

Configuration Examples for FAS2220 Systems

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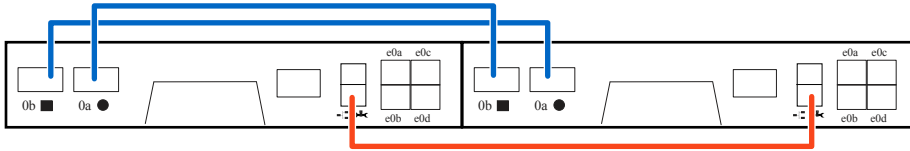
FAS2220 configuration options



The FAS2220 systems can be used in a variety of physical configurations and with different storage protocols.

Configuration	Possible variations
Storage protocol	<ul style="list-style-type: none"> NFS, CIFS, and/or iSCSI
Controller resiliency	<ul style="list-style-type: none"> HA pair The system has two redundant controller modules. Stand-alone configuration The system has one controller module.
Internal/external storage	<ul style="list-style-type: none"> Internal disks Internal disks in the system chassis are used. External SAS disks or tape
Disk shelf connection redundancy	<ul style="list-style-type: none"> Multipath configuration The controller has multiple connections to disks on the disk shelves. Multipath is the preferred configuration. Dual-path configuration The controller has two connections to disks on the disk shelves. Single-path configuration The disk shelves have a single connection to the controller. This configuration is not preferred but is supported on entry level platforms.
Backup device	<p>External backup devices</p> <p>The system connects to a tape backup device.</p>

Example 1: HA pair with no external disk shelves

The FAS2220 systems can be configured as an HA pair with no external disk drives.

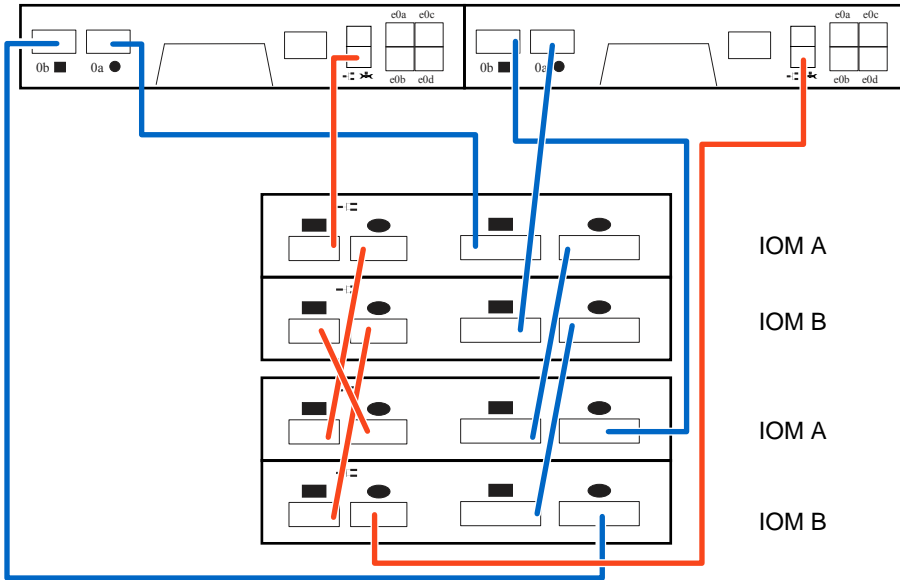




	The red cables are Ethernet ACP connections.
	The blue cables are SAS disk shelf connections.

Configuration details	Configuration used
Storage protocol	NFS, CIFS, and/or iSCSI
Controller resiliency	HA pair
Internal/external storage	Internal only
Disk shelf connection redundancy	Multipath HA Note: This is the recommended configuration. If the external cables are not used, the internal drives have single-path connectivity. Such a configuration is supported but not recommended.
Backup device	None

Example 2: HA pair with external SAS shelves

The FAS2220 systems can be configured as an HA pair with external SAS disk shelves.



	The red cables are Ethernet ACP connections.
	The blue cables are SAS disk shelf connections.

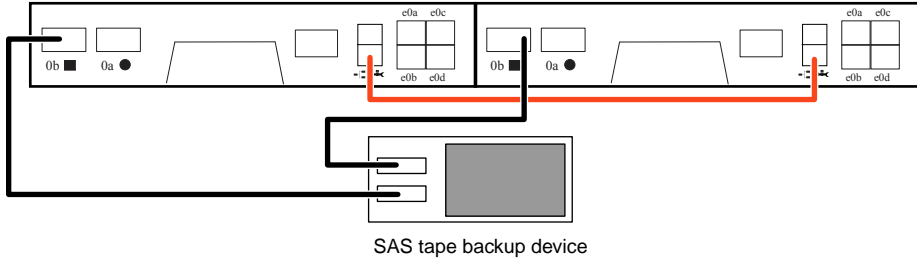
Configuration details	Configuration used
Storage protocol	NFS, CIFS, iSCSI
Controller resiliency	HA pair
External storage	External SAS disk shelves
Disk shelf connection redundancy	Multipath HA
Backup device	None



If you have SSD shelves

If you have SAS disk shelves with SSDs, the shelves with the SSDs should be the last shelves in the stack and connect to the 0b port on each controller.

