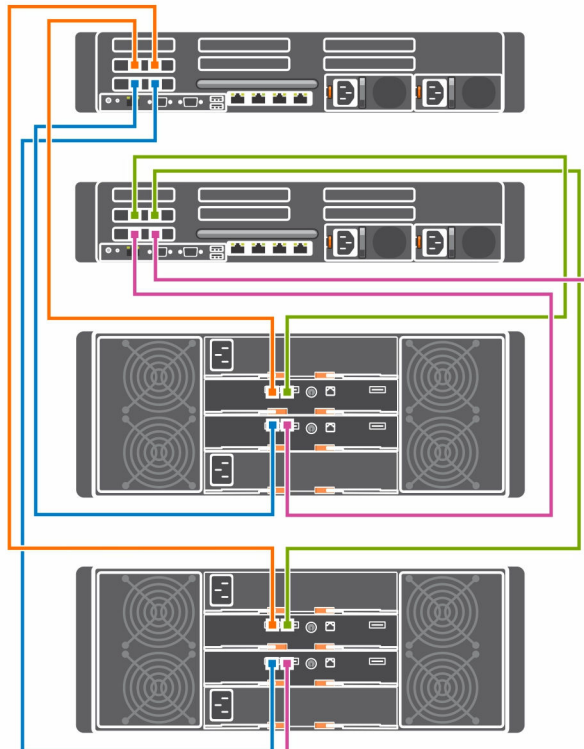


Figure 15. 2x2—DSMS 630 or 730 and DSMS 3060e

Table 12. 2x2—DSMS 630 or 730 to DSMS 3060e enclosure cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0		Enclosure 0 EMM 0–Port 0	Server HBA 0-0		Enclosure 0 EMM 0–Port 1
Server HBA 0-1		Enclosure 1 EMM 0–Port 0	Server HBA 0-1		Enclosure 1 EMM 0–Port 1
Server HBA 1-0		Enclosure 0 EMM 1–Port 0	Server HBA 1-0		Enclosure 0 EMM 1–Port 1
Server HBA 1-1		Enclosure 1 EMM 1–Port 0	Server HBA 1-1		Enclosure 1 EMM 1–Port 1

2x3—DSMS 730 and DSMS 3060e

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and three DSMS 3060e storage enclosures.

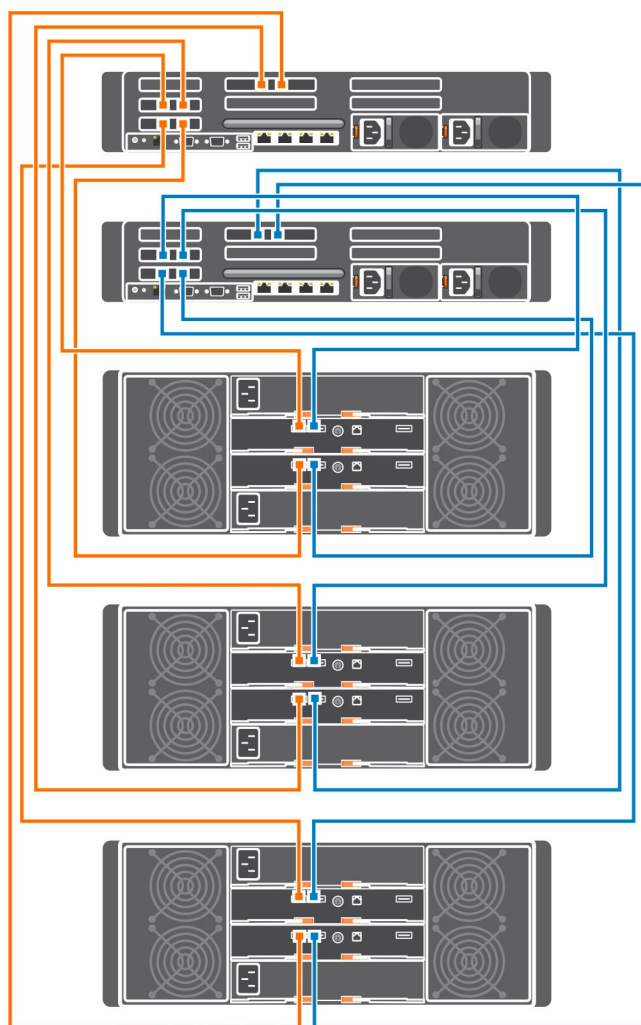


Figure 16. 2x3—DSMS 730 and DSMS 3060e

Table 13. 2x3—DSMS 730 server to DSMS 3060e enclosure cabling table

Server 0	Cable color coding	Server 1	Cable color coding
Server HBA 0-0	Enclosure 0 EMM 0–Port 0	Server HBA 0-0	Enclosure 0 EMM 0–Port 1
Server HBA 0-1	Enclosure 1 EMM 0–Port 0	Server HBA 0-1	Enclosure 1 EMM 0–Port 1
Server HBA 1-0	Enclosure 2 EMM 0–Port 0	Server HBA 1-0	Enclosure 2 EMM 0–Port 1
Server HBA 1-1	Enclosure 0 EMM 1–Port 0	Server HBA 1-1	Enclosure 0 EMM 1–Port 1

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 2-0	Orange	Enclosure 1 EMM 1–Port 0	Server HBA 2-0	Blue	Enclosure 1 EMM 1–Port 1
Server HBA 2-1	Orange	Enclosure 2 EMM 1–Port 0	Server HBA 2-1	Blue	Enclosure 2 EMM 1–Port 1

2x3—DSMS 630 and DSMS 3060e

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 630 servers and three DSMS 3060e storage enclosures.

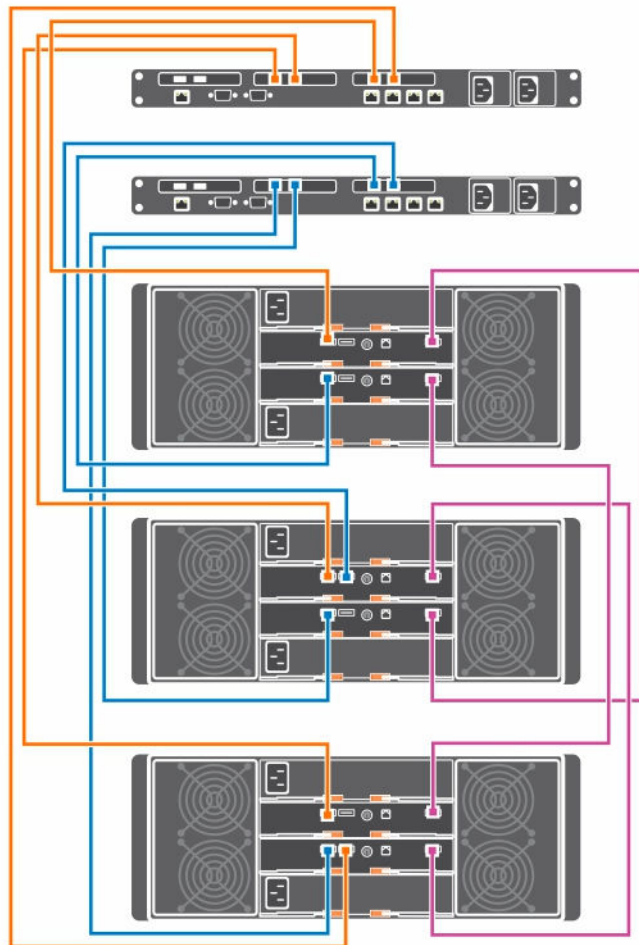


Figure 17. 2x3—DSMS 630 and DSMS 3060e

Table 14. 2x3—DSMS 630 and DSMS 3060e enclosure cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0		Enclosure 2 EMM 0–Port 0	Server HBA 0-0		Enclosure 2 EMM 1–Port 0
Server HBA 0-1		Enclosure 1 EMM 0–Port 0	Server HBA 0-1		Enclosure 1 EMM 1–Port 0
Server HBA 1-0		Enclosure 0 EMM 0–Port 0	Server HBA 1-0		Enclosure 0 EMM 1–Port 0
Server HBA 1-1		Enclosure 2 EMM 1–Port 1	Server HBA 1-1		Enclosure 1 EMM 0–Port 1

Table 15. Storage enclosure to storage enclosure cabling table

Enclosure to enclosure SAS connection ()
Enclosure 0 EMM 0 – Out ⇔ Enclosure 1 EMM 1 – Out
Enclosure 0 EMM 1 – Out ⇔ Enclosure 2 EMM 0 – Out
Enclosure 1 EMM 0 – Out ⇔ Enclosure 2 EMM 1 – Out

2x4—DSMS 730 and DSMS 3060e

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 730 servers and four DSMS 3060e storage enclosures.

