



EXAM DESCRIPTION

Hitachi Data Systems Certified Expert – Replication Solutions Architect HCE-3710 Exam

Description:	This test is designed for Hitachi Data Systems employees and partners who architect HDS replication solutions and develop proposals. The test will validate that the successful candidate has the knowledge and skills to assess, plan and design solutions proposals that meet the business needs of HDS customers. This includes strong knowledge of the HDS replication solutions and software portfolio, how systems integrate into customer environments and how they can best satisfy the customers' needs and meet their expectations. This test covers data replication software products including Hitachi Universal Replicator, Hitachi Thin Image, Hitachi ShadowImage In-System Replication, Hitachi TrueCopy Remote Replication, and global-active device.
Audience:	Hitachi Data Systems employee and partner solutions architects. HDS replication solutions architects examine customer-related data and information to assess requirements from a business perspective and respond with solutions, defined as a hardware and software architecture that meets the customer's business needs. In a pre-sales engineering role, they define the technical architecture and components of the solution according to solution-design best practices in the context of the client's infrastructure, and they apply the most recent technologies. In a storage engineering role and in association with implementation personnel, they present and propose initial deployment and support plans for the solutions. Solution architects have broad and in-depth knowledge of storage concepts, hardware and software technologies and offerings, and interoperability of storage networking.
Supporting material:	TXE0780 Hitachi Data Systems Architect – Business Continuity course (6h vILT)
Exam type:	Certification
Format:	Proctored, closed-book exam
Credential:	Hitachi Data Systems Certified Expert – Replication Solutions Architect
Delivery:	The exam is available through the Kryterion Webassessor system.
Questions:	60
Passing score:	70%
Duration:	90 minutes; 120 minutes for non-English-speaking countries
Cost:	US\$225

Test Objectives

Section 1	Understanding customer's business requirements and assessing the environment
1.1	Demonstrate which data and applications are being protected.
1.2	Identify the data that needs to be collected prior to designing a solution.
Section 2	Understanding replication architectures
2.1	Describe the concepts of point-in-time copies.
2.2	Describe how to manage point-in-time copies.
2.3	Describe the differences between continuous replication and point-in-time copy.
2.4	Describe the 3-data-center concepts.
2.5	Demonstrate how to design a replication solution that meets the customer's disaster-recovery requirements, and document implementation testing plans.
2.6	Describe how to design replication solutions either with Fibre Channel inter-switch links over distance, or with FCIP channel extenders.
Section 3	Analyzing workloads
3.1	Identify key elements of workload profiles.

3.2	Describe how to use workload data-collection tools.
3.3	Describe how to analyze and interpret workload data.
Section 4	Recommending the appropriate replication solution
4.1	Identify the replication solution that meets the customer's requirements.
4.2	Demonstrate how to position synchronous-replication solutions.
4.3	Demonstrate how to position global-active device solutions.
4.4	Demonstrate how to position Hitachi Universal Replicator solutions.
4.5	Describe the characteristics and benefits of ShadowImage and Thin Image replication solutions.
4.6	Demonstrate failover recovery techniques with Hitachi replication products.
4.7	Demonstrate failback operations with Hitachi replication products.
4.8	Describe when to integrate SAN extension.
4.9	Demonstrate how to leverage Hitachi replication products with iSCSI.
Section 5	Designing remote-replication solutions according to Hitachi Data Systems best practices
5.1	Identify throughput considerations when designing remote-replication solutions.
5.2	Demonstrate the relation between Hitachi Universal Replicator journal overflow and host performance.
5.3	Describe the effects of distance between arrays in synchronous and asynchronous replication.
5.4	Describe Hitachi Data Systems best practices for sharing replication links in replication solutions.
5.5	Describe how SOM settings can affect replication behavior.
5.6	Describe considerations when designing replication solutions with Hitachi Dynamic Provisioning and Hitachi Dynamic Tiering.
5.7	Identify the management and implementation methods available for deploying replication solutions.
Section 6	Sizing and optimizing replication solutions
6.1	Describe synchronous bandwidth and performance sizing.
6.2	Describe asynchronous bandwidth and performance sizing.
6.3	Describe point-in-time sizing for capacity and performance.
6.4	Demonstrate how to optimize replication-solution design by avoiding bottlenecks.
6.5	Identify cache sizing considerations for remote replication.
6.6	Identify methods to minimize initial copy time on Hitachi storage systems.