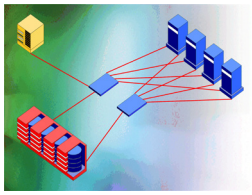


SNIA Storage Networking Management & Administration

SNIA CERTIFIED SYSTEMS ENGINEER (SCSE)

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, apply 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/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 highlights storage administration in vendor neutral terms. It covers best practices across storage capabilities and disciplines. Using a recipe format, it discusses the rationale of tasks, decisions and sequence from an operations and emergency context. It integrates them to help you support real solutions. The setting is practical and applied with the goal of helping students do their tasks within the IT or storage team.

Objectives

The primary objective of this course is to develop technical knowledge and skills required to effectively manage 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 to do their job better. The objectives include:

- Storage Network Administration
- Applied Fibre Channel Protocol
- Performance
- Storage Network Management
- Business Continuity
- Backup and Recovery
- Fibre Channel Security

Audience

Everyone responsible for storage service delivery and support for new and existing storage products and services; this includes new and experienced development, administration, implementation, delivery, support and management staff. Staff members required to complete the internationally recognized SNIA S10-201 Storage Networking Management and Administration examination will find this course essential.

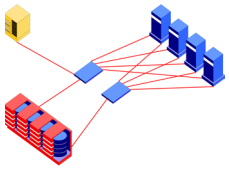
Prerequisites

S10-101 Storage Network Fundamentals. A basic level of IT literacy including at least six (6) months experience in IT and/or Storage Networking Operations. Advanced computer skills and knowledge in at least one operating system. Technical skills as a team member to develop complex solutions. Both a non-disclosure agreement and license agreement are required.

Next Course

S10-300 Technical Assessment, Planning and Design

Course Code:	**SNIA S10-201**
Duration:	2 days
Price:	1,095.00 GBP+GST
Includes:	Course Material



SNIA Storage Networking Management & Administration

Course Contents

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.

Performance
Describe methods of assessing the performance of a storage network. Develop and follow steps leading to problem resolution. Identify capacity and throughput problems. Demonstrate understanding of performance considerations of 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.

Business Continuance
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.

Storage Network Management
Optimize redundancy within a switched environment. Describe HBA configuration parameters and their importance 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-subscription. Describe distance limitations 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 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.

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.

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.

Examination

Examinations leading to **SNIA CERTIFIED SYSTEMS ENGINEER (SCSE)** are held on all continents. Possession of this certificate is mandatory for all candidates who wish to reach 'full certification' as a **SNIA CERTIFIED STORAGE NETWORKING EXPERT**.

SNIA SCSE Certified Storage Engineer

Certificate Advantages

1. Certification insures that staff has a benchmarked level of knowledge and skill.
2. Some skills required in the exam are not skills that you have opportunity to use daily. The exam becomes a way to prove to yourself and others that you are prepared to do these more difficult tasks.
3. Recruiting and retention are simplified.
4. A mandatory requirement for some organizations. Customers of IT Storage Services are demanding that their suppliers have a 'license to operate'.
5. More than 2,000 professionals now hold the qualification.

KNOWLEDGE TRANSFER