
MI 1C - Versera ICE Technician Level I

Course Information

This course is intended for switch technicians who are responsible for day-to-day operations. It includes a functional/hardware overview, basic console operations, system diagnostics, routine maintenance, and reading log files.

Course Length

5 Days

Prerequisites:

Three (3) months switch technician experience

Course Outline:

Module 1 – Versera ICE System Overview

This module is designed to provide an introduction to the technical attributes of the ICE system architecture, including the protocols and equipment that ICE will interface with. To become familiar with the hardware layout of the ICE system components. To become familiar with how a call flows through the system.

Module 2 – Basic Linux Operating System

This module is designed to provide the student with the basic console operation of the Linux Operating System, including directory structure, obtaining system information, viewing and manipulating files.

Module 3 – SMU and Provisioning Subscribers

This module is designed to provide the student with the knowledge and skills required to operate Network Management features in the System Management Unit (SMU). This module will also familiarize the student with the basic subscriber, class of service and attendant screens. They will learn how to discover fields and troubleshoot basic problems in these applications. To become familiar with provisioning attendants and assigning privilege level within the system.

Module 4 – Next Generation Message Store (NGMS)

This module will cover the hardware layout of each of the components of the NGMS. This includes the protocols and equipment that the NGMS will interface with in the ICE system (such as the Terminal Server and Ethernet Switches). It will also help the student to become familiar with the hardware layout and the system architecture of the NGMS.

Module 5 – Dot Hill RAID II

This module will cover the functional description of the Dot Hill RAID II unit that is part of a NGMS. Both the hardware and system architecture will be covered as well as the configuration aspects of the device.

Module 6 – ICE System Diagnostics and Troubleshooting

This module is designed to provide the student with information and utilities that can be used in isolating problems on the system.

Module 7 – Routine Tasks and Maintenance

This module will familiarize the student with the basic backup and maintenance tasks required for the ICE system and to familiarize them with the scheduled maintenance tasks that should be performed on the various components of the system.

Course Objectives

After completing this course, the student should be able to:

- Describe the basic functions and features of the ICE system.
- Troubleshoot, locate and replace ICE hardware.
- Trace a call through the ICE system.
- Perform basic provisioning to create and test COS and subscriber records.
- Work with the Linux software to do the following:
 - Properly login and logout of the system
 - Make and remove directories
 - Copy, delete, move and rename files
 - Use tail, cat and more to view text files
 - Use man and info commands for help purposes
- Describe the file directory structure and identify where strategic files are located.
- Identify system components (disks, memory, processes, etc.) and verify their performance.
- Diagnose system errors and alarms and use them to diagnose faults.
- Perform routine maintenance tasks including backups.

Course Agenda

- Module 1: ICE System Overview
- Module 2: Basic Linux Operating System
- Module 3: SMU and Provisioning Subscribers
- Module 4: CDMS System Overview
- Module 5: Dot Hill Raid Unit
- Module 6: ICE System Diagnostics and Troubleshooting
- Module 7: Routine Tasks and Maintenance
- Final Exam
- Certificates
- Course Evaluations

Module 1 – Versera ICE System Overview

This module is designed to provide an introduction to the technical attributes of the ICE system architecture, including the protocols and equipment that ICE will interface with. To become familiar with the hardware layout of the ICE system components. To become familiar with how a call flows through the system.

Module Objectives

- After completing this module, you will be able to do the following:
 - Describe the technical attributes of the ICE system
 - Locate each of the ICE components.
 - Describe the function of each component.
 - Describe the system architecture and trace a call through the system.

Required Materials

- Student Study Guide
- 9110.01804 - ICE Product Overview
- 9110.01802 - ICE Hardware Reference
- 9110.01807 - ICE Administrator's Guide

Student Activities

- Written Exercise

Module 2 – Basic Linux Operating System

This module is designed to provide the student with the basic console operation of the Linux Operating System, including directory structure, obtaining system information, viewing and manipulating files.

