



Product Bulletin

September 2013

Product Bulletin: Optical SAS Product Release for Storage and Stretch MetroCluster Connectivity

Revision History:

16 September 2013 - Initial version

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This product bulletin informs NetApp sales and NetApp partners about new or changed NetApp® products or services.

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1. Summary

NetApp's innovative Optical SAS product is based on intelligent, active optical cable technology. It offers 6Gb/s storage SAS connectivity that continues to be compatible with the existing SAS infrastructure hardware.

This versatile product not only offers an elegant, low-cost, zero-footprint solution across 500 meters, for the NetApp Stretch MetroCluster™ architecture, it also offers longer-distance remote storage connectivity up to 150m.

2. What's New?

The Optical SAS product offers a zero-footprint, low-cost, streamlined solution for the NetApp Stretch MetroCluster architecture. The Optical SAS-based Stretch MetroCluster architecture eliminates the need for FC-SAS bridges while being compatible with existing patch-panel infrastructures commonly found in data centers.

Optical SAS can also be used for long-distance SAS connectivity between storage shelves and/or controllers. Optical SAS allows the physical storage to be located up to 150m away.

As is true for all optical connectivity, Optical SAS also offers better manageability and higher resilience features versus those of copper cables.

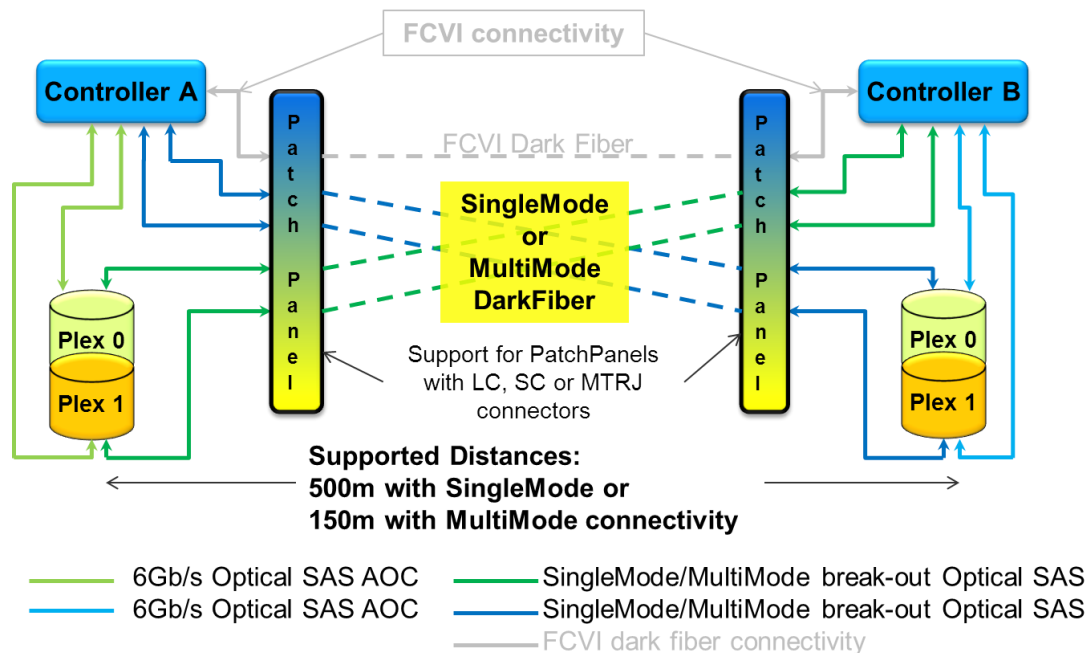


Figure 1) Optical SAS-based Stretch MetroCluster configuration.

3. Sales and Customer-Ready Tools

(Training, SE, Customer Presentations, Datasheets, Sales Guides)

The following documents and resources are available for further details about Optical SAS.

