

DCIHX (IMPLEMENTING CISCO HYPERFLEX) 1.2

Objetivo

After taking this course, you should be able to:

- Describe hyperconvergence, Cisco HyperFlex, and the components of Cisco HyperFlex;
- Explain the Cisco Unified Computing System (Cisco UCS) and what makes it valuable to business;
- Describe how Cisco HyperFlex Data Platform (HXDP) and HX maintenance mode work;
- Describe the physical components of Cisco HyperFlex;
- Install and expand Regular vSphere Cisco HyperFlex;
- Manage your Cisco HyperFlex VMware ESXi-based cluster;
- Describe how to maintain Cisco HyperFlex;
- Design a Cisco HyperFlex solution and explain third-party data restore solutions;
- Protect the data on your Cisco HyperFlex cluster using replication and data at rest encryption;
- Describe a stretched cluster and how is it different from a standard cluster;
- Describe an Edge cluster and how is it different from a standard cluster;
- Describe a HyperV-based cluster and how is it different from an ESXi-based cluster;
- Design a multicloud datacenter with Cisco HyperFlex;
- Perform basic troubleshooting tasks and explain Cisco Intersight;
- Explain Cisco HyperFlex releases beyond 3.5(1a).

Público Alvo

Technical and professionals who implement, configure, support and manage data center environments using Cisco Hyperflex Solutions.

Pré-Requisitos

To fully benefit from this course, you should have the following knowledge:

- Knowledge about data center architecture and products technologies (network, compute, storage network);
- Familiarity with VMware vCenter and ESXi;
- Familiarity with Microsoft Server 2016 and Hyper-V.

Carga Horária

32 horas (4 dias).

Conteúdo Programático

Course Introduction

Course Outline

Course Goals & Objectives

Introducing Hyperconvergence and Cisco HyperFlex

Traditional Data Center Design

What Is Hyperconvergence?

What Is Cisco HyperFlex?

Cisco HyperFlex Primer

Evolution of Cisco HyperFlex

Describing Cisco UCS: The Foundation of Cisco HyperFlex

Cisco Server Deployment Models: Standalone Versus Managed
Cisco UCS Managed Model Benefits
Cisco UCS M5 Overview
Cisco UCS M5 Server Types
Cisco Virtual Interface Cards (VICs) and Their Benefits
Cisco UCS Fabric Interconnects
Cisco UCS Manager

Describing Cisco HyperFlex Software Components

Virtual Machine Hypervisor
Log-Structured File System
Cisco HyperFlex Snapshots Versus VMware Snapshots
Cisco HyperFlex Versus Regular Virtualized Server
Cisco HyperFlex Data Distribution
Writing and Reading Process
Data Optimization Overview
Cisco HyperFlex vs. Other Hyper-Converged Infrastructure (HCI) Solutions

Describing Cisco HyperFlex Hardware Components

HX UCS M4 and M5
Introducing Cisco HyperFlex Servers
Storage Technologies in Cisco HyperFlex
Storage Components of Cisco HyperFlex Converged Nodes
Non-Storage Components of Cisco HyperFlex Converged Nodes
Cisco UCS Fabric Interconnects3
Compute-Only Nodes

Installing and Expanding Standard ESXi Cisco HyperFlex

Installation Summary
Software Prerequisites
Hardware Prerequisites
Cisco HyperFlex Networking
Required Deployment Information
Installing Physical Components
Configure Upstream Switches
Prepare Fabric Interconnects
Deploy the Installer Virtual Machine (VM)
HyperFlex Installation
Post-Installation Script
Cluster Expansion
Additional Installation Options

Managing Cisco HyperFlex in vSphere Environment

Management Interfaces Overview
Cisco HyperFlex Plugin for vCenter
Cisco HyperFlex Connect
Storage Command Line Interface

Representational State Transfer (REST) API Overview

ReadyClones

Cisco HyperFlex Snapshots

Maintaining Cisco HyperFlex

Cisco HyperFlex Upgrade Overview

Cisco HyperFlex Online Upgrade

Cisco HyperFlex Offline Upgrade

HX Maintenance Mode

ESXi Upgrade

Moving Cisco Hyperflex Storage Cluster to Another vCenter

Designing Cisco HyperFlex

Cluster Resiliency: VM-Level

Cluster Resiliency: HXDP-Level

Cisco HyperFlex Cluster Scalability

Cluster Capacity

Multiple Clusters on One Cisco UCS Domain

Cisco HyperFlex and External Storages

Licensing Tiers

Smart Licensing

Cisco HyperFlex Positioning

Graphical Processing Units and Cisco HyperFlex

Protecting Your Data

Disaster Recovery Overview

Third-Party Data Restore Solutions

Cisco HyperFlex Native Replication Solution

Configuring Native Replication

Protecting Your VMs with Native Replication

Restoring Your VMs with Native Replication

Data at Rest Encryption

D@RE: Remote Key Management

Introducing Stretched Cluster

Stretched Cluster Overview

Prerequisites

Data Distribution

Datastores and VM Affinity

Installation Process

Maintenance and Monitoring

Introducing EDGE Cluster

Cisco HyperFlex EDGE Cluster Overview

Prerequisites and Recommendations

Installation Process

Management and Monitoring

Upgrades and Maintenance

Introducing HyperV-Based Standard Cluster

HyperV-Based Standard Cluster Overview
Prerequisites and Recommendations
Preinstallation Tasks
Installation Process
Post-Installation Process
Maintenance and Monitoring