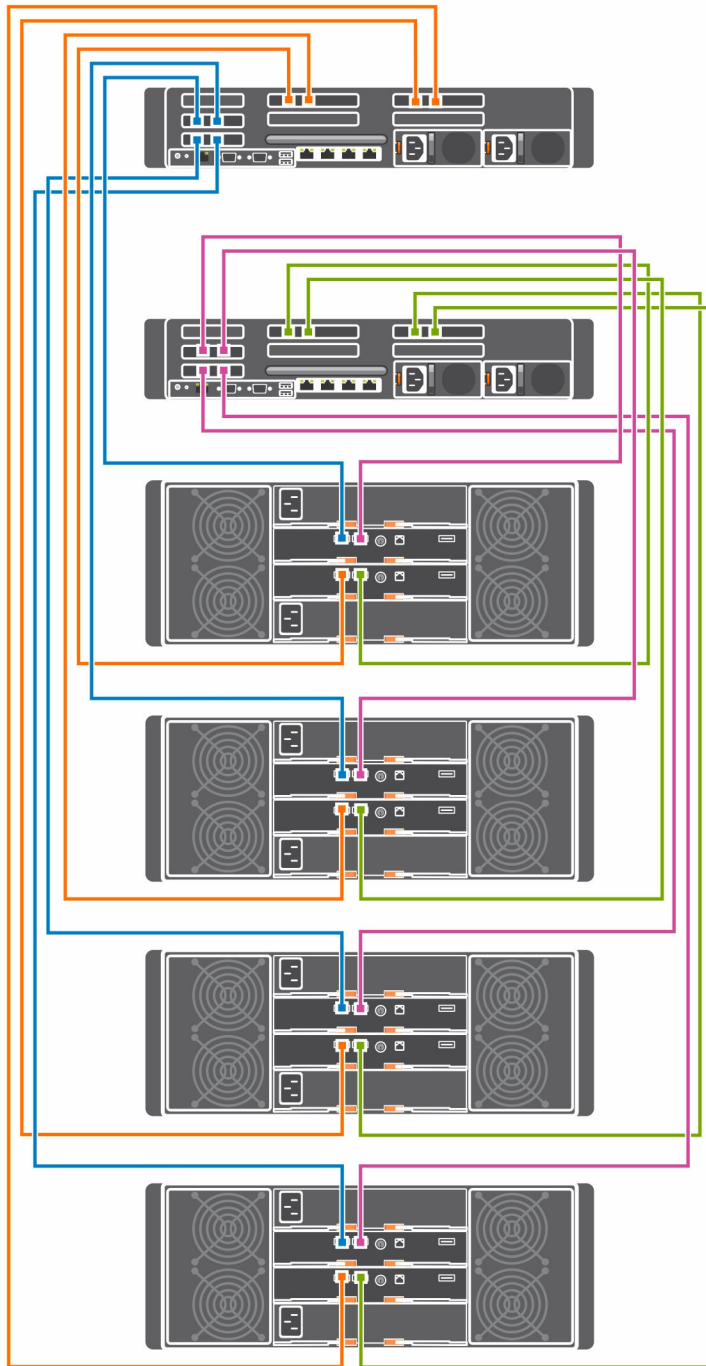


Figure 18. 2x4—DSMS 730 and DSMS 3060e

Table 16. 2x4—DSMS 730 server to DSMS 3060e enclosure cabling table

Server 0	Cable color coding		Server 1	Cable color coding	
Server HBA 0-0		Enclosure 0 EMM 0–Port 0	Server HBA 0-0		Enclosure 0 EMM 0–Port 1
Server HBA 0-1		Enclosure 1 EMM 0–Port 0	Server HBA 0-1		Enclosure 1 EMM 0–Port 1
Server HBA 1-0		Enclosure 2 EMM 0–Port 0	Server HBA 1-0		Enclosure 2 EMM 0–Port 1
Server HBA 1-1		Enclosure 3 EMM 0–Port 0	Server HBA 1-1		Enclosure 3 EMM 0–Port 1
Server HBA 2-0		Enclosure 0 EMM 1–Port 0	Server HBA 2-0		Enclosure 0 EMM 1–Port 1
Server HBA 2-1		Enclosure 1 EMM 1–Port 0	Server HBA 2-1		Enclosure 1 EMM 1–Port 1
Server HBA 3-0		Enclosure 2 EMM 1–Port 0	Server HBA 3-0		Enclosure 2 EMM 1–Port 1
Server HBA 3-1		Enclosure 3 EMM 1–Port 0	Server HBA 3-1		Enclosure 3 EMM 1–Port 1

2x4—DSMS 630 and DSMS 3060e

The SAS cable diagram and equivalent table shown in this section define the interconnections between two DSMS 630 servers and four DSMS 3060e storage enclosures.

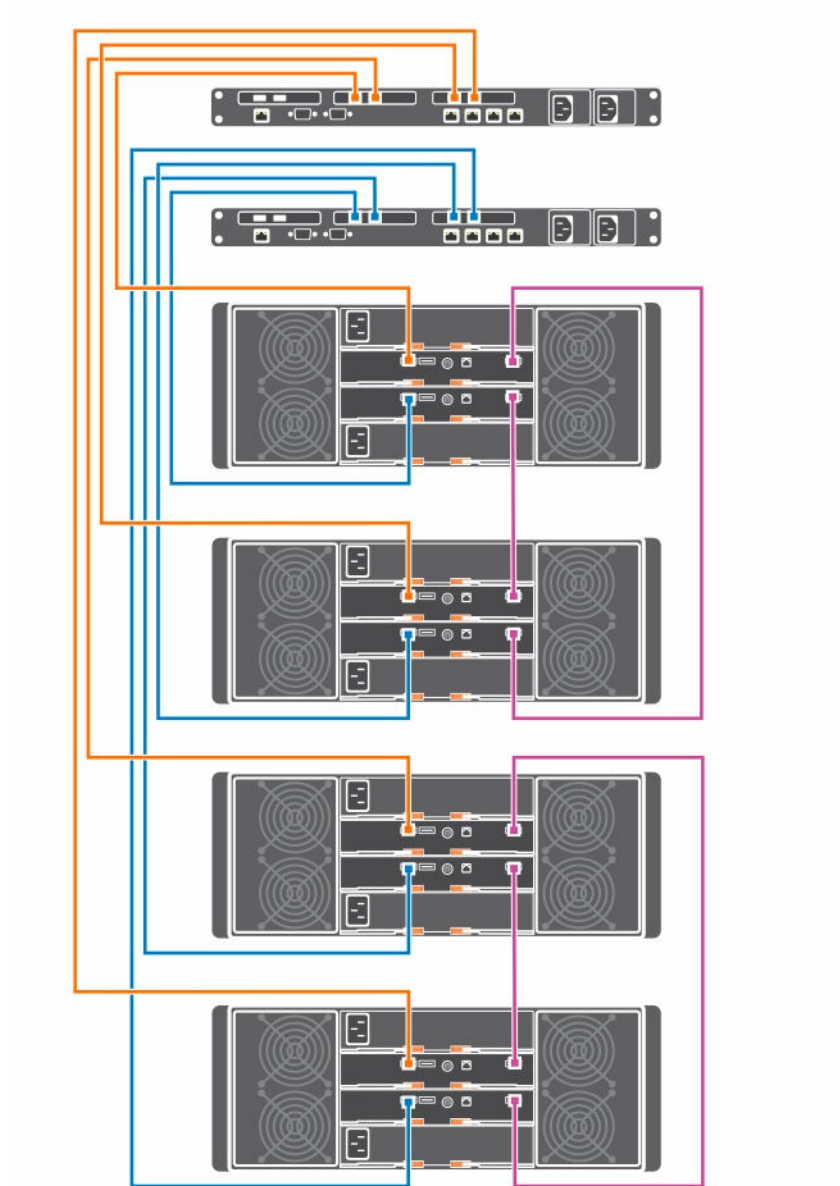


Figure 19. 2x4—DSMS 630 and DSMS 3060e

Table 17. 2x4—DSMS 630 server to DSMS 3060e enclosure cabling table

Server 0		Server 1	
Server HBA 0-0	Enclosure 0 EMM 0-Port 0	Server HBA 0-0	Enclosure 0 EMM 1-Port 0
Server HBA 0-1	Enclosure 2 EMM 0-Port 0	Server HBA 0-1	Enclosure 2 EMM 1-Port 0
Server HBA 1-0	Enclosure 1 EMM 0-Port 0	Server HBA 1-0	Enclosure 1 EMM 1-Port 0

Server 0		Server 1	
Server HBA 1-1	Enclosure 3 EMM 0–Port 0	Server HBA 1-1	Enclosure 3 EMM 1–Port 0

Table 18. Storage enclosure to storage enclosure cabling table

Enclosure to enclosure SAS connection ()	
Enclosure 0 EMM 0 – Out ⇔ Enclosure 1 EMM 1 – Out	
Enclosure 0 EMM 1 – Out ⇔ Enclosure 1 EMM 0 – Out	
Enclosure 2 EMM 0 – Out ⇔ Enclosure 3 EMM 1 – Out	
Enclosure 2 EMM 1 – Out ⇔ Enclosure 3 EMM 0 – Out	

3x3—DSMS 630 or 730 and DSMS 3060e

The SAS cable diagram and equivalent tables shown in this section define the interconnections between three DSMS 730 servers and three DSMS 3060e storage enclosures.



NOTE: The information provided in this section is also valid for the DSMS 630 server.

