

Network Topology

When you initially configure the arrays, you are prompted to choose a network topology. The selection that you make enables the setup wizard to assist in making the optimal networking choices:

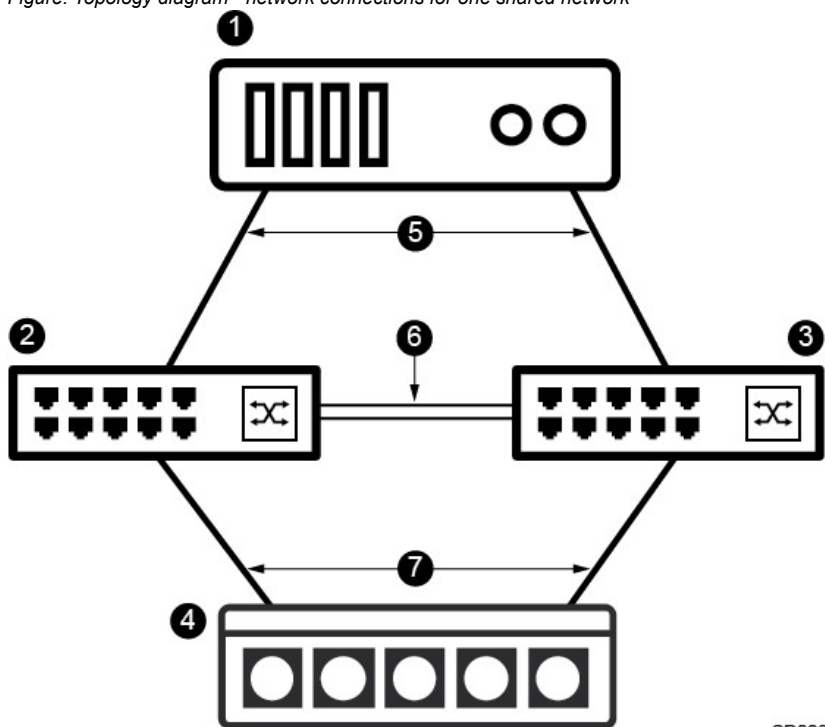
- One shared network
- Two dedicated networks
- Advanced network configuration
- Dual Fabric Fibre Channel

IMPORTANT: The following diagrams are conceptual examples of the network connections you might use for each topology. These diagrams are not intended to show a complete set of connections.

One Shared Network

In this configuration, the management and data traffic share the same physical network interfaces. If more than one switch is used in this configuration, the switches must be connected to each other by an inter-switch link or trunk port, or they must be configured in a single switch stack if supported by the switch manufacturer. You may want to consider this configuration if you have only one network or if your data traffic is low enough that adding management traffic does not affect the LAN.

Figure: Topology diagram - network connections for one shared network



CD008

1. Host/server
2. Ethernet switch 1
3. Ethernet switch 2
4. Array
5. Host data/management connections
6. Inter-switch link
7. Array data/management connections

Two Dedicated Networks

In this configuration, management traffic and data traffic are separated into two subnets. Management traffic uses the ports assigned to the management subnet. All other subnets are designated as data only. Two switches for the management traffic and two switches for the data traffic are recommended for redundancy and high availability. Multiple switches carrying a particular subnet must be connected with an inter-switch link, trunk port, or switch stacking modules. If that subnet is assigned to a particular VLAN, the inter-switch link or trunk port must allow that VLAN.

