



SNIA Storage Networking Management & Administration

Course Code – S10-201

Duration: 40 Hrs

About SNIA:

The Storage Networking Industry Association (SNIA) INDIA is a non-profit organization spanning Virtually the entire storage industry in India. SNIA members share the common goal of advancing the adoption of storage networks as complete and trusted solutions. To this end, the SNIA is uniquely committed to delivering standards, education and services that will propel open storage Networking solutions into the broader market. SNIA conducts major storage industry events and offers services like education, training, certification and tutorials to its members. To help Professionals in getting SNIA certifications and creating a pool of storage networking experts.

Course Overview:

The Storage Administrator has emerged as a challenging role. Both business and government are on Quests to acquire, retain and mine massive amounts of data. The role's challenge takes three forms manage daily growth, implement new technology, and maintain IT governance. As a result the Discipline of caring for data at rest, in transit and at the point of use has grown to be important and Visible.

Annually, the storage administrator will add 52% more storage, refresh 38% of the current Infrastructure, applies four microcode changes per component, do backups and perform many small Changes while keeping up on new technology. They manage 81 to 125TB of usable storage per Person in 25% of their time and interface with 8 to 40 people 75% of the time. The other people are indirect storage administrators including developers, application and database administrators Who each spend 5-12% of their time on storage issues? Storage is a serious business.

Storage administration is not just knowledge of terms or vendor specific hardware; it is a serious Process. The processes include understanding all of the administrative, monitoring, data collection, Security, troubleshooting, and recovery tasks for each component. Because business depends on These storage solutions, it also requires understanding recovery at an application and database level In the context of business purpose and criticality. This course will help you take a systematic Approach to administrative tasks.

Course Objectives:

The primary objective of this course is to develop technique the storage infrastructure using current and emerging technologies. It will also help you to ask the right questions of others with storage responsibilities. The course provides a set of practical approaches required to help new and experienced storage administrators and managers do their job better.

Objectives include:

- **Storage Network Administration**
- **Applied Fibre Channel Protocol**
- **SAN Performance Management**

- **Storage Network Management**
- **Manage NFS and CIFS**
- **Backup and Recovery**
- **Business Continuity**
- **Fibre Channel Security**

Storage Network Administration

Storage Network Administration Identify criteria and steps used when planning for growth in a Fibre Channel SAN. Describe steps for allocating storage in a SAN. Create storage layouts using criteria including partitioning, data protection and security. Identify and plan for connectivity. Create SAN implementation policy objectives. Determine port assignments.

Applied Fibre Channel Protocol

Describe the process steps required to bring a SAN environment from an uncontrolled to controlled status. Troubleshoot SAN failures caused by configuration errors. Discuss the port login, fabric login and process login as they relate to common implementation trouble shooting issues.

SAN Performance Management

Describe methods of assessing the performance of a storage network. Develop and follow steps leading to problem resolution. Identify capacity and throughput understanding of performance considerations of the fabric when used to interconnect arrays the fabric when used to interconnect arrays (internal and external) and the impact on caching, connectivity, and bandwidth. Establish performance baselines. Describe monitoring for storage device ports and ISLs. Determine the bandwidth requirements, impact of local and remote replication techniques on local and extended fabrics.

Storage Network Management

Optimize redundancy within a switched environment. Describe parameters and relationships. Determine methodologies or tools to troubleshoot volume management issues. Identify steps used to configure a switch in an existing fabric. Determine reasons add or remove ISLs. Identify the processes that occur on a switch during a fabric merge. Calculate storage network device latency and propagation delay. Identify performance considerations of fan-in, fan-out and homogenous OS access. Describe the advantages and disadvantages to ISL over-the advantages and disadvantages to ISL over-subscription. Describe between long-wave and short-wave fibre at various speeds. Identify the steps required to assign a LUN to a fibre-channel port using SMI-S specific language. Discuss the process of used to create and modify zones and zone sets. Identify steps to expose a LUN to a specific host HBA and its implications on the fabric.

Identify possible zoning conflicts that could cause fabric segmentation. Determine methodologies or tools to troubleshoot zoning issues. Describe the steps required to effectively monitor capacity.

Manage NFS and CIFS

Implement network attached storage. Identify steps establish NDMP. Discuss and identify bottlenecks and determine how to correct. Identify user management Implement automated procedures including virus scan, file replication and deduplication.

Backup and Recovery

Identify steps to restore data from a backup. Discuss and identify bottlenecks and how to correct them as it pertains to backup and recovery. Analyze backup configurations to identify potential problems. Determine database components and configurations to satisfy a backup and recovery solution. Identify steps to track error logs within the operating system for backup and recovery messages.

Business Continuity

Identify methods of implementing business recovery solutions using Fibre channel extension. Describes component used as part of a business continuance solution. Select information protection solutions using Fibre Channel. Identify the steps required to implement clustering, in particular, preventing single points of failure. Demonstrate how to perform data transfers, migrations and replication.

Fibre Channel Security

Implement port authentication protocols. Identify steps to secure a fabric. Discuss the differences between hard and soft zoning with respect to security. Configure secure management access to Fibre switches.

Who Should Attend this Course

Everyone responsible for storage service delivery and support for new and existing storage products and services; this typically includes both new and experienced development, administration, implementation, delivery, support and management staff. Staff members required this course essential.