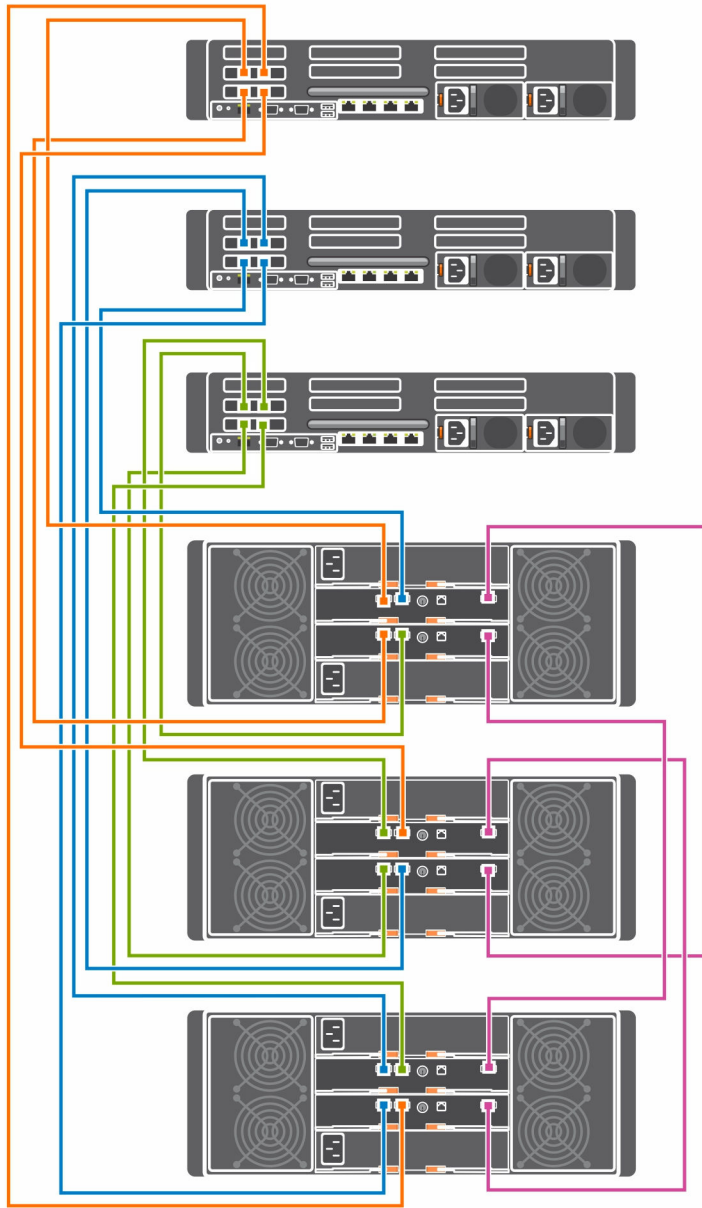


Figure 20. 3x3—DSMS 630 or 730 and DSMS 3060e

Table 19. 3x3—DSMS 630 or 730 Server to DSMS 3060e enclosure cabling table

Server 0		Server 1		Server 2	
Server	Enclosure 0 EMM 0—	Server	Enclosure 1 EMM 1—	Server	Enclosure 0 EMM 1—
HBA 0-0	Port 0	HBA 0-0	Port 1	HBA 0-0	Port 1
Server	Enclosure 2 EMM 1—	Server	Enclosure 2 EMM 0—	Server	Enclosure 1 EMM 0—
HBA 0-1	Port 1	HBA 0-1	Port 0	HBA 0-1	Port 0
Server	Enclosure 0 EMM 1—	Server	Enclosure 0 EMM 0—	Server	Enclosure 1 EMM 1—
HBA 1-0	Port 0	HBA 1-0	Port 1	HBA 1-0	Port 0

Server 0		Server 1		Server 2	
Server HBA 1-1	Enclosure 1 EMM 0-Port 1	Server HBA 1-1	Enclosure 2 EMM 1-Port 0	Server HBA 1-1	Enclosure 2 EMM 0-Port 1

Table 20. Storage enclosure to storage enclosure cabling table

Enclosure to enclosure SAS connection ()	
Enclosure 0 EMM 0 – Out	↔ Enclosure 1 EMM 1 – Out
Enclosure 0 EMM 1 – Out	↔ Enclosure 2 EMM 0 – Out
Enclosure 1 EMM 0 – Out	↔ Enclosure 2 EMM 1 – Out

3x3—DSMS 630 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between three DSMS 630 servers and three DSMS 1400 storage enclosures.

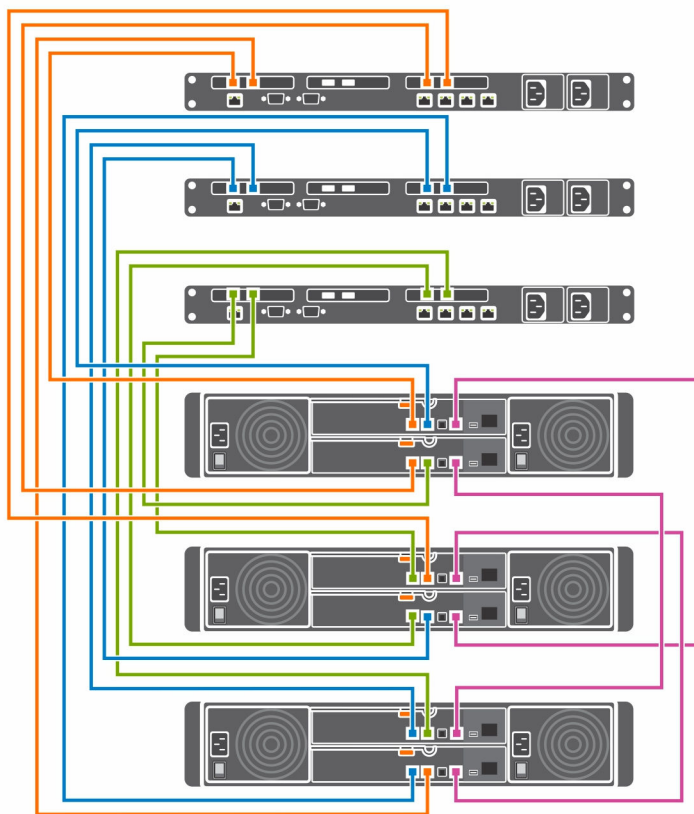


Figure 21. 3x3—DSMS 630 and DSMS 1400 series

Table 21. 3x3—DSMS 630 and DSMS 1400 series cabling table

Server 0 		Server 1 		Server 2 	
Server HBA 0-0	Enclosure 0 EMM 0–Port 0	Server HBA 0-0	Enclosure 1 EMM 1–Port 1	Server HBA 0-0	Enclosure 0 EMM 1–Port 1
Server HBA 0-1	Enclosure 2 EMM 1–Port 1	Server HBA 0-1	Enclosure 2 EMM 0–Port 0	Server HBA 0-1	Enclosure 1 EMM 0–Port 0
Server HBA 1-0	Enclosure 0 EMM 1–Port 0	Server HBA 1-0	Enclosure 0 EMM 0–Port 1	Server HBA 1-0	Enclosure 1 EMM 1–Port 0
Server HBA 1-1	Enclosure 1 EMM 0–Port 1	Server HBA 1-1	Enclosure 2 EMM 1–Port 0	Server HBA 1-1	Enclosure 2 EMM 0–Port 0

Table 22. Enclosure to enclosure SAS connection

Enclosure to enclosure SAS connection ()
Enclosure 0 EMM 0 – Port 3 ⇔ Enclosure 1 EMM 1 – Port 3
Enclosure 0 EMM 1 – Port 3 ⇔ Enclosure 2 EMM 0 – Port 3
Enclosure 1 EMM 0 – Port 3 ⇔ Enclosure 2 EMM 1 – Port 3

3x3—DSMS 730 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between three DSMS 730 servers and three DSMS 1400 storage enclosures.