Example 3: HA pair with SAS tape backup

The FAS2220 systems can be configured as an HA pair with an external SAS tape backup device.

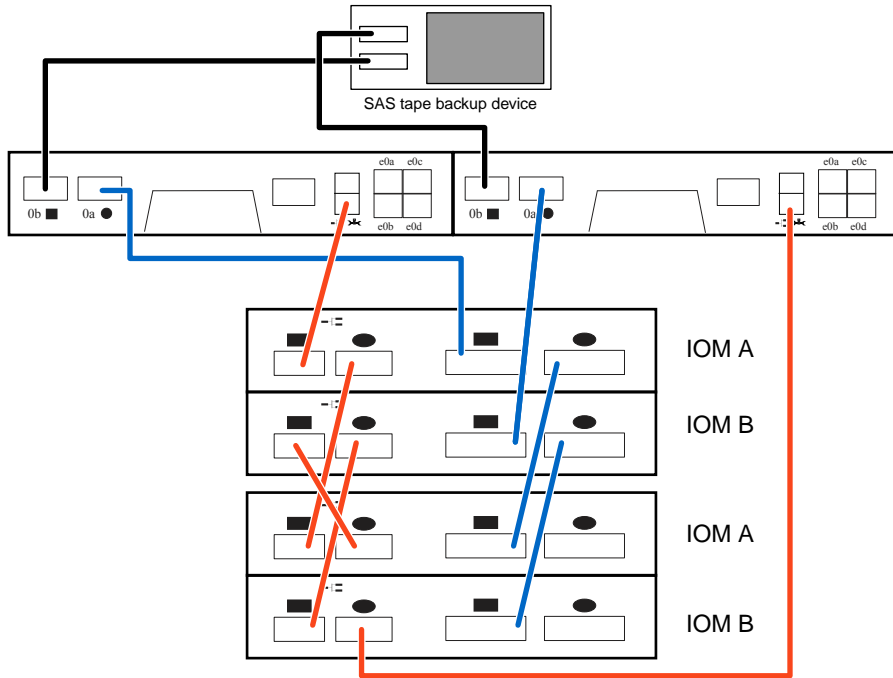





	The red cables are Ethernet ACP connections.
	The black cables are SAS tape drive connections.

Configuration details	Configuration used
Storage protocol	NFS, CIFS, and/or iSCSI
Controller resiliency	HA pair
External storage	Internal only
Disk shelf connection redundancy	n/a
Backup device	SAS tape backup device

Example 4: HA pair with external SAS shelves and tape backup

The FAS2220 systems can be configured as an HA pair connected to external SAS disk shelves and a SAS tape backup device.



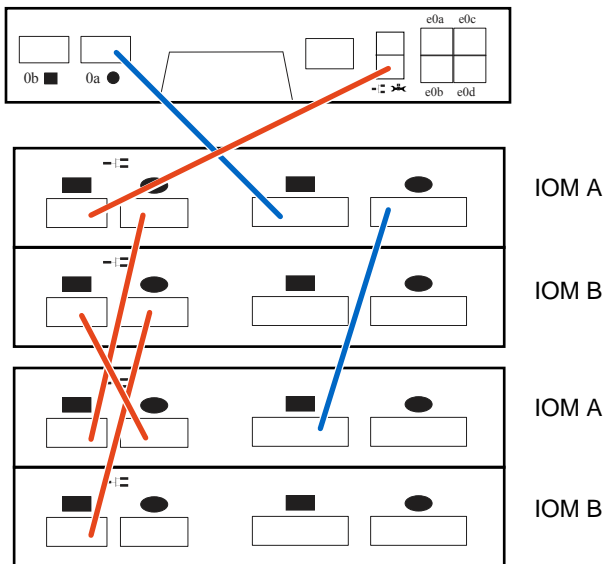
	The red cables are Ethernet ACP connections.
	The blue cables are SAS disk shelf connections.
	The black cables are SAS tape drive connections.



Configuration details	Configuration used
Storage protocol	NFS, CIFS, iSCSI
Controller resiliency	HA pair
External storage	External SAS
Disk shelf connection redundancy	Single-path
Backup device	Single-path SAS tape backup device

Example 5: Stand-alone controller with SAS shelves (single-path)

The FAS2220 systems can be configured as stand-alone controllers with an external stack of SAS disk shelves, with single-path connectivity. Although the single-path connections provide less resiliency than a dual-path configuration, Data ONTAP does not display the intermittent alert messages that appear when a dual-path configuration is used.

Note: This configuration is not recommended for shelves with SSDs.



