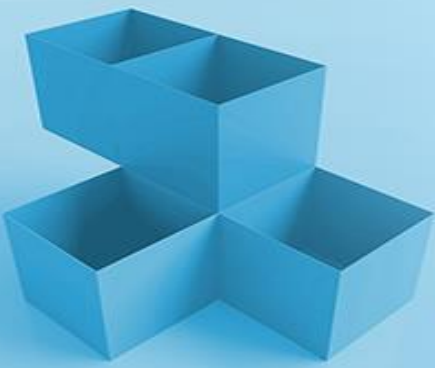


ONTAP MetroCluster FC Installation



Delivery: Instructor-Led Training (ILT)

Duration: 2 Days

Training Units: 24

Course Description

NetApp® MetroCluster software is a unique high-availability and disaster-recovery solution. In this course, you learn how to cable and set up a MetroCluster environment. Using active, participatory exercises, you practice the configuration and verification steps. You also learn how to identify component failures and practice recovery steps.

Audience

NetApp employees, partner professional service implementation engineers, and customers

Prerequisites

- Basic SAN knowledge
- Completion of an ONTAP Professional Compliance Program or equivalent

Objectives

This course focuses on enabling you to do the following:

- Describe the major architectural components of a MetroCluster environment
- Cable nodes, back-end FC switches, and FibreBridge devices
- Set up bridges and back-end FC switches
- Configure the clusters at both sites in a MetroCluster environment
- Set up a MetroCluster configuration and serve data to clients
- Detect and recover from failures in a MetroCluster environment
- Install and configure NetApp MetroCluster TieBreaker software

Course Content

This course includes the following modules, lessons, and exercises:

Module	Lessons	Exercises
Module 1: Introduction to MetroCluster Software	<ul style="list-style-type: none"> • Introduction to MetroCluster software • 2 node MetroCluster configuration (optional) • MetroCluster supported configurations • MetroCluster configuration tools and documentation 	<ul style="list-style-type: none"> • Identify the exercise environment • Identify a supported configuration in the Interoperability Matrix Tool (IMT) and Hardware Universe • Inspect the environment • Log in to the exercise environment • Power off the controllers
Module 2: MetroCluster Cabling	<ul style="list-style-type: none"> • MetroCluster disk requirements • Fabric MetroCluster cabling introduction 	<ul style="list-style-type: none"> • Cable SAS shelf connections • Cable ATTO connections • Cable controller FC connections • Cable virtual interface over Fibre Channel (FC-VI) connections • Cable a switchless cluster interconnect • Cable cluster peering connections • Cable an Inter-Switch Link (ISL) between FC switches at Site A and FC switches at Site B • Assign shelf IDs
Module 3: Bridge and Switch Configuration	<ul style="list-style-type: none"> • ATTO FibreBridge configuration • Brocade FC switch configuration • IOD and OOD delivery 	<ul style="list-style-type: none"> • Use the UI to verify a bridge configuration • Update the firmware on a bridge (optional) • Use the CLI to verify a bridge configuration • Download the reference configuration file (RCF) for a fabric switch • Use the CLI to verify an FC switch configuration • Reconfigure an FC switch • Verify the ISL connections
Module 4: Cluster Configuration	<ul style="list-style-type: none"> • Disk assignment • Cluster setup 	<ul style="list-style-type: none"> • Verify the required NetApp ONTAP® configuration in maintenance mode • Set up a cluster • Join the second node to a cluster • Synchronize system time for Windows domains • Configure network and storage objects • Secure the ATTO FibreBridge

<p>Module 5: MetroCluster Configuration</p>	<ul style="list-style-type: none"> • MetroCluster setup • MetroCluster verification • MetroCluster monitoring • SVM configuration in a MetroCluster environment 	<ul style="list-style-type: none"> • Mirror the root aggregate and create data aggregates • Configure MetroCluster health monitoring • Enable the MetroCluster software • Use the CLI to verify a MetroCluster environment • Create unmirrored aggregates • Use Config Advisor to verify a MetroCluster environment • Set up Active IQ Unified Manager to monitor a MetroCluster environment • Create an SVM for client protocols in a MetroCluster environment • Use an unmirrored aggregate in a MetroCluster environment
<p>Module 6: Failure Scenarios</p>	<ul style="list-style-type: none"> • Switchover • Switchback • Failure scenarios • LIF placement 	<ul style="list-style-type: none"> • Start Iometer traffic to a LUN and a share • Detect the loss of a node by performing a storage failover and giveback • Detect the loss of configuration replication service connections • Detect the loss of ISL connections • Detect the loss of a bridge connection • Perform a planned switchover • Perform a takeover and giveback during a switchover • Perform a switchback of a planned switchover • Perform an unplanned cluster switchover • Perform a switchback of an unplanned switchover • Observe the loss of a site and an automatic unplanned switchover • Perform a switchback of an automatic unplanned switchover
<p>Module 7: TieBreaker Configuration</p>	<ul style="list-style-type: none"> • Introduction to TieBreaker • TieBreaker installation • TieBreaker configuration 	<ul style="list-style-type: none"> • Install the TieBreaker software • Configure the TieBreaker software for a disaster recovery group (DR group) in a MetroCluster environment • Test the TieBreaker software by simulating a disaster • Observe how the TieBreaker software initiates a switchover • Use the TieBreaker software to monitor the process of performing a switchback

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