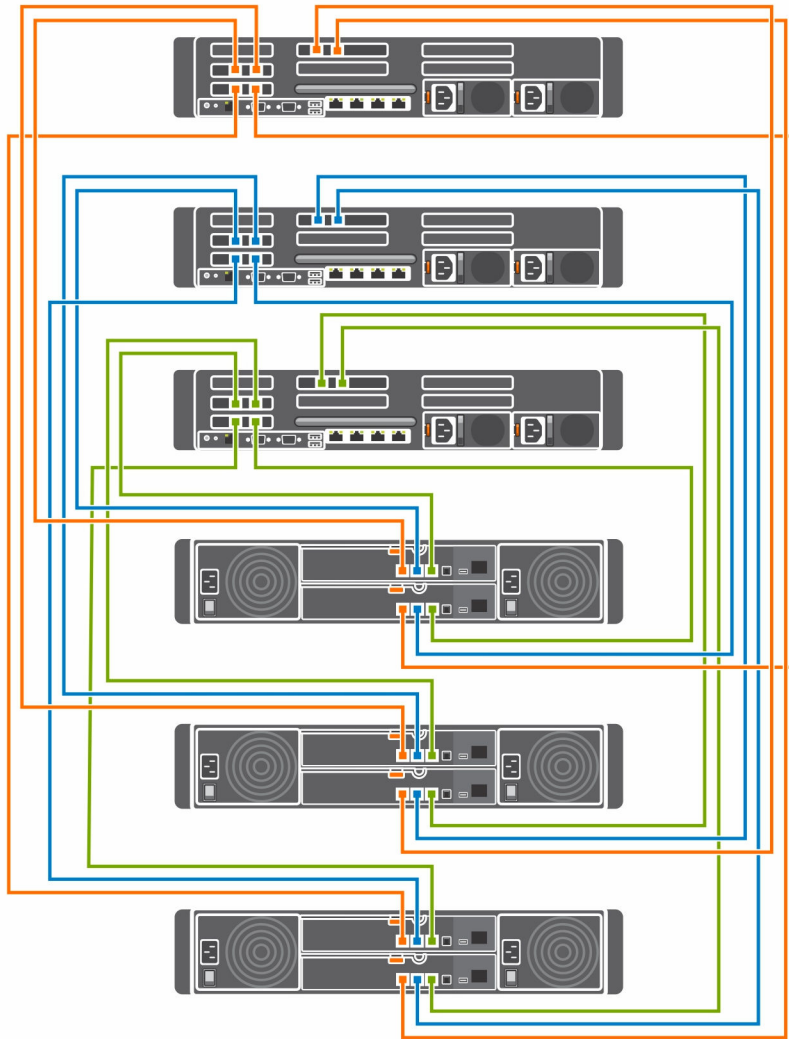


Figure 22. 3x3—DSMS 730 and DSMS 1400

Table 23. 3x3—DSMS 730 Server to DSMS 1400 enclosure cabling table

Server 0		Server 1		Server 2	
					
Server HBA 0-0	Enclosure 0 EMM 0— Port 1	Server HBA 0-0	Enclosure 0 EMM 0— Port 2	Server HBA 0-0	Enclosure 0 EMM 0— Port 3
Server HBA 0-1	Enclosure 1 EMM 0— Port 1	Server HBA 0-1	Enclosure 1 EMM 0— Port 2	Server HBA 0-1	Enclosure 1 EMM 0— Port 3
Server HBA 1-0	Enclosure 2 EMM 0— Port 1	Server HBA 1-0	Enclosure 2 EMM 0— Port 2	Server HBA 1-0	Enclosure 2 EMM 0— Port 3
Server HBA 1-1	Enclosure 0 EMM 1— Port 1	Server HBA 1-1	Enclosure 0 EMM 1— Port 2	Server HBA 1-1	Enclosure 0 EMM 1— Port 3

Server 0		Server 1		Server 2	
Server HBA 2-0	Enclosure 1 EMM 1-Port 1	Server HBA 2-0	Enclosure 1 EMM 1-Port 2	Server HBA 2-0	Enclosure 1 EMM 1-Port 3
Server HBA 2-1	Enclosure 2 EMM 1-Port 1	Server HBA 2-1	Enclosure 2 EMM 1-Port 2	Server HBA 2-1	Enclosure 2 EMM 1-Port 3

3x4—DSMS 630 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between three DSMS 630 servers and four DSMS 1400 storage enclosures.

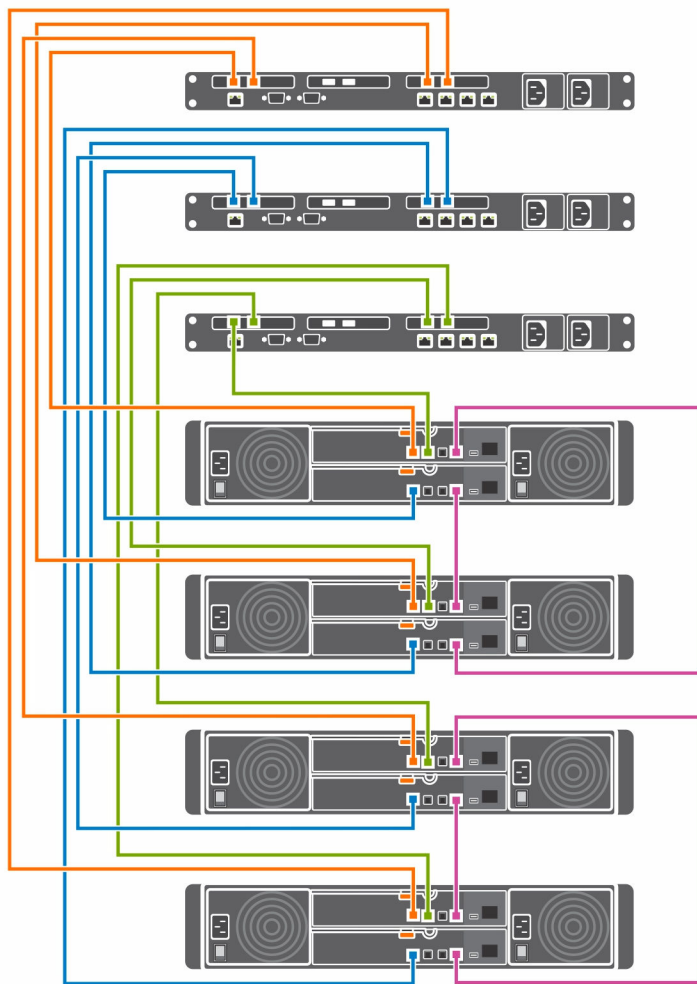


Figure 23. 3x4—DSMS 630 and DSMS 1400 series

Table 24. 3x4—DSMS 630 and DSMS 1400 series cabling table

Server 0		Server 1		Server 2	
Server HBA 0-0	Enclosure 0 EMM 0–Port 0	Server HBA 0-0	Enclosure 0 EMM 1–Port 0	Server HBA 0-0	Enclosure 0 EMM 0–Port 1
Server HBA 0-1	Enclosure 2 EMM 0–Port 0	Server HBA 0-1	Enclosure 2 EMM 1–Port 0	Server HBA 0-1	Enclosure 2 EMM 0–Port 1
Server HBA 1-0	Enclosure 1 EMM 0–Port 0	Server HBA 1-0	Enclosure 1 EMM 1–Port 0	Server HBA 1-0	Enclosure 1 EMM 0–Port 1
Server HBA 1-1	Enclosure 3 EMM 0–Port 0	Server HBA 1-1	Enclosure 3 EMM 1–Port 0	Server HBA 1-1	Enclosure 3 EMM 0–Port 1

Table 25. Enclosure to enclosure SAS connection

Enclosure to enclosure SAS connection ()
Enclosure 0 EMM 0 – Port 3 ⇔ Enclosure 1 EMM 1 – Port 3
Enclosure 0 EMM 1 – Port 3 ⇔ Enclosure 1 EMM 0 – Port 3
Enclosure 2 EMM 0 – Port 3 ⇔ Enclosure 3 EMM 1 – Port 3
Enclosure 2 EMM 1 – Port 3 ⇔ Enclosure 3 EMM 0 – Port 3

3x4—DSMS 730 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between three DSMS 730 servers and four DSMS 1400 storage enclosures.