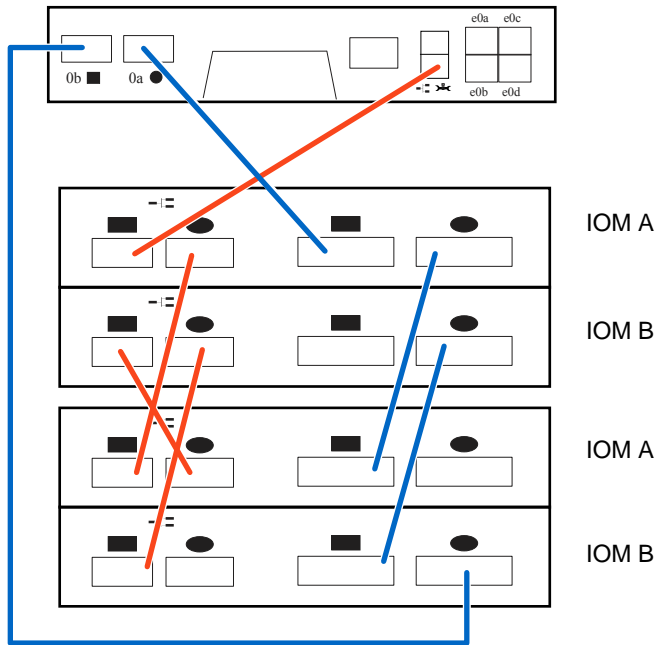
	The red cables are Ethernet ACP connections.
	The blue cables are SAS disk shelf connections.



Configuration details	Configuration used
Storage protocol	NFS, CIFS, iSCSI
Controller resiliency	Stand-alone
External storage	External SAS disk shelves
Disk shelf connection redundancy	Single-path
Backup device	None

Example 6: Stand-alone controller with SAS shelves (dual-path)

The FAS2220 system can be configured as a stand-alone controller with dual-path connectivity to external SAS storage. This configuration provides more resiliency than the single-path configuration, but Data ONTAP displays intermittent alert messages that the system is in a mixed-path configuration.

Note: This configuration is not recommended for shelves with SSDs. If you have SAS disk shelves with SSDs, the shelves with the SSDs should be the last shelves in the stack and connect to the 0b port on each controller.



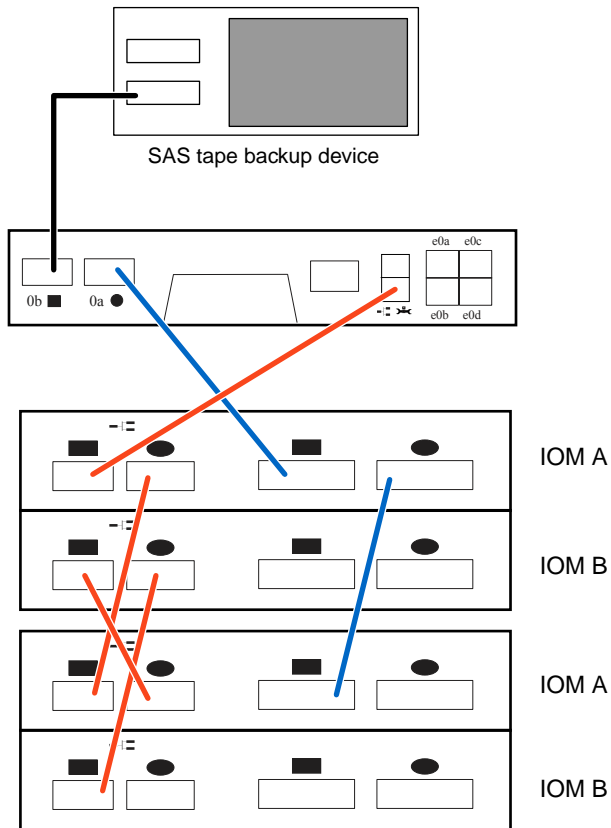
	The red cables are Ethernet ACP connections.
	The blue cables are SAS disk shelf connections.




Configuration details	Configuration used
Storage protocol	NFS, CIFS, iSCSI
Controller resiliency	Stand-alone
External storage	External SAS disk shelves

Configuration details	Configuration used
Disk shelf connection redundancy	Dual-path
Backup device	None

Example 7: Stand-alone controller with SAS shelves (single-path) and tape backup

The FAS2220 system can be configured as a stand-alone controller with single-path connections to a stack of SAS disk shelves and a SAS tape backup device.



	The red cables are Ethernet ACP connections.
	The blue cables are SAS disk shelf connections.
	The black cables are SAS tape drive connections.

Configuration details	Configuration used
Storage protocol	NFS, CIFS, iSCSI
Controller resiliency	Stand-alone

Example 7: Stand-alone controller with SAS shelves (single-path) and tape backup | 13

Configuration details	Configuration used
External storage	External SAS disk shelves
Disk shelf connection redundancy	Single-path
Backup device	SAS tape backup device

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