



# Storage Area Networking Fundamentals

Code: SN71G

5 days

## Course Overview

The storage area network (SAN) infrastructure facilitates storage consolidation, data sharing, server clustering, LAN-free and server-less backup across heterogeneous host server platforms. This course focuses on the planning and implementation considerations associated with establishing that SAN infrastructure. Functions provided by SAN fabric components, such as Fibre Channel host bus adapters (HBAs), Fibre Channel switches and directors, and SCSI to Fibre Channel protocol converters are discussed, and the interdependencies of these components are examined. Mechanisms to implement resource access control for data access integrity among heterogeneous hosts in a storage networking environment are also examined.

## Who Needs To Attend

This intermediate course is for personnel who are assessing and planning to deploy a storage area network.

## Course Details

## Topics Include

- Examine Fibre Channel 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 the implementation of SAN interconnect components, such as Fibre Channel HBAs, the IBM TotalStorage SAN switches and directors and the Cisco directors and switches by reviewing their default configurations and assessing tailoring options
- Plan for the Implementation of resource access control to ensure data integrity by using zoning interfaces in the IBM TotalStorage SAN switches and directors and the Cisco MDS 9000 directors and switches
- Interpret topology, routing, and trunking data displayed by switch management interfaces for a given fabric
- Describe Converged Enhanced Ethernet
- Explain why Converged Enhanced Ethernet is needed
- Describe the additional capability Converged Enhanced Ethernet provides
- Compare the overhead for SCSI traffic using Fibre Channel over Ethernet, TCP/IP, and fibre
- Describe the basics of Fibre Channel over Ethernet

- Explain the advantages and disadvantages of Fibre channel over Ethernet
- Explain the different terminology used with Fibre Channel over Ethernet
- Describe the challenges associated with data center networking and the need for switch network convergence
- Describe the DCN, j-type, b-type, and Cisco switches
- Discuss when one switch solution would be better for a given circumstance

## Course Outline

### Day 1

- Unit 1: Evolution of storage area networks
- Unit 2: Fibre Channel

### Day 2

- Unit 3: Fibre Channel switches and directors: Brocade (b-type)
- Unit 4: Brocade DCFM

### Day 3

- Exercises

### Day 4

- Unit 5: Fibre Channel switches and directors: Cisco MDS
- Exercises

### Day 5

- Unit 6: Converged Enhanced Ethernet
- Unit 7: Fibre Channel over Ethernet
- Unit 8: Data center networking

## Prerequisites

Completion of course *Introduction to Storage Networking (SN700)* **or** equivalent knowledge base is a must. This course assumes that you understand basic SAN knowledge.