

**16 HORAS**

## OVERVIEW

This course introduces the methodology for analyzing the performance of VMAX3 family of storage arrays. Unisphere for VMAX will be used to analyze the performance of VMAX3 arrays. Metrics that are relevant for analysis of each of the components in a VMAX3 array are presented. Participants will learn to identify bottlenecks for performance and provide recommendations to remedy the problem. Hands-on lab exercises using performance archives reinforce the concepts and methodology presented in the lecture.

## AUDIENCE

All Audiences

## PREREQUISITE KNOWLEDGE/SKILLS

To understand the content and successfully complete this course, a student must have an understanding of:

- Architecture of VMAX3 arrays
- VMAX3 SLO based provisioning
- SRDF
- TimeFinder SnapVX
- Basic knowledge of Unisphere for VMAX

## COURSE OBJECTIVES

Upon successful completion of this course, participants should be able to:

- Describe the architecture of the VMAX3 from a performance perspective
- Articulate VMAX3 configuration best practices for optimal performance
- Use Unisphere for VMAX for performance analysis of VMAX3 arrays
- Identify the performance impact different types of workloads
- Use key metrics to identify performance bottlenecks and components over utilization
- Make performance-oriented recommendations when allocating new storage or migrating applications

## COURSE OUTLINE

### Module 1: VMAX3 Architecture and Configuration Best Practices

- Lesson – VMAX 3 Architecture
- Lesson – Configuration Best Practices

### Module 2: Performance Analysis Basics

- Lesson – Performance Analysis Methodology
- Lesson – Performance Measurements
- Lesson – Workload Profiles and Characterization
- Lesson – Little’s Law and its Impact on Response Time

### Module 3: VMAX3 Performance Analysis with Unisphere for VMAX

- Lesson – Performance Related Administration Tasks
- Lesson – Monitoring Performance
- Lesson – Performance Reports
- Lesson – Offline Performance Viewer

### Module 4: Performance Analysis of VMAX3 Front End Directors

### Module 5: Performance Analysis of VMAX3 Cache

### Module 6: Performance Analysis of VMAX3 Backend Directors

### Module 7: Performance Considerations for TimeFinder SnapVX and SRDF

- Lesson – TimeFinder SnapVX Considerations
- Lesson – SRDF Considerations
- Lesson – SRDF Performance Analysis