Module Objectives

- After completing this module, you will be able to do the following:
 - Briefly describe the Linux software structure:
 - Disks.
 - Directories and filesystems.
 - Memory.
 - Login to the Linux console and execute basic commands to perform the following:
 - Obtain information about the system
 - Manage and manipulate files
 - View files
 - Display running processes
 - View mail
 - Examine disk partitions
 - Examine disk and memory free space
 - Administer network components

Required Materials

- Student Study Guide

Student Activities

- Written Activities

Module 3 – SMU and Provisioning Subscribers

This module is designed to provide the student with the knowledge and skills required to operate Network Management features in the System Management Unit (SMU). This module will also familiarize the student with the basic subscriber, class of service and attendant screens. They will learn how to discover fields and troubleshoot basic problems in these applications. To become familiar with provisioning attendants and assigning privilege level within the system.

Module Objectives

- After completing this module, you will be able to do the following:
 - Create a network map
 - Add network elements to an existing map
 - Populate the SMU database from the MVPs
 - Monitor the network for:
 - SNMP alarms
 - Console alarms
 - Manage the network:
 - Subscriber records
 - MVP software
 - Trunk manager
 - Create attendants and assign privilege levels
 - Create class of service and become familiar with basic operation.
 - Create a subscriber record and troubleshoot critical fields within the record.
 - Set up subscriber records and class of service records on the MVP for a variety of options and verify the set up.

Required Materials

- Student Study Guide
- SMU Provisioning Guide

Student Activities

- Lab: Managing Administrators
- Lab: Creating CoS and Subscriber records

Module 4 – Next Generation Message Store (NGMS)

This module will cover the hardware layout of each of the components of the NGMS. This includes the protocols and equipment that the NGMS will interface with in the ICE system (such as the Terminal Server and Ethernet Switches). It will also help the student to become familiar with the hardware layout and the system architecture of the NGMS.

Module Objectives

- After completing this module, you will be able to do the following:
 - Identify and describe the hardware components of the NGMS.
 - Describe the configuration and partitioning of the RAID device.
 - Describe the functions and configurations of the Ethernet networks.
 - Describe the flow of voice into the system and out of the system
 - Perform routine maintenance procedures.
 - Use system utilities to determine the state of the system.
 - Read and interpret log files.

Required Materials

- Student Study Guide
- 9110.01833 - NGMS Hardware Reference
- 9110.01820 - NGMS Administrator's Reference

Student Activities

- Lab: Replacing cards in the system

Module 5 – Dot Hill Raid II Unit

This module will cover the functional description of the Dot Hill RAID II unit that is part of a NGMS. Both the hardware and system architecture will be covered as well as the configuration aspects of the device.

Module Objectives

After completing this lesson, you will be able to do the following:

- Describe what RAID is and what RAID levels are used by Dot Hill.
- Describe the logical disk assignments.
- Describe how the Dot Hill fiber channels integrate with the NGMS fiber channels.
- Describe what a global spare is and how it is used in the system.
- Describe the process of what happens when a disk drive fails on the Dot Hill, and what recovery steps are taken.

Required Materials

- Student Study Guide

Student Activities

- Lab: Replacing a defective drive

Module 6 – ICE System Diagnostics and Troubleshooting

This module is designed to provide the student with information and utilities that can be used in isolating problems on the system.

Module Objectives

After completing this lesson, the student will be able to do the following:

- Connect into the console port of each ICE device using the Terminal Server.
- Determine the health of the system using the Versera ICE Health Monitor utility.
- Run utilities on the various platforms to isolate problems.
- Read and interpret log files,
- Edit configuration tables and files.

Required Materials

- Student Study Guide

Student Activities

- Lab: Problem Analysis

Module 7 – Routine Tasks and Maintenance

This module will familiarize the student with the basic backup and maintenance tasks required for the ICE system and to familiarize them with the scheduled maintenance tasks that should be performed on the various components of the system.

Module Objectives

After completing this module, the student will be able to do the following:

- Perform backups of the Versera ICE platforms using various backup utilities.
- Determine what tasks must be performed on the ICE system.
- Perform daily, weekly, monthly, quarterly and semi-annual tasks on the Versera ICE system.

Required Materials

- Student Study Guide

Student Activities

- Lab: Backing up the system.
- Checking statistics exercise.