SNIA Architect – Assessment, Planning & Design (S10-300) Exam Description



This exam will test the candidate's knowledge of assessments, planning and design from a storage networking perspective. This exam will validate that the successful candidate can architect a solution leveraging industry best practices and standards including ITIL (Information Technology Infrastructure Library) and ITSM (IT Service Management) principles. This test will not cover basic concepts and technologies.

This test is designed for the Solutions Architect who examines data and information requirements from a business perspective and responds with a solution, defined as a hardware and software architecture that meets the requirements.

In a sales engineering role, they prepare detailed implementation plans in association with and for execution by implementation specialists.

The solution architecture has broad knowledge of Storage concepts, interoperability of storage networking with detailed implementation knowledge. They also can design best storage practices in the context of a client's infrastructure.

Suggested pre-requisite exam: SNIA Storage Networking Foundations (S10-101)



Topic: Assessment

- ✓ Determine topology issues relevant to solution-focused design, including fabric, loop, and point-to-point (SAN).
- ✓ Determine disaster recovery issues relevant to solution-focused design.
- ✓ Determine high availability issues relevant to solution-focused design (e.g., SAN redundancy, SAN failover, load balancing, quality of connection).
- ✓ Determine the performance issues relevant to solution-focused design (e.g., random access, sequential access, fan-in/fan-out ratios, etc.)
- ✓ Determine LAN-free/server-free issues relevant to solution-focused design (e.g., LAN Free/Server free, HSM backup configurations and strategy, etc.)
- ✓ Assess the existing infrastructure prior to designing an FC SAN solution. Consider bandwidth, throughput, resilience, redundancy, compatibility, scalability, protocol (FICON, SCSI, and IP) and extended fabrics.
- ✓ Assess existing hardware and software prior to designing a SAN or NAS solution. Consider OS and platforms, storage [tape, disk/RAID], application and management software.
- ✓ Assess distance limitations prior to designing a SAN or NAS solution.
- ✓ Assess current storage prior to designing a SAN or NAS solution.
- ✓ Validate the design of SAN solutions (e.g., given a proof of concept).
- ✓ Evaluate and specify hardware capabilities and software functionality to be used in SAN or NAS architectural solutions.
- ✓ Perform needs assessment and determine Gap Analysis Solution by leveraging ITIL and ITSM principles.
- ✓ Document the impact of I/O bus, HBA and storage directors on system performance leveraging ITIL
- ✓ Document risk acceptance criteria leveraging ITIL
- ✓ Verify a user's capacity plan requirements work by sizing a new storage array.
- ✓ Assess the existing infrastructure to designing an IP SAN solution. Consider bandwidth, throughput, resilience, redundancy, compatibility, scalability, protocol, (FICON, SCSI, and IP) and extended fabrics.

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Topic: Planning

- ✓ Plan for storage and server consolidation.
- ✓ Create Capacity Planning processes and procedure for a SAN solution.
- ✓ Build and document operating procedures for implementing storage solutions.
- ✓ Build and document a job flow sequence for managing backup strategies.
- Create a checklist to call out the procedures for the data management life cycle (architecture, planning, design, and implementation, from pre-sales to post-implementation).
- Develop principles of working within the data center to facilitate efficient and error free operations.
- ✓ Plan architecture solutions for scalability.
- ✓ Plan architecture solutions for capacity, including throughput /bandwidth.
- ✓ Plan architecture solutions for interoperability.
- ✓ Plan architecture solutions for security (e.g., LUN mapping, LUN masking, persistent binding, soft and hard zoning, etc.).
- ✓ Plan FC SAN solution to accommodate heterogeneous or homogeneous operating systems.
- ✓ Plan for the manageability of the SAN or NAS infrastructure.
- ✓ Plan SAN and NAS models (e.g., mesh, star, and hybrid configurations, core/edge, twotier/three-tier, 2 Gb/1Gb ports, hubs/switches/directors).
- Plan migrations to FC SAN solutions (interconnecting devices, from existing infrastructure to a new design).
- ✓ Create a Capacity Planning process and procedures for a NAS solution.
- ✓ Plan IP SAN solutions to accommodate heterogeneous or homogeneous operating systems.



Topic: Design

- ✓ Design high availability strategies.
- ✓ Design a storage area network within such constraints as financial, performance, hardware, connectivity, physical building limitations (leveraging ITIL and ITSM principles).
- ✓ Design a backup and recovery strategy.
- ✓ Design and document disaster recovery solutions.
- Demonstrate knowledge of Storage Management Design (and the design characteristics of a standard e.g., SMI, shared storage model).
- ✓ Given a scenario, design logical recovery strategies.
- ✓ Design fault tolerant solutions and strategies.
- ✓ Design failover solutions.
- ✓ Design clustering systems solutions.
- ✓ Define the steps to make a volume usable through a SAN.
- ✓ Design disk recovery methods.
- ✓ Design database to storage layout strategies.
- ✓ Design a NAS solution, defining the ipact on local and wide area network topologies.

Topic: Problem Resolution and Troubleshooting

- ✓ Create QA strategy and procedures (leveraging ITIL)
- ✓ Manage an error free operation through measurement criteria that are quantifiable (leveraging ITIL)