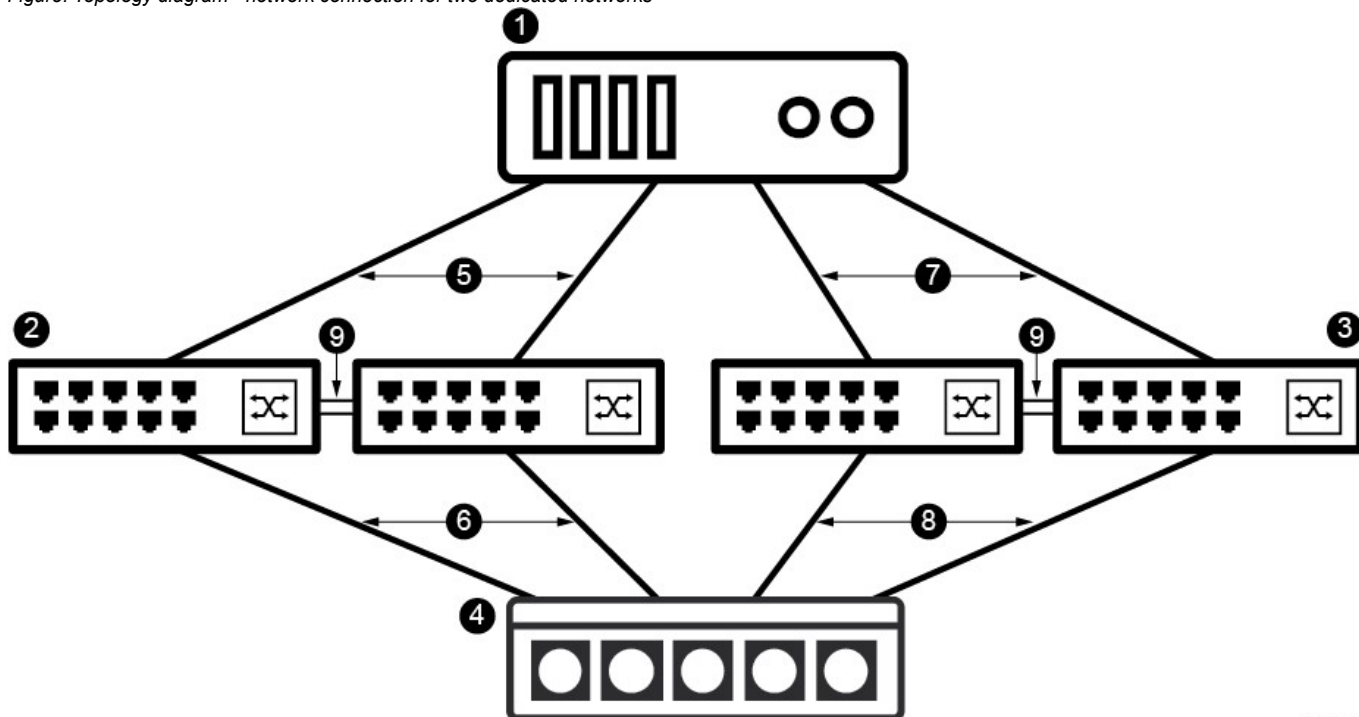
This configuration option is probably best in cases where security is an issue, where network administrators do not need access to data traffic, where the amount of data traffic is such that it has a dedicated network, or where the network for data traffic is completely separate from the management network.

Choose this option:

- To limit iSCSI traffic to 10Gb interfaces
- To isolate the subnets for network security

- If you want a dedicated broadcast domain reserved for iSCSI traffic

Figure: Topology diagram - network connection for two dedicated networks



CD010x

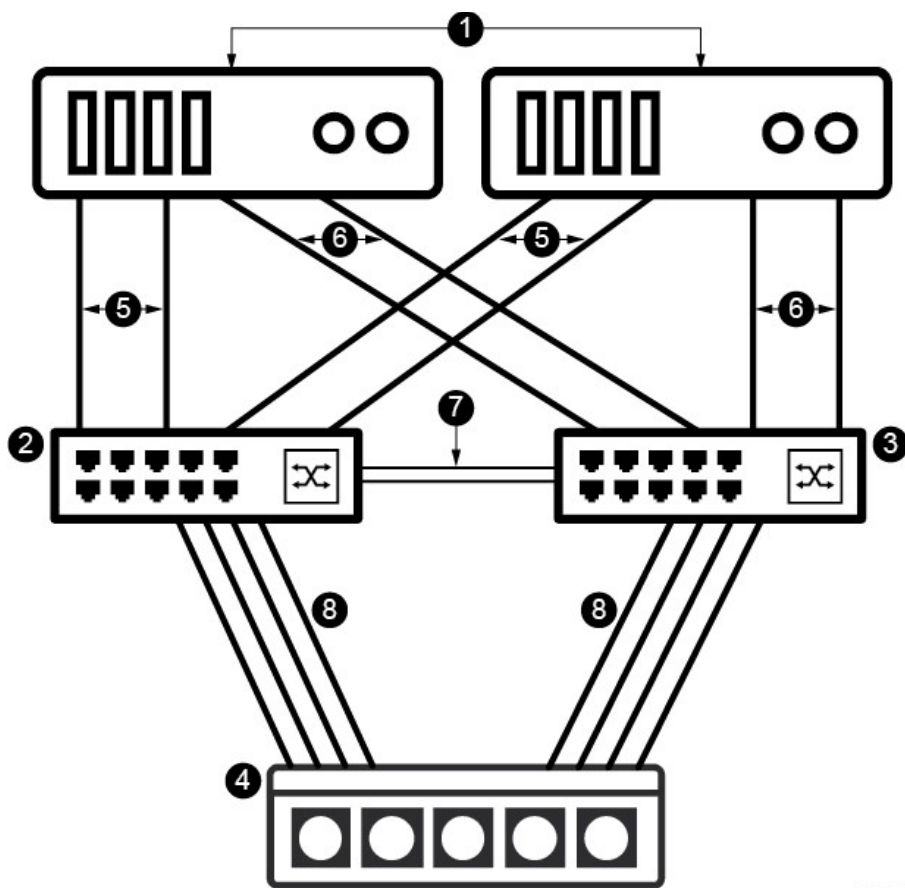
1. Host/server
2. Ethernet switch (management)
3. Ethernet switch (data)
4. Array
5. Host management connections
6. Array management connections
7. Host data connections
8. Array data connections
9. Inter-switch link

