

# SNIA



## Storage Network Foundations

SNIA CERTIFIED PROFESSIONAL (SCP)

### Overview

Explosive information growth has resulted in a people shortage. Many individuals have taken storage product training. However, few people understand the breadth of storage capabilities. Still fewer understand the basic building blocks that underpin those capabilities. As a result, it is difficult to find people with an integrated literacy across storage disciplines.

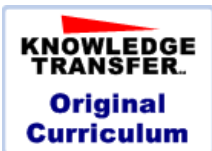
Balanced technical breadth enables the storage administrator to improve problem-solving skills while gaining transferable technical depth. Broad fundamental knowledge enables the manager to understand limits and choose strategic direction. Both are no longer bound by vendor specific language, and in fact, they share a common storage industry language.

The many terms including SAN, Array, Migration, Replica and Clone, by name sound like characters in a science fiction movie. Understanding the terms composition, roles and interactions provide the foundation for developing and maintaining storage solutions. Business depends on these storage solutions. They are not just building blocks, they are put together certain ways to meet a purpose.

This course highlights storage technology in vendor neutral terms. It introduces fundamental storage capabilities and the building blocks that underpin those capabilities across storage disciplines. The setting is practical and applied to help the student participate in addressing storage issues as part of a multidisciplinary team.

### Objectives

The primary objective of this course is to develop fundamental technical knowledge and skills required to understand current and emerging data storage capabilities and infrastructures. 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:



- Basic Storage Technology
- Disk Technology
- SCSI
- FC SAN
- IP Storage
- NAS
- Virtualization
- Storage Management
- Data Management
- Continuity Management

### 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 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.

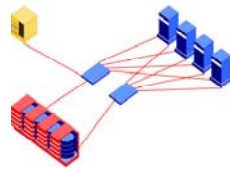
### Next Course

S10-200 Storage Administration  
S10-300 Technical Assessment, Planning and Design

Course Code:	<b>SNIA S10-101</b>
Duration:	3 days
Price:	25,000 INR <sup>1</sup>
Includes:	Course Material

<sup>1</sup> Price is subject to change without notice and is localized on a per country basis. Taxes may apply. Offered price may be subject to residency status.





## SNIA Storage Network Foundations

### Course Contents

#### Basic Storage Technology

Describe common storage elements including caching and I/O technologies. Differentiate between DAS, SAN, NAS, CAS and IP Storage networking architectures and environments. Demonstrate understanding of the SNIA Shared Storage Model. Describe RAID data protection strategies. Identify standards organizations.

#### Disk Technology

Identify disk components. Compare and contrast disk interface technologies. Describe capabilities and attributes of Mid-Tier and High-End storage arrays. Demonstrate understanding of disk controller features. Describe disk placement criteria within tiered storage models.

#### SCSI

Describe SCSI as architecture and physical interface including its relationship to end devices (disk, tape and robotics.) Identify advantages and disadvantages of using SCSI interface technology. Describe SCSI protocol elements. Demonstrate understanding of SCSI command and operations concepts. Identify implementation parameters.

#### FC-SAN

Describe FC-SAN general concepts. Identify advantages and disadvantages of FC SAN. Identify topologies and components. Describe protocols, classes of service and addressing. Demonstrate understanding of fabric-enabled technologies. Develop a response to a design scenario for distance extended SAN, demonstrating understanding of key concepts, costs, risks and implementation methods.

#### IP Storage Networking

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.

#### Network Attached Storage (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.

#### Virtualization

Define storage virtualization in terms of abstraction, transparency and taxonomy. Identify advantages, disadvantages and benefits of virtualization at various levels. Compare and contrast the virtualization placement and management. Identify taxonomy elements in terms of the Shared Storage Model. Describe virtualization enabled technologies, including snap, clone and replication. Identify criteria for selecting virtualization techniques in risk management terms.

#### 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.

#### Data Management

Describe data management concepts including backup and recovery, ILM, tiered storage and data placement based on usage. Compare backup techniques including network, snapshot, NDMP, backup to disk, backup to tape and tape virtualization. Describe backup design trade-offs as they relate to scalability, manageability and performance. Manage data in given scenarios, identifying techniques and risks.

#### Continuity Management

Identify steps using high availability and disaster recovery in a SAN infrastructure. Discuss the role of infrastructure resolution in backup recovery and disaster recovery scenarios.

### Examination

Examinations leading to **SNIA CERTIFIED PROFESSIONAL (SCP)** 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**.



#### Certificate Advantages

1. Certification insures that staff has a benchmarked level of knowledge and skill.
2. Recruiting and retention are simplified.
3. Possession of an internationally recognized competence certificate is a personal achievement that will help foster commitment and increase job satisfaction.
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.