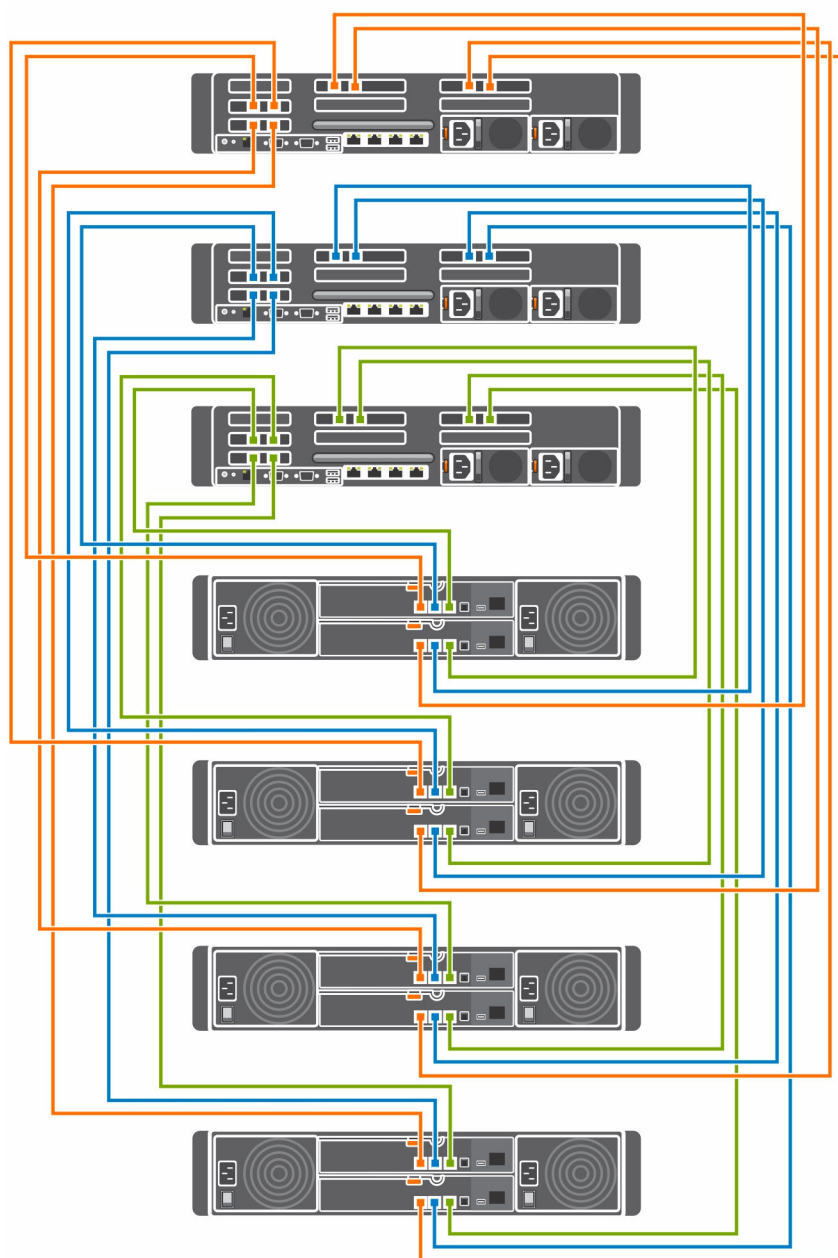


Figure 24. 3x4—DSMS 730 and DSMS 1400 series

Table 26. 3x4—DSMS 730 and DSMS 1400 series cabling table

Server 0 ■		Server 1 ■		Server 2 ■	
Server HBA 0-0	Enclosure 0 EMM 0-Port 1	Server HBA 0-0	Enclosure 0 EMM 0-Port 2	Server HBA 0-0	Enclosure 0 EMM 0-Port 3
Server HBA 0-1	Enclosure 1 EMM 0-Port 1	Server HBA 0-1	Enclosure 1 EMM 0-Port 2	Server HBA 0-1	Enclosure 1 EMM 0-Port 3

Server 0 		Server 1 		Server 2 	
Server HBA 1-0	Enclosure 2 EMM 0-Port 1	Server HBA 1-0	Enclosure 2 EMM 0-Port 2	Server HBA 1-0	Enclosure 2 EMM 0-Port 3
Server HBA 1-1	Enclosure 3 EMM 0-Port 1	Server HBA 1-1	Enclosure 3 EMM 0-Port 2	Server HBA 1-1	Enclosure 3 EMM 0-Port 3
Server HBA 2-0	Enclosure 0 EMM 1-Port 1	Server HBA 2-0	Enclosure 0 EMM 1-Port 2	Server HBA 2-0	Enclosure 0 EMM 1-Port 3
Server HBA 2-1	Enclosure 1 EMM 1-Port 1	Server HBA 2-1	Enclosure 1 EMM 1-Port 2	Server HBA 2-1	Enclosure 1 EMM 1-Port 3
Server HBA 3-0	Enclosure 2 EMM 1-Port 1	Server HBA 3-0	Enclosure 2 EMM 1-Port 2	Server HBA 3-0	Enclosure 2 EMM 1-Port 3
Server HBA 3-1	Enclosure 3 EMM 1-Port 1	Server HBA 3-1	Enclosure 3 EMM 1-Port 2	Server HBA 3-1	Enclosure 3 EMM 1-Port 3

3x4—DSMS 630 or 730 and DSMS 3060e

The SAS cable diagram and equivalent table shown in this section define the interconnections between three Dell DSMS 730 servers and four Dell DSMS 3060e storage enclosures.

 **NOTE:** The information provided in this section is also valid for the DSMS 630 server.

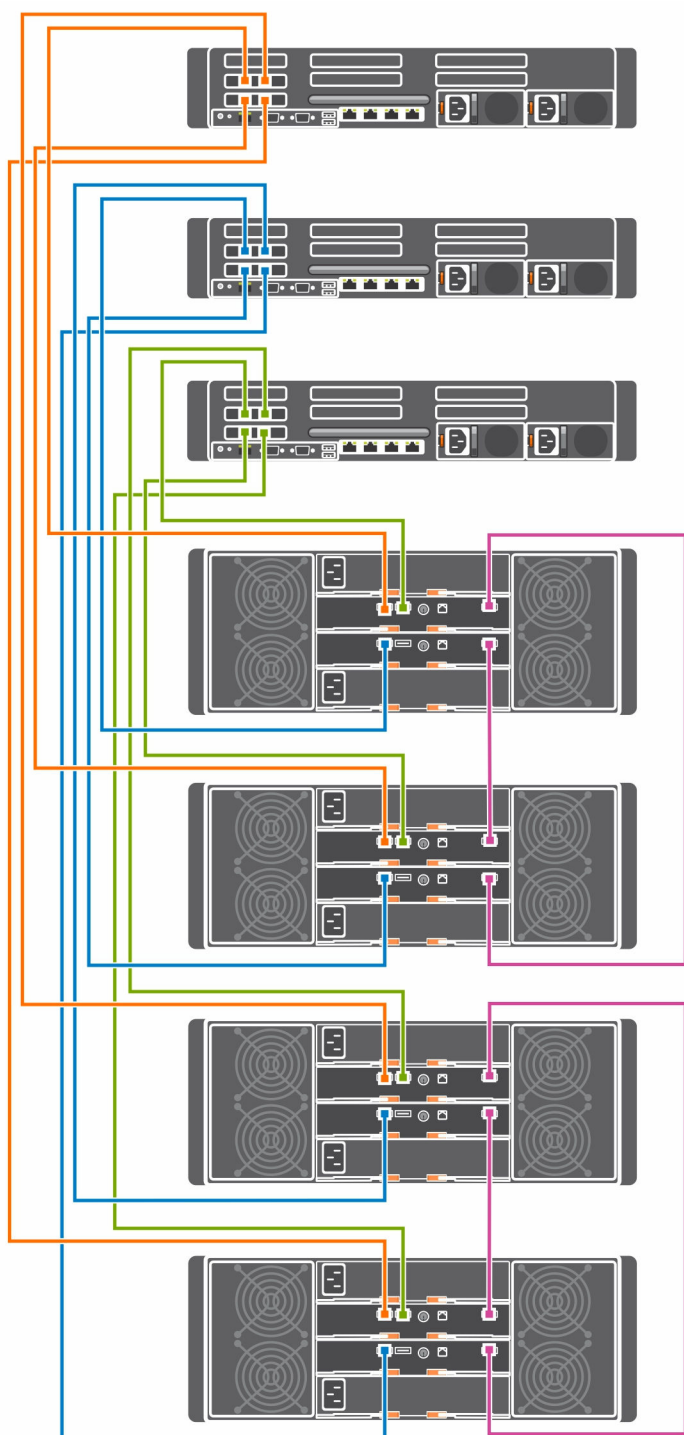


Figure 25. 3x4— DSMS 730 and DSMS 3060e

Table 27. 3x4—DSMS 730 and DSMS 3060e cabling series

Server 0 		Server 1 		Server 2 	
Server HBA 0-0	Enclosure 0 EMM 0-Port 0	Server HBA 0-0	Enclosure 0 EMM 1-Port 0	Server HBA 0-0	Enclosure 0 EMM 0-Port 1
Server HBA 0-1	Enclosure 2 EMM 0-Port 0	Server HBA 0-1	Enclosure 2 EMM 1-Port 0	Server HBA 0-1	Enclosure 2 EMM 0-Port 1
Server HBA 1-0	Enclosure 1 EMM 0-Port 0	Server HBA 1-0	Enclosure 1 EMM 1-Port 0	Server HBA 1-0	Enclosure 1 EMM 0-Port 1
Server HBA 1-1	Enclosure 3 EMM 0-Port 0	Server HBA 1-1	Enclosure 3 EMM 1-Port 0	Server HBA 1-1	Enclosure 3 EMM 0-Port 1

Table 28. Storage enclosure to storage enclosure cabling table

Enclosure to enclosure SAS connection ()
Enclosure 0 EMM 0 – OUT ⇔ Enclosure 1 EMM 1 – OUT
Enclosure 0 EMM 1 – OUT ⇔ Enclosure 1 EMM 0 – OUT
Enclosure 2 EMM 0 – OUT ⇔ Enclosure 3 EMM 1 – OUT
Enclosure 2 EMM 1 – OUT ⇔ Enclosure 3 EMM 0 – OUT

4x3 — DSMS 630 and DSMS 1400 Series

The SAS cable diagram and equivalent table shown in this section define the interconnections between four DSMS 630 servers and three DSMS 1400 storage enclosures.