Advanced Network Configuration

From the **Advanced and advanced multipath requirements** selection of the setup wizard, you can define a configuration for a dedicated management port or define any number of ports to handle the desired I/O flow. The advanced network configuration allows the greatest flexibility to suit your network traffic and advanced multipath requirements.

This particular example shows the management and data paths on different networks. Data ports are connected to subnets that carry iSCSI traffic, and you can add more data connections to additional ports as needed. Note that the subnet addresses in the illustration are just examples. This arrangement enables the maximum data throughput by isolating management traffic from the data.

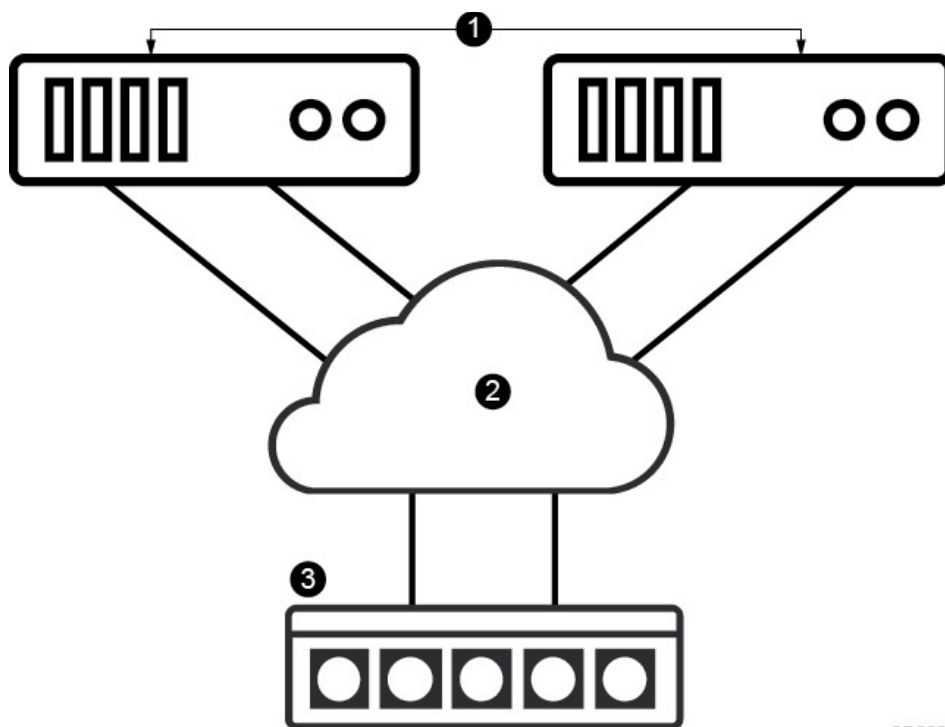
Figure: Topology diagram - advanced network configuration, data connections



CD004

1. Host/server
2. Ethernet switch 1, subnet 10.10.30.x/24
3. Ethernet switch 2, subnet 10.10.20.x/24
4. Array
5. Host data connections, switch 1
6. Host data connections, switch 2
7. Inter-switch link
8. Array data connections

Figure: Topology diagram - advanced network configuration, management connections