- For hardware-specific details, refer to the Hardware Universe, <https://hwwu.netapp.com>.
- For SAS infrastructure details, refer to the public FAQ, <http://www.netapp.com/us/media/sas-storage-cabling-and-infrastructure.pdf>.
- Details on Optical SAS installation are available in the "Universal SAS and ACP Cabling Guide," https://library.netapp.com/ecm/ecm_get_file/ECMM1280392.
- Optical SAS-based Stretch MetroCluster details are available in TR-3548, <http://www.netapp.com/us/system/pdf-reader.aspx?m=tr-3548.pdf&cc=us>.
- For quoting instructions refer to the Quote Tool bulletin for DFM.

4. System Requirements

Optical SAS is supported by the following storage controllers:

- FAS/V3XXX series
- FAS/V6XXX series

It supports all 6Gb/s storage shelves, namely:

- DS4246
- DS2246
- DS4486 (Note: DS4486 is not supported in Stretch MetroCluster configurations.)

The Data ONTAP® 8.1.3 operating system or later versions of 8.1 are the minimum release support for Optical SAS. Optical SAS will be supported on Data ONTAP 8.2.1 or a later version of 8.2 when they are available.

Note: Optical SAS is not supported on Data ONTAP 8.2.0. Any attempts to order Optical SAS with the Data ONTAP 8.2.0 release will not be processed.

Note: Optical SAS does not support 3Gb/s SAS and associated storage shelves, for example, DS4243. It also does not support mixed 6Gb/s and 3Gb/s storage stacks.

Note: Optical SAS only supports storage stacks with homogenous Optical SAS connectivity. For example, it does not allow intermixing Cu and Optical SAS connectivity.

5. Product Information

The Optical SAS product group is comprised of 20 discrete optical cables and transceivers that enable SAS storage connectivity for multiple use cases. These products can be grouped as follows.

A. Active Optical Cables (AOCs)

- AOCs are available in multiple lengths. The available lengths are 1m, 2m, 3m, and 5m for shorter distances and 15m, 30m, and 50m for longer-distance connectivity.
- The shorter-length AOCs are available as Quick Ship (QS) and Configure To Order (CTO). Longer-length AOCs are available only as QS.
- The cables provide QSFP to QSFP connectivity between controller and shelf and shelf and shelf for SAS connectivity.
- AOC cables target the storage connectivity use case.

Part Number	Description	Discount Category Code
X66000A-R6	Cable,Storage,SAS-OM4,6G,QSFP,1m	C
X66001A-R6	Cable,Storage,SAS-OM4,6G,QSFP,2m	C
X66002A-R6	Cable,Storage,SAS-OM4,6G,QSFP,3m	C
X66003A-R6	Cable,Storage,SAS-OM4,6G,QSFP,5m	C
X66000A-R6-C	Cable,Storage,SAS-OM4,6G,QSFP,1m,-C	C
X66001A-R6-C	Cable,Storage,SAS-OM4,6G,QSFP,2m,-C	C
X66002A-R6-C	Cable,Storage,SAS-OM4,6G,QSFP,3m,-C	C
X66003A-R6-C	Cable,Storage,SAS-OM4,6G,QSFP,5m,-C	C
X66005A-R6	Cable,Storage,SAS-OM4,6G,QSFP,15m	C
X66006A-R6	Cable,Storage,SAS-OM4,6G,QSFP,30m	C
X66007A-R6	Cable,Storage,SAS-OM4,6G,QSFP,50m	C

B. MultiMode BreakOut Optical SAS

- MultiMode BreakOut Cables support connectivity of up to 150 meters between a storage shelf and another shelf or a controller via Optical Patch Panels.
- The MultiMode BreakOut Optical SAS product targets both longer-distance (greater than 50 meters) storage connectivity and Stretch MetroCluster use cases.
- Each MultiMode BreakOut Optical SAS product is comprised of two parts: an Optical Transceiver and an Optical BreakOut Cable.
- The Optical Transceiver connects an MPO cable to a QSFP socket.
- The Optical BreakOut Cable connects an MPO-QSFP Optical Transceiver to an Optical Patch Panel via eight SC, LC, or MTRJ connectors.
- The BreakOut Cables are available in 5m and 30m lengths.