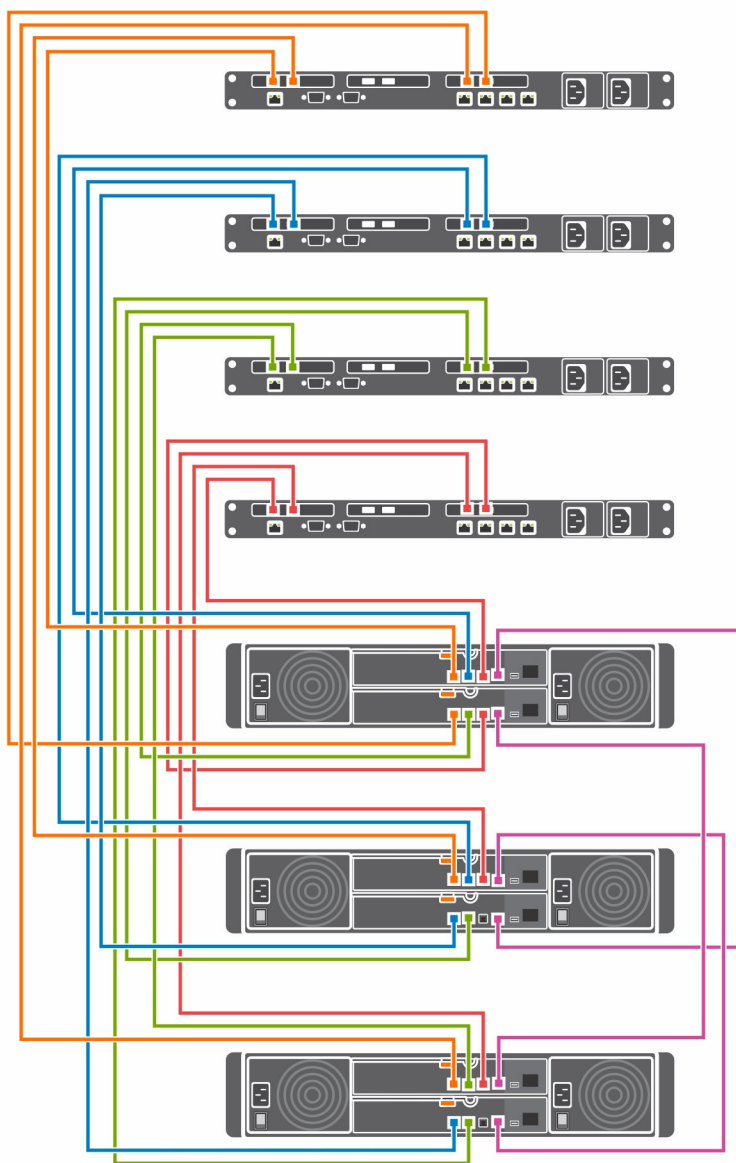


Figure 26. 4x3 — DSMS 630 and DSMS 1400 Series

Table 29. 4x3 — DSMS 630 and DSMS 1400 Series

Server 0 		Server 1 		Server 2 		Server 3 	
Server HBA 0-0	Enclosure 0 EMM 0–Port 0	Server HBA 0-0	Enclosure 1 EMM 1–Port 0	Server HBA 0-0	Enclosure 2 EMM 0 – Port 1	Server HBA 0-0	Enclosure 0 EMM 0–Port 2
Server HBA 0-1	Enclosure 0 EMM 1–Port 0	Server HBA 0-1	Enclosure 2 EMM 1–Port 0	Server HBA 0-1	Enclosure 0 EMM 1 – Port 1	Server HBA 0-1	Enclosure 1 EMM 0–Port 2
Server HBA 1-0	Enclosure 2 EMM 0–Port 1	Server HBA 1-0	Enclosure 0 EMM 0–Port 1	Server HBA 1-0	Enclosure 1 EMM 1–Port 1	Server HBA 1-0	Enclosure 2 EMM 0–Port 2
Server HBA 1-1	Enclosure 0 EMM 1–Port 0	Server HBA 1-1	Enclosure 1 EMM 0–Port 1	Server HBA 1-1	Enclosure 2 EMM 1–Port 1	Server HBA 1-1	Enclosure 0 EMM 1–Port 2

Table 30. Enclosure to enclosure SAS connection

Enclosure to enclosure SAS connection ()
Enclosure 0 EMM 0 – Port 3 ↔ Enclosure 1 EMM 1 – Port 3
Enclosure 0 EMM 1 – Port 3 ↔ Enclosure 2 EMM 0 – Port 3
Enclosure 1 EMM 0 – Port 3 ↔ Enclosure 2 EMM 1 – Port 3

4x3—DSMS 730 and DSMS 1400 Series

The SAS cable diagram and equivalent table shown in this section define the interconnections between four DSMS 730 servers and three DSMS 1400 storage enclosures.

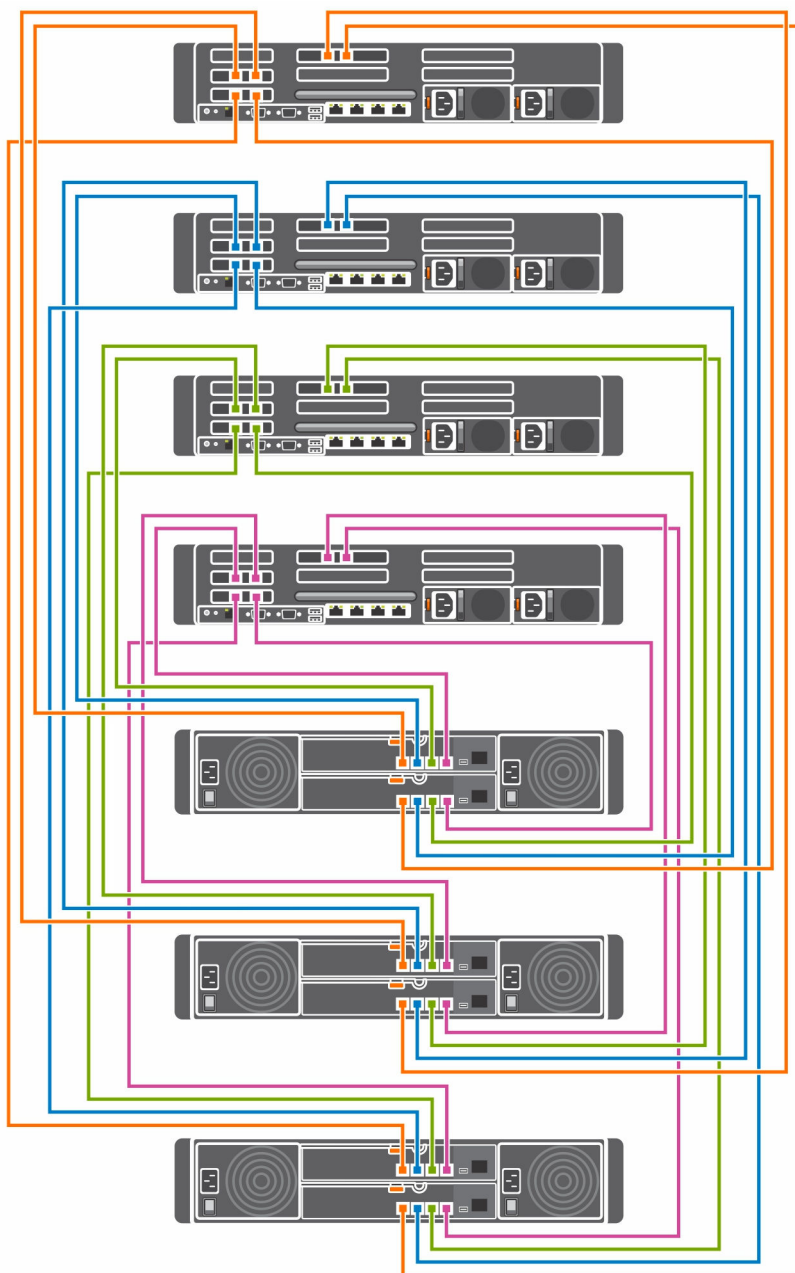


Figure 27. 4x3—DSMS 730 and DSMS 1400 Series

Table 31. 4x3—DSMS 730 and DSMS 1400 enclosure cabling table

Server 0 		Server 1 		Server 2 		Server 3 	
Server HBA 0-0	Enclosure 0 EMM 0–Port 1	Server HBA 0-0	Enclosure 0 EMM 0–Port 2	Server HBA 0-0	Enclosure 0 EMM 0–Port 3	Server HBA 0-0	Enclosure 0 EMM 0–Port 4
Server HBA 0-1	Enclosure 1 EMM 0–Port 1	Server HBA 0-1	Enclosure 1 EMM 0–Port 2	Server HBA 0-1	Enclosure 1 EMM 0–Port 3	Server HBA 0-1	Enclosure 1 EMM 0–Port 4
Server HBA 1-0	Enclosure 2 EMM 0–Port 1	Server HBA 1-0	Enclosure 2 EMM 0–Port 2	Server HBA 1-0	Enclosure 2 EMM 0–Port 3	Server HBA 1-0	Enclosure 2 EMM 0–Port 4
Server HBA 1-1	Enclosure 0 EMM 1–Port 1	Server HBA 1-1	Enclosure 0 EMM 1–Port 2	Server HBA 1-1	Enclosure 0 EMM 1–Port 3	Server HBA 1-1	Enclosure 0 EMM 1–Port 4
Server HBA 2-0	Enclosure 1 EMM 1–Port 1	Server HBA 2-0	Enclosure 1 EMM 1–Port 2	Server HBA 2-0	Enclosure 1 EMM 1–Port 3	Server HBA 2-0	Enclosure 1 EMM 1–Port 4
Server HBA 2-1	Enclosure 2 EMM 1–Port 1	Server HBA 2-1	Enclosure 2 EMM 1–Port 2	Server HBA 2-1	Enclosure 2 EMM 1–Port 3	Server HBA 2-1	Enclosure 2 EMM 1–Port 4

4x4—DSMS 630 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between four DSMS 630 servers and four DSMS 1400 storage enclosures.

