



## VNX Unified Storage Management

**Explore the key elements of SAN/IP-SAN and NAS deployment via practical experience with EMC VNX Unified Storage systems.**

This Specialist-level course is targeted for storage/cloud infrastructure administrators requiring in-depth knowledge and practical lab work with EMC VNX Unified Storage systems. This intensive training covers all the key elements of SAN/IP-SAN (block access) and NAS (file access) deployment.

You will cover a wide range of topics in detail, and you'll participate in hands-on lab exercises that reinforce the concepts, including:

Integrating VNX block access for open systems hosts (Linux, Windows, and VMware ESXi) through FC, iSCSI, and FCoE connectivity options  
Configuring VNX file-level access for Microsoft Windows and Linux, user/application environments via network file system (NFS) and common Internet file system (CIFS) environments  
Initial storage system configuration, security, and availability using Unisphere NAS configurations, including file system creation and export in Linux, VMware ESXi, and Microsoft Windows environments  
Implementing local replications solutions

The course covers a wide range of topics in detail, and includes hands-on lab exercises that reinforce the concepts covered in lectures. It is strongly recommended that only participants with the necessary prerequisite skill set attend this course.

### What You'll Learn

- Implement Unisphere security
- Provision and manage host access to block storage
- Perform basic host integration tasks for block storage
- Integrate Microsoft Windows, Linux and ESXi hosts to VNX block storage
- Configure and manage advanced storage features such as FAST VP and FAST Cache
- Configure networking for VNX file-level access
- Configure VNX file systems
- Export VNX file systems for NFS and CIFS access
- Create and manage Virtual Data Movers
- Configure and manager VNX local replication solutions - SnapView, VNX Snapshots, and SnapSure

### Who Needs to Attend

This course is intended for information technology professionals responsible for the configuration, deployment and management of VNX Block, File, and/or Unified storage systems in heterogeneous host environments.

### Prerequisites

We strongly recommend that you have knowledge of and experience with:

- VNX system architecture
- EMC PowerPath operations
- SAN configurations, including basic utilization of the software tools used to manage the major Fibre Channel, FCoE, and Ethernet switch environments
- TCP/IP networking
- Ethernet switch configuration, including managed switch features such as VLANs
- Ethernet settings, including duplex, throughput, and port channeling
- Basic Microsoft Windows administration skills (managing users/groups, files,

- and directories)
- Basic UNIX/Linux administration skills (managing users/groups, files, and directories)
- Basic VMware ESX/ESXi operations and management

### **Follow-On Courses**

There are no follow-ons for this course.

### **Certification Programs and Certificate Tracks**

This course is part of the following programs or tracks:

- [Storage Administrator \(EMCSA\) Specialist - VNX Solutions](#)

### **Course Outline**

#### **1. Unisphere Security and Basic Management**

- Unisphere Security Features and Implementation
- Unisphere and CLI Interface
- Unisphere Authentication using LDAP
- Control Station Auditing
- Notifications Methods and Event Monitoring

#### **2. Storage System Provisioning and Management**

- SP Networking and Cache
- VNX Storage Objects

#### **3. Host Integration and Access to Block Storage**

- Access Logix
- Network Topologies and Requirements
- PowerPath and other Host Utilities

#### **4. Host Installation and Integration for Block**

- Implementing Windows, Linux, and ESXi FC and iSCSI Connectivity

#### **5. Advanced Storage Concepts**

- FAST VP and FAST Cache

#### **6. VNX Block Local Replication Solutions**

- Replication Terminology and Operations
- Configuring and Managing SnapView Snapshot, SnapView Clone, and VNX Snapshot

#### **7. Data Mover Networking**

- Data Mover Network Devices
- Implementing DNS and Time Services
- 8. File System Components and Features

#### **8. Configuring CIFS**

- Create and Join a CIFS Server to a Windows Domain
- File System Access Via CIFS
- CIFS Operational Considerations
- Usermapper

#### **9. Virtual Data Movers**

- Virtual Data Mover Overview
- Create and Manager Virtual Data Movers

#### **10. VNX SnapSure**

- VNX SnapSure Theory and Operations
- Configuring SnapSure
- Managing Checkpoints
- Planning SnapSure

#### **11. Data Mover Failover**

- Configuring Data Mover Failover
- Testing Data Mover Failover and Failback

### **Labs**

In addition to lecture and demonstrations, this course includes labs designed to allow practical experience for the participant.