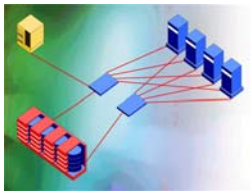


SNIA SAN & Storage Management Survival Skills

a.k.a., Hands-on SAN, a.k.a., SAN Boot Camp

SNIA CERTIFIED PROFESSIONAL (SCP)

SNIA CERTIFIED SYSTEMS ENGINEER (SCSE)

Overview

The Storage Administrator has emerged as a challenging role. The challenge takes three forms: manage daily growth, implement new technology, and maintain IT governance. Caring for data at rest, in transit and at the point of use has grown to be important and visible. People filling this role must demonstrate integrated literacy and skill across storage disciplines.

Given the total raw capacity of any environment, 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. Success depends on repeatable execution.

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 understand, manage and use storage infrastructure 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
- Interfaces (SCSI, FC, iSCSI)
- DAS, SAN, NAS, CAS, IP
- Data Protection
- Replication
- SNIA Shared Storage Model
- FC protocol, administration, security
- Backup and Recovery
- Data Management
- Business Continuity and D/R
- Virtualization
- Performance

Audience

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 to complete the internationally recognized SNIA S10-101 Storage Network Foundations and SNIA S10-200 Storage Networking Management and Administration examination will find this course essential.

Prerequisites

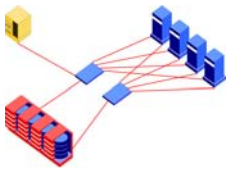
A basic level of IT literacy including at least six (6) months experience in IT and/or Storage Networking Operations. Advanced computer skills and knowledge in at least one operating system. Technical skills as a team member to develop complex solutions. A course specific non-disclosure agreement is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

Next Course

S10-300 Technical Assessment, Planning and Design

Course Code:	**SNIA S10-210**
Duration:	5 days
Price:	$4,845.00 NZD[1]
Includes:	Course Material

[1] Price is subject to change without notice and is localized on a per country basis.



SNIA Storage Area Network & Storage Management Survival Skills

Course Contents

Storage Technologies
Concepts and components, controllers, cache, arrays and tier strategies. ATA, SCSI, FC, SATA and SAS interfaces. SCSI protocol information relevant to administrative operations. Cache strategies. Differentiate between DAS, SAN, NAS, CAS and IP architectures. Data protection, including RAID levels. Storage Services at host, array and network layers, not limited to local and remote replication, continuous data protection and virtualization. SNIA Shared Storage Model and its relationship to all components.

Fibre Channel (FC)
Concepts and components including switches, bridges, hubs, channel extension, cabling, and host bus adapters. FC protocol information relevant to administrative operations. Topologies. Planning for growth and redundancy. Process for adding hosts, arrays, tape, and fabric components. Zoning and LUN masking. Troubleshooting. Distance solutions. Security.

Storage Arrays
Concepts and components, parameters, architectures and their relationship to hosts and fabrics.

IP Storage
Describe IP networking storage general concepts including protocol differentiation. Identify advantages and disadvantages of using IP Storage Networking. Describe iSCSI implementation concepts. Demonstrate understanding of IP Storage Networking enabled technologies. Identify risks. Describe selection criteria for IP Storage Networking solutions.

NAS
Describe NAS concepts. Identify advantages and disadvantages of using NAS technology. Compare and contrast NFS and CIFS protocols. Describe NAS operating system characteristics. Identify NAS backup and recovery risks.

Backup and Recovery
Concepts and components. Identify backup methods and their impacts. Identify performance bottlenecks and how to correct them. Analyze backup configurations to identify potential problems. Determine database components and configurations to satisfy backup/recovery scenarios. Apply special data management capabilities including local and remote replicas to backup and recovery.

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.

Storage Management
Describe storage management components and the relationship of device and network management. Identify performance management risks created by management infrastructure. Describe common elements; their instrumentation points and the relationship to SMI-S enabled products. Identify SMI-S components and relationships. Describe the SMI-S product certification process.

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.

Examination

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

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 400 professionals now hold the combined qualification.

KNOWLEDGE TRANSFER