Designing Multicloud Data Center with Cisco HyperFlex

Cisco UCS Director Overview
Cisco CloudCenter Overview
Cisco Workload Optimization Manager (CWOM) Overview
Design your HyperFlex cluster to run Cisco Container Platform and Kubernetes
Cisco Intersight Overview
HyperFlex: Releases Beyond 4.0(1a)

Introducing Edge Cluster

Describe the Edge cluster and how is it different from a standard cluster
Cisco HyperFlex Edge Cluster Overview
Describe prerequisites and recommendations to deploy your HyperFlex Edge cluster
Deploy Cisco HyperFlex Edge
Manage your Cisco HyperFlex Edge cluster
Upgrade and maintain your Cisco HyperFlex Edge cluster

Troubleshooting Cisco HyperFlex

Troubleshoot any issue that arises on a HyperFlex cluster
Troubleshooting Guidelines
Troubleshoot deployment issues (install, upgrade, expansion)
Generating Tech Support Bundles
Describe how you would collect HyperFlex support bundles
Troubleshoot most common HyperFlex issues

Lab/Practical Outline

Discovery 1: Investigate Software Components of HyperFlex

Discover basic components of standard HyperFlex cluster
Task 1: Explore vCenter
Task 2: Explore HyperFlex Connect

Discovery 2: Investigate Cisco UCS Part of HyperFlex

Discover basic components of standard HyperFlex cluster as related to Cisco UCS
Task 1: Investigate a Server in Cisco UCS Manager
Task 2: Investigate a Fabric Interconnect
Task 3: Investigate a Server Service Profile
Task 4: Investigate a LAN Configuration
Task 5: Investigate an Upstream Switch Configuration

Discovery 3: Install Cisco HyperFlex

Install HyperFlex

- Task 1: Get Acquainted with the Virtual Environment
- Task 2: Prepare Preinstallation Information
- Task 3: Perform Preinstallation Tests
- Task 4: Install the Cisco HyperFlex Data Platform
- Task 5: Perform Post-Installation Tasks
- Task 6: Expand Cluster B
- Task 7: Run Postinstall Script Again

Discovery 4: Manage Cisco HyperFlex

Manage a Cisco HyperFlex cluster

- Task 1: Review the Status of Cisco HyperFlex Clusters in vCenter
- Task 2: Manage Cisco Hyperflex Cluster Using vSphere Client
- Task 3: Compare Cisco HyperFlex and vSphere Native Cloning and Snapshotting
- Task 4: Manage Cisco Hyperflex Cluster Using HX Connect
- Task 5: Connect the HyperFlex Cluster to a remote Syslog Server
- Task 6: Explore the Storage Controller CLI
- Task 7: Manage the Cisco Hyperflex Cluster Using the REST API

Discovery 5: Protect Your HyperFlex VMs

Protect virtual machines on your HyperFlex cluster using native replication protection mechanisms

- Task 1: Configure Replication Network and Pair the Clusters
- Task 2: Protect a VM from Cluster B on Cluster A
- Task 3: Perform Test Recovery of a VM

Discovery 6: Investigate Stretched Cluster

Discover basic components of stretched HyperFlex cluster

- Task 1: Investigate vCenter Configuration
- Task 2: Investigate HX Connect Configuration
- Task 3: Investigate Both Cisco UCS Managers

Discovery 7: Install and Manage Stretched Cluster

Install and manage stretch cluster

- Task 1: Pre-Installation Tasks and Workflow Selection
- Task 2: Configure Site A
- Task 3: Configure Site B
- Task 4: Install the Stretched Cluster
- Task 5: Perform Post-Installation Tasks
- Task 6: Explore Stretched Cluster Specifics

Discovery 8: Investigate Hyper-V Cluster

Discover basic components of HyperV-based HyperFlex cluster

- Task 1: Investigate Cisco UCS Manager of the Hyper-V HyperFlex
- Task 2: Investigate the Hyper-V HyperFlex Connect

Discovery 9: Investigate Cisco Intersight

Discover Cisco Intersight

Task 1: Discover Cisco Intersight

Task 2: Explore Administrator Level Features of Intersight

Discovery 10: Investigate HyperFlex Edge

Discover basic components of Edge HyperFlex cluster

Task 1: Investigate vCenter Configuration

Task 2: Investigate Cisco IMC Configuration

Task 3: Investigate the HyperFlex Connect of an Edge Cluster