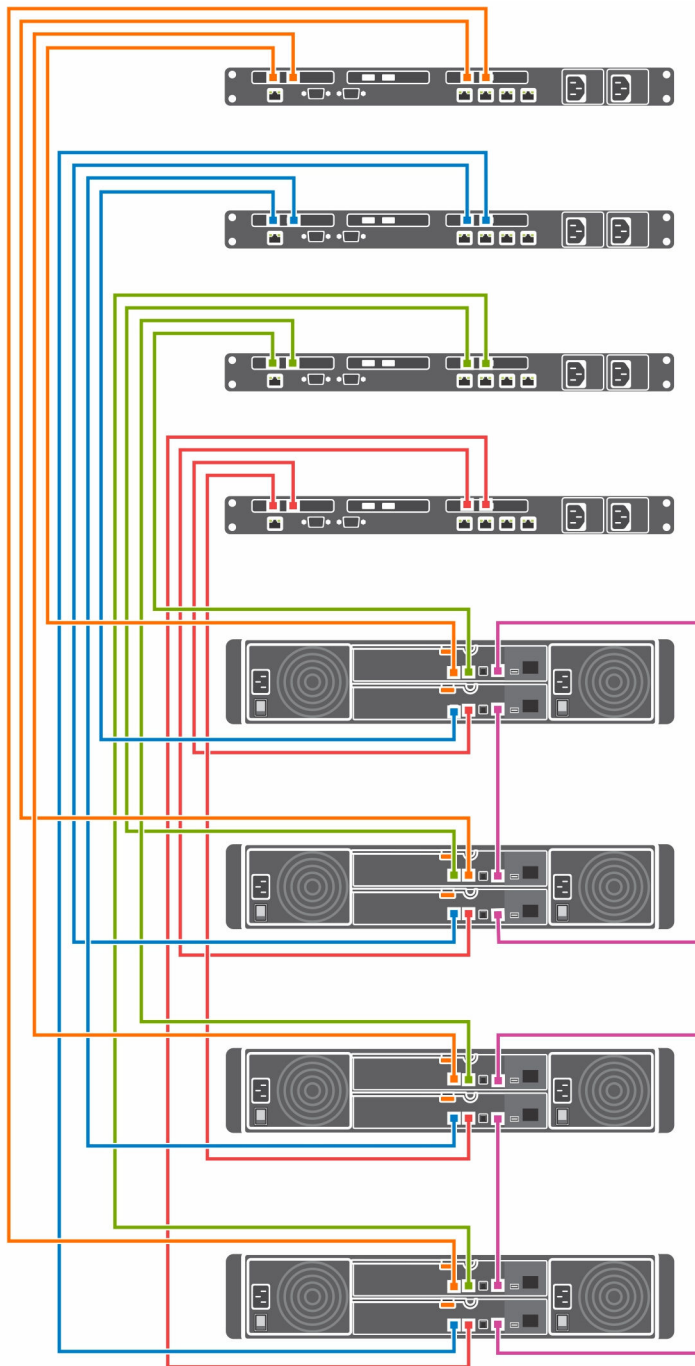


Figure 28. 4x4—DSMS 630 and DSMS 1400 series

Table 32. 4x4—DSMS 630 and DSMS 1400 series cabling table

Server 0 		Server 1 		Server 2 		Server 3 	
Server HBA 0-0	Enclosure 0 EMM 0 – Port 0	Server HBA 0-0	Enclosure 0 EMM 1 – Port 0	Server HBA 0-0	Enclosure 0 EMM 0 – Port 1	Server HBA 0-0	Enclosure 2 EMM 1 – Port 1
Server HBA 0-1	Enclosure 2 EMM 0 – Port 0	Server HBA 0-1	Enclosure 2 EMM 1 – Port 0	Server HBA 0-1	Enclosure 2 EMM 0 – Port 1	Server HBA 0-1	Enclosure 0 EMM 1 – Port 1
Server HBA 1-0	Enclosure 1 EMM 0 – Port 1	Server HBA 1-0	Enclosure 1 EMM 1 – Port 0	Server HBA 1-0	Enclosure 1 EMM 0 – Port 0	Server HBA 1-0	Enclosure 1 EMM 1 – Port 1
Server HBA 1-1	Enclosure 3 EMM 0 – Port 0	Server HBA 1-1	Enclosure 3 EMM 1 – Port 0	Server HBA 1-1	Enclosure 3 EMM 0 – Port 1	Server HBA 1-1	Enclosure 3 EMM 1 – Port 1

Table 33. Enclosure to enclosure SAS connection

Enclosure to enclosure SAS connection ()
Enclosure 0 EMM 0 – Port 3 ↔ Enclosure 1 EMM 1 – Port 3
Enclosure 0 EMM 1 – Port 3 ↔ Enclosure 1 EMM 0 – Port 3
Enclosure 2 EMM 0 – Port 3 ↔ Enclosure 3 EMM 1 – Port 3
Enclosure 2 EMM 1 – Port 3 ↔ Enclosure 3 EMM 0 – Port 3

4x4—DSMS 730 and DSMS 1400 series

The SAS cable diagram and equivalent table shown in this section define the interconnections between four DSMS 730 servers and four DSMS 1400 series storage enclosures.

