TechyEdz Solutions
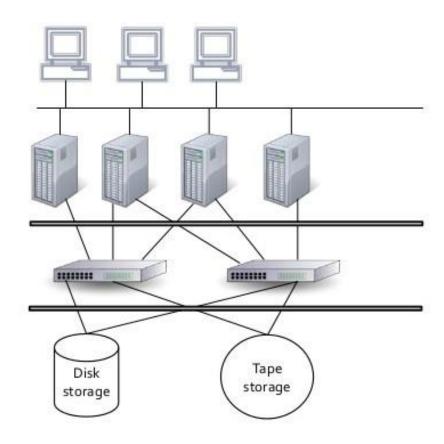
Training | Consulting | Developement | Outsourcing

NetApp SAN and Storage Fundamentals

SAN and Storage Fundamentals (SFUN)

Course Overview:

This course gives an overview of the design and concepts of storage technology as well as covering vendor specific features and protocols. 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

Course Outline:

Introduction and Overview

Storage media

- Small Computer System Interface (SCSI)
- Fiber Channel (FC)
- Serial Attached SCSI (SAS)
- (Serial) Advanced Technology Attachment (ATA/SATA)
- Solid State Drive (SSD) and Flash
- Tape
- Tiering
    - Hierarchical Storage Management (HSM)
    - Information Lifecycle Management (ILM)
    - AutoTiering
    - Virtual Storage Tiering
- Efficiency
    - Compression
    - Dedupe
    - Cloning
    - Storage Virtualization

Storage types and protocols

- DAS
- NAS
  - Ethernet (Medium)
  - Network File System (NFS)
  - HTTP Representational State Transfer (REST)
  - Server Message Block (SMB)/ Common Internet File System (CIFS)
- SAN
  - Fiber Channel (Medium)
  - Fiber Channel Protokoll (FCP), Fibre Channel over Ethernet (FCoE)
  - SCSI via IP (iSCSI)
- Unified Storage
  - Gateway
  - Unified
- Objects
- Cloud
  - Cloud Data Management Interface (CDMI)

Backup/DR

- local
  - Snapshot-Space (COW – Copy-on-Write, COFW – Copy-on-First-Write)
  - Pointerbased
- remote
  - Synchronicity (sync, semi-sync, asynchron, log-shipping)
  - Methodology (BCV – Business Continuancy Volumes, Mirror, Vault)
- Cloud
- immutable

Security, Monitoring and Management

- Security
  - Design
  - In-Flight (IP-SEC, NFS-Kerberos/Privacy)
  - At-Rest (Encrypting Disks, Cryptainer)
- Monitoring

- Simple Network Management Protocol (SNMP)
  - Management
    - Storage Management Initiative Specification (SMI-S)

Vendor comparison

- SAN (EMC Clariion, EMX VMAX, NetApp FAS/V-Series 7-Mode, NetApp E-Series)
- NAS (EMC Celerra VNX/VNXe, NetApp FAS/V-Series 7-Mode, HDS BlueArc)
- Scale-Out (IBM SONAR, EMC Isilon, NetApp FAS Cluster-Mode, HP Ibrix, Panasas, Dell Exanet, Lustre, NetApp StorageGrid & E-Series)
- Integrated Stacks (Dell vStart, HP VirtualSystem, NetApp/Cisco FlexPod & ExpressPod, VCE block)

Prerequisites:

- Networking & TCP/IP Fundamentals (NWF) and Troubleshooting TCP/IP Fundamentals (TTCP) or similar knowledge of networking technologies.

Who Can attend:

- Entry level storage technicians who need an overview of the structure and concepts of modern storage technologies.

Number of Hours: 30hrs

Key Features:

- One to One Training
- Online Training
- Fastrack & Normal Track
- Resume Modification
- Mock Interviews
- Video Tutorials
- Materials
- Real Time Projects
- Virtual Live Experience

↳ Preparing for Certification