

Planning and Implementing a SAN

This three-day intensive course examines the planning and implementation of a storage area network (SAN). The SAN infrastructure facilitates storage consolidation, data sharing, server clustering, Local Area Network (LAN)-free and server-free backup across heterogeneous host server platforms.

- Focus on the planning and implementation considerations associated with establishing the Storage Area Network (SAN) infrastructure.
- Discuss functions provided by the SAN fabric components, such as Fibre Channel (FC) host bus adapters (HBA), FC switches and directors, and Small Computer System Interface (SCSI) to FC protocol converters. Explore the interdependencies of these components.
- Examine mechanisms to implement resource access control for data access integrity among heterogeneous hosts in a storage networking environment.
- Examine FC services, such as login processes, name server, addressing, loop initialization and arbitration, frame routing, and registered state change notification, as they relate to configuring the SAN infrastructure
- Plan for implementation of SAN interconnect components, such as FC HBAs, SAN switches and directors (b-type, m-type), and the Cisco Metadata Server (MDS) directors and switch by reviewing their default configurations and assessing tailoring options
- Plan for implementation of resource access control to ensure data integrity by using zoning interfaces in the SAN switches and directors (b-type, m-type), and the Cisco MDS directors and switches
- Interpret topology, routing, and trunking data displayed by switch management interfaces

Audience

IT professionals who are assessing or planning to deploy a SAN. Requires prior knowledge of storage networking.

Topics

SAN infrastructure and data access

- Relate the storage networking infrastructure to host data access using file Input/Output (I/O) and block I/O protocols
- Identify control points, such as zoning and Logical Unit Number (LUN) masking, where resource access control for data access integrity can be implemented in a SAN environment
- State the purpose of FC services provided by FC switches such as login server, name server, zoning, and registered state change notifications

- Identify the functions of the FC host bus adapter as it relates to host I/O access and to the SAN fabric
- State the purpose of the login process and differentiate among fabric login, port login, and process login
- Correlate HBA discovered and reported devices from the fabric with host display interfaces

FC switches and directors - Brocade (b-type)

- Plan for the implementation of the SAN switches and directors (b-type and m-type), and the Cisco directors and switch by reviewing default configuration parameters and tailoring options
- List the steps necessary to set up and use the Brocade Web Tools Graphical User Interface (GUI)
- Describe switch port interfaces and port initialization
- Interpret topology, routing, and trunking data displayed by switch management interfaces for a given fabric
- Plan and implement switch zoning to restrict any-to-any data access and ensure resource access integrity

FC switches and directors - McDATA (m-type)

- Plan for the implementation of the SAN switches and directors (b-type, m-type), and the Cisco directors and switch by reviewing default configuration parameters and tailoring options
- List the steps necessary to set up and use the McDATA EFC Manager
- Describe switch port interfaces and port initialization
- Interpret topology, routing, and trunking data displayed by switch management interfaces for a given fabric
- Plan and implement switch zoning to restrict any-to-any data access and ensure resource access integrity

FC switches and directors - Cisco MDS

- Plan for the implementation of the SAN switches and directors (b-type, m-type), and the Cisco directors and switch by reviewing default configuration parameters and tailoring options
- List the steps necessary to set up and use the Cisco Fabric Manager user interfaces
- Describe switch port interfaces and port initialization
- Interpret topology, routing, and trunking data displayed by switch management interfaces
- Plan and implement switch zoning to restrict any-to-any data access and ensure resource access integrity

Course summary and introduction to design

- Identify SAN exploitation goals and technical issues to be considered when designing a SAN

- Explore options available to configure multiple switches for supporting server to storage access requirements
- List one series of steps to follow when designing a SAN infrastructure
- Assess server requirements versus storage subsystem capabilities
- Build a fabric based on server and storage bandwidth estimates