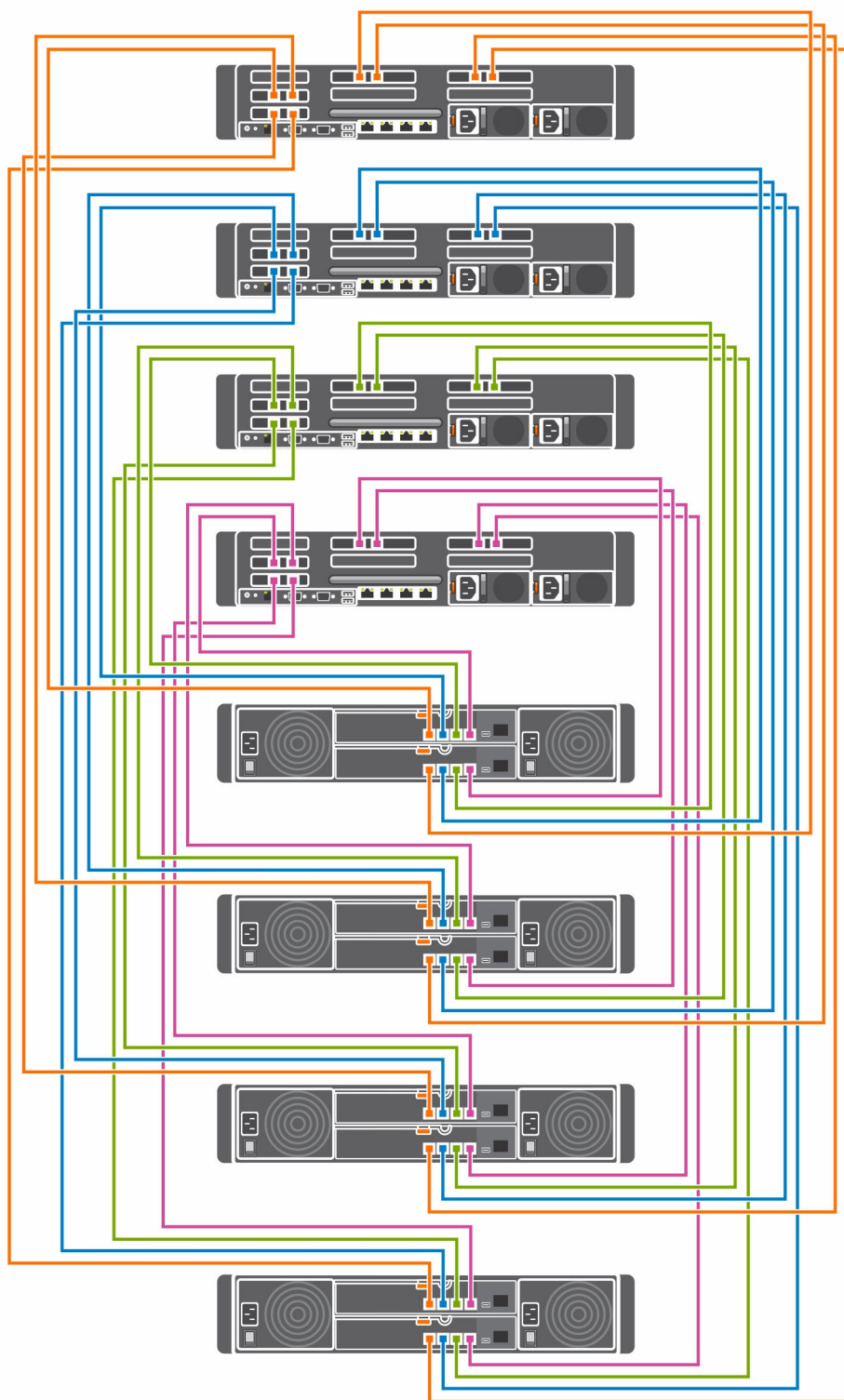


Figure 29. 4x4—DSMS 730 and DSMS 1400 series

Table 34. 4x4—DSMS 730 and DSMS 1400 enclosure cabling

Server 0 		Server 1 		Server 2 		Server 3 	
Server HBA 0-0	Enclosure 0 EMM 0–Port 1	Server HBA 0-0	Enclosure 0 EMM 0–Port 2	Server HBA 0-0	Enclosure 0 EMM 0–Port 3	Server HBA 0-0	Enclosure 0 EMM 0–Port 4
Server HBA 0-1	Enclosure 1 EMM 0–Port 1	Server HBA 0-1	Enclosure 1 EMM 0–Port 2	Server HBA 0-1	Enclosure 1 EMM 0–Port 3	Server HBA 0-1	Enclosure 1 EMM 0–Port 4
Server HBA 1-0	Enclosure 2 EMM 0–Port 1	Server HBA 1-0	Enclosure 2 EMM 0–Port 2	Server HBA 1-0	Enclosure 2 EMM 0–Port 3	Server HBA 1-0	Enclosure 2 EMM 0–Port 4
Server HBA 1-1	Enclosure 3 EMM 0–Port 1	Server HBA 1-1	Enclosure 3 EMM 0–Port 2	Server HBA 1-1	Enclosure 3 EMM 0–Port 3	Server HBA 1-1	Enclosure 3 EMM 0–Port 4
Server HBA 2-0	Enclosure 0 EMM 1–Port 1	Server HBA 2-0	Enclosure 0 EMM 1–Port 2	Server HBA 2-0	Enclosure 0 EMM 1–Port 3	Server HBA 2-0	Enclosure 0 EMM 1–Port 4
Server HBA 2-1	Enclosure 1 EMM 1–Port 1	Server HBA 2-1	Enclosure 1 EMM 1–Port 2	Server HBA 2-1	Enclosure 1 EMM 1–Port 3	Server HBA 2-1	Enclosure 1 EMM 1–Port 4
Server HBA 3-0	Enclosure 2 EMM 1–Port 1	Server HBA 3-0	Enclosure 2 EMM 1–Port 2	Server HBA 3-0	Enclosure 2 EMM 1–Port 3	Server HBA 3-0	Enclosure 2 EMM 1–Port 4
Server HBA 3-1	Enclosure 3 EMM 1–Port 1	Server HBA 3-1	Enclosure 3 EMM 1–Port 2	Server HBA 3-1	Enclosure 3 EMM 1–Port 3	Server HBA 3-1	Enclosure 3 EMM 1–Port 4

4x4—DSMS 630 or 730 and DSMS 3060e

The SAS cable diagram and equivalent tables shown in this section define the interconnections between four DSMS 730 servers and four DSMS 3060e storage enclosures.

 NOTE:

- The 4x4 solution requires Dell Deployment Services.
- The cabling diagram and tables shown here for DSMS 730 servers are valid for the DSMS 630 server also.

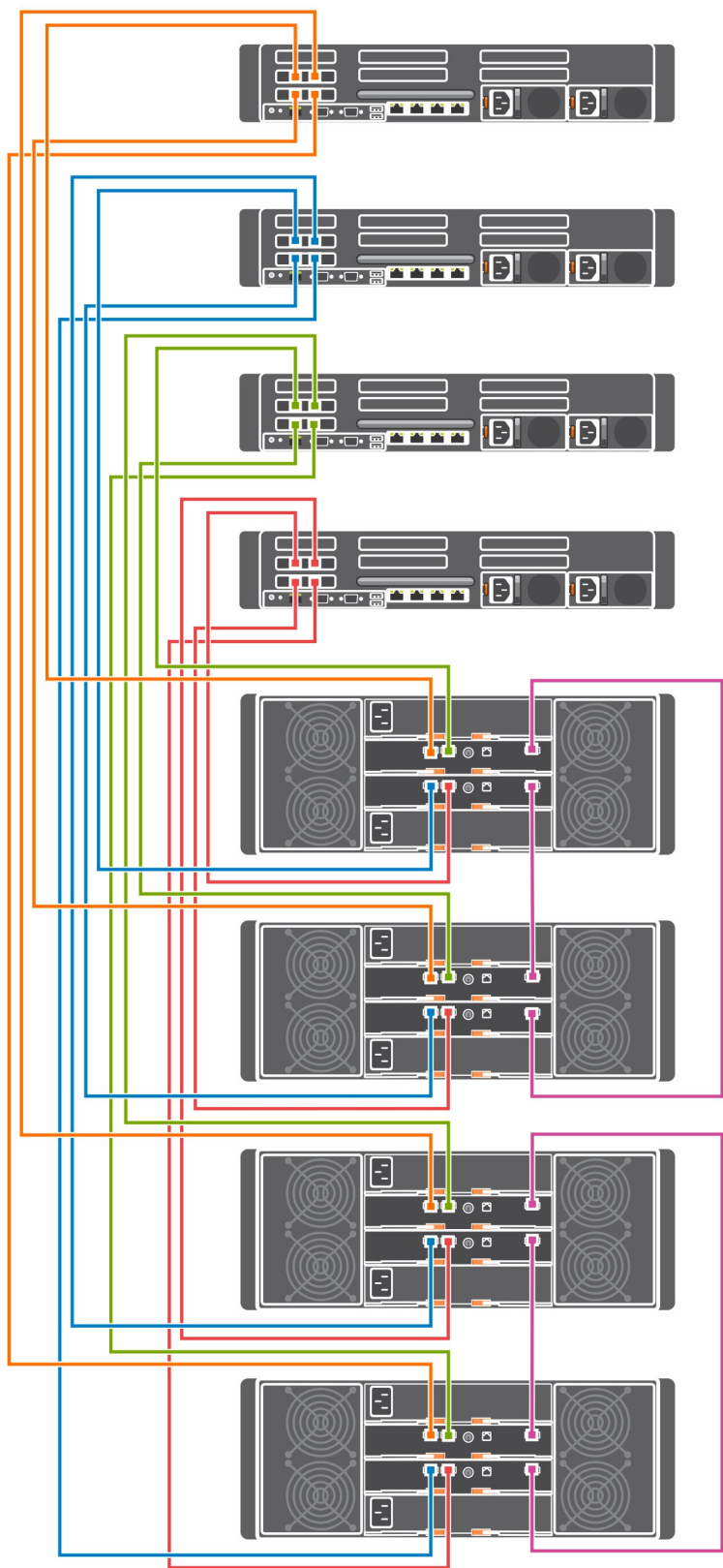


Figure 30. 4x4—DSMS 730 to DSMS 3060e

Table 35. 4x4—DSMS 730 Server to DSMS 3060e enclosure cabling table

Server 0 		Server 1 		Server 2 		Server 3 	
Server HBA 0-0	Enclosure 0 EMM 0–Port 0	Server HBA 0-0	Enclosure 0 EMM 1–Port 0	Server HBA 0-0	Enclosure 0 EMM 0–Port 1	Server HBA 0-0	Enclosure 0 EMM 1–Port 1
Server HBA 0-1	Enclosure 2 EMM 0–Port 0	Server HBA 0-1	Enclosure 2 EMM 1–Port 0	Server HBA 0-1	Enclosure 2 EMM 0–Port 1	Server HBA 0-1	Enclosure 2 EMM 1–Port 1
Server HBA 1-0	Enclosure 1 EMM 0–Port 0	Server HBA 1-0	Enclosure 1 EMM 1–Port 0	Server HBA 1-0	Enclosure 1 EMM 0–Port 1	Server HBA 1-0	Enclosure 1 EMM 1–Port 1
Server HBA 1-1	Enclosure 3 EMM 0–Port 0	Server HBA 1-1	Enclosure 3 EMM 1–Port 0	Server HBA 1-1	Enclosure 3 EMM 0–Port 1	Server HBA 1-1	Enclosure 3 EMM 1–Port 1

Table 36. Storage enclosure to storage enclosure cabling table

Enclosure to enclosure SAS connection ()	
Enclosure 0 EMM 0 – OUT ⇔ Enclosure 1 EMM 1 – OUT	
Enclosure 0 EMM 1 – OUT ⇔ Enclosure 1 EMM 0 – OUT	
Enclosure 2 EMM 0 – OUT ⇔ Enclosure 3 EMM 1 – OUT	
Enclosure 2 EMM 1 – OUT ⇔ Enclosure 3 EMM 0 – OUT	

Getting help

Contacting Dell

Dell provides several online and telephone-based support and service options. If you do not have an active internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical assistance, or customer-service issues:

1. Go to **Dell.com/support**.
2. Select your country from the drop-down menu on the bottom right corner of the page.
3. For customized support:
 - a. Enter your system Service Tag in the **Enter your Service Tag** field.
 - b. Click **Submit**.The support page that lists the various support categories is displayed.
4. For general support:
 - a. Select your product category.
 - b. Select your product segment.
 - c. Select your product.The support page that lists the various support categories is displayed.
5. For contact details of Dell Global Technical Support:
 - a. Click [Global Technical Support](#).
 - b. The **Technical Support** page is displayed with details to call, chat, or e-mail the Dell Global Technical Support team.

Quick Resource Locator

Use the Quick Resource Locator (QRL) to get immediate access to DSMS Solution information. This information provides access to reference documentation, a link to the Dell support page, and links to hardware-specific QRL pages, which include how-to videos. You can access this information by visiting **www.dell.com/QRL** or by using your smartphone or tablet and scanning the QR code below.