CD006

- 1. Host/server
- 2. Management network
- 3. Array

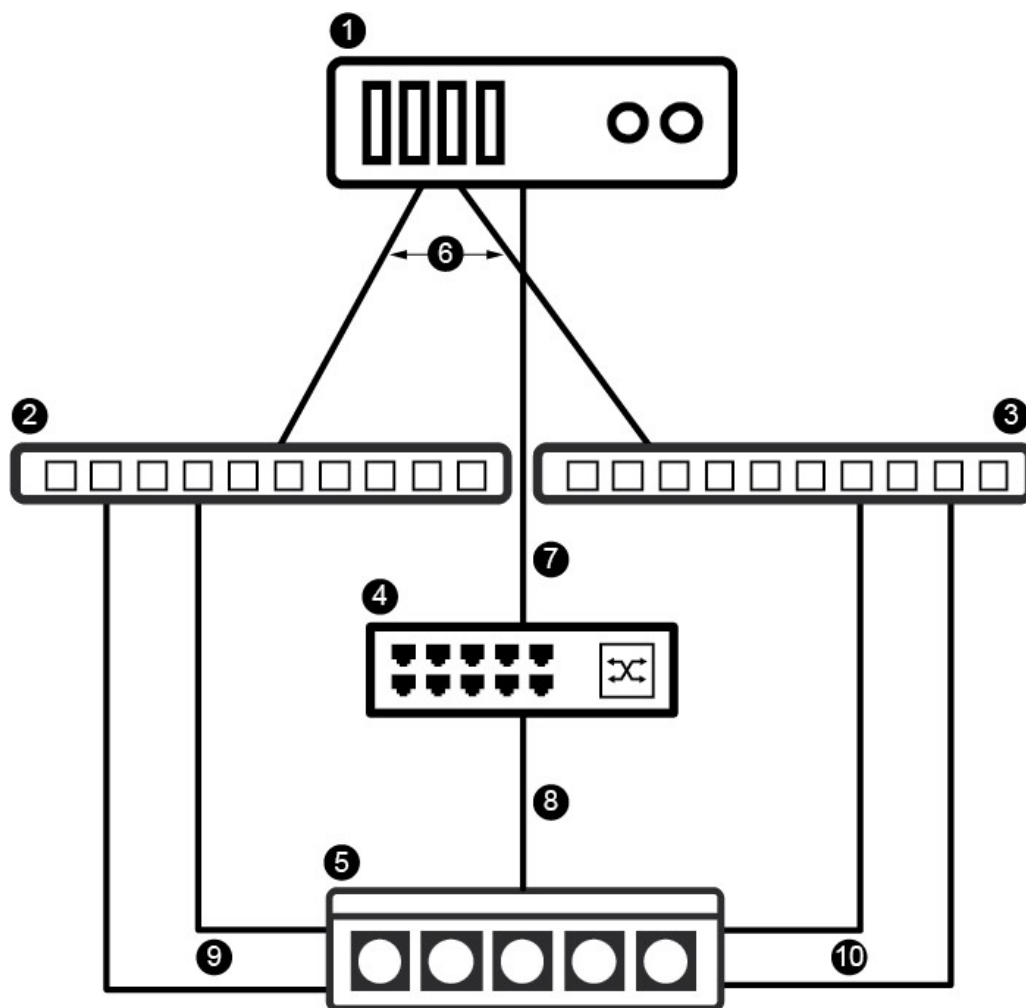
Dual Fabric Fibre Channel

In this configuration, two Fibre Channel ports on a host HBA are connected to two separate Fibre Channel switches, with each Fibre Channel switch connected to both controllers on the array. The host management port and the controller management ports are connected through an Ethernet switch.

This configuration provides redundant paths for Fibre Channel traffic. If one of the host Fibre Channel ports fails, or one of the Fibre Channel switches fails, the host remains connected to both controllers through the remaining host Fibre Channel port or Fibre Channel switch, and Fibre Channel traffic continues uninterrupted.

Note that only one data connection is shown. You can add more connections and use different ports as needed.

Figure: Topology diagram - network connections for dual fabric Fibre Channel



CD015

1. Host/server
2. Fibre Channel switch 1
3. Fibre Channel switch 2
4. Ethernet switch
5. Fibre Channel array
6. Host data connections
7. Host management connections
8. Array management connections
9. Data fabric 1 connections
10. Data fabric 2 connections