Part Number	Description	Discount Category Code
X65400A-R6	QSFP,MPO,Optical Transceiver,6G,<150m,OM4	C
X66008A-R6	Cable,<150m-PatchP,OM4,6G,QSFP,LC,5m	C
X66009A-R6	Cable,<150m-PatchP,OM4,6G,QSFP,LC,30m	C
X66010A-R6	Cable,<150m-PatchP,OM4,6G,QSFP,SC,5m	C
X66011A-R6	Cable,<150m-PatchP,OM4,6G,QSFP,SC,30m	C
X66012A-R6	Cable,<150m-PatchP,OM4,6G,QSFP-MTRJ,5m	C
X66013A-R6	Cable,<150m-PatchP,OM4,6G,QSFP-MTRJ,30m	C
X66008A-R6-C	Cable,<150m-PatchP,OM4,6G,QSFP,LC,5m,-C	C
X66009A-R6-C	Cable,<150m-PatchP,OM4,6G,QSFP,LC,30m,-C	C
X66010A-R6-C	Cable,<150m-PatchP,OM4,6G,QSFP,SC,5m,-C	C
X66011A-R6-C	Cable,<150m-PatchP,OM4,6G,QSFP,SC,30m,-C	C
X66012A-R6-C	Cable,<150m-PatchP,OM4,6G,QSFP-MTRJ,5m,-C	C
X66013A-R6-C	Cable,<150m-PatchP,OM4,6G,QSFP-MTRJ,30m,-C	C

C. SingleMode (OS1) BreakOut Optical SAS

- OS1 BreakOut Cables support up to 500 meters of connectivity between a storage shelf and another shelf or a controller via Optical Patch Panels.
- The OS1 BreakOut Optical SAS product targets the Stretch MetroCluster use case.
- The OS1 Optical BreakOut Cable connects a storage shelf or controller to an Optical Patch Panel via eight SC, LC, or MTRJ connectors.
- The OS1 BreakOut Cables are available in 5m and 30m lengths.

Part Number	Description	Discount Category Code
X66014A-R6	Cable,<500m-PatchP,OS1,6G,QSFP,LC,5m	C
X66015A-R6	Cable,<500m-PatchP,OS1,6G,QSFP,LC,30m	C
X66016A-R6	Cable,<500m-PatchP,OS1,6G,QSFP,SC,5m	C
X66017A-R6	Cable,<500m-PatchP,OS1,6G,QSFP,SC,30m	C
X66018A-R6	Cable,<500m-PatchP,OS1,6G,QSFP-MTRJ,5m	C
X66019A-R6	Cable,<500m-PatchP,OS1,6G,QSFP-MTRJ,30m	C
X66014A-R6-C	Cable,<500m-PatchP,OS1,6G,QSFP,LC,5m,-C	C
X66015A-R6-C	Cable,<500m-PatchP,OS1,6G,QSFP,LC,30m,-C	C
X66016A-R6-C	Cable,<500m-PatchP,OS1,6G,QSFP,SC,5m,-C	C
X66017A-R6-C	Cable,<500m-PatchP,OS1,6G,QSFP,SC,30m,-C	C
X66018A-R6-C	Cable,<500m-PatchP,OS1,6G,QSFP-MTRJ,5m,-C	C
X66019A-R6-C	Cable,<500m-PatchP,OS1,6G,QSFP-MTRJ,30m,-C	C

Product Availability

Optical SAS is targeted for availability with the September 2013 QuoteEdge release.

6. Regulatory Compliance

NetApp RoHS and WEEE compliance statements can be found in the Field Portal by following these links:

- [RoHS Compliance](#)
- [WEEE Compliance](#)

7. Warranty and Service

Standard hardware warranty and services apply.

8. Additional Information

Contact Information: Contact your NetApp sales or channel partner representative with questions concerning this bulletin.

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