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## SN 9000 – Field Maintenance

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**Course Number:**

201030

**Course Description:**

This course provides the necessary skills for personnel who are responsible for the field maintenance of the SN 9000 in the network. Through a series of instructor-led discussions and hands-on exercises, the student will learn how to successfully use the Sycamore Command Line Interface (CLI) for initial node configuration, use TL1 to manage, provision, and troubleshoot the switch, and use SilvxSource to manage, provision, and troubleshoot the switch.

**Prerequisites:**

General knowledge of SONET/SDH, network management, APS 1+1, UPSR, BLSR, and IP technologies.

**Duration:**

1 Day

**Course Topics:**

Introduction to Sycamore Optical Networking

- The Intelligent Optical Switched Network
- SN 3000 Optical Access Switch
- SN 3000 Applications
- SN 9000 Intelligent Multiservice Switch
- SN 9000 Applications
- SN 16000 Optical Core Switch
- SN 16000 Applications
- SilvxManager

## Hardware Architecture Overview

- SN 9000 Components
- SN 9000 Control Modules
- SN 9000 Line Cards

## Switch Architecture Overview

- SN 9000
  - Chassis
  - Data Plane Connectivity
  - Data Plane Functionality
  - Control Plane Connectivity
  - Control Plane Functionality
  - Timing Plane

## Hardware Module Overview

- SN 9000
  - SCX
  - SMP
  - VXC-10
  - 8 x OC-3:12/STM-1:4 SIM
  - 4 x OC-48/STM-16 SIM
  - N x DS1/E1 IDM
  - 63 x E1 SIM
  - Chassis Power
  - Chassis Cooling

## Initial Hardware Setup

- SN 9000
  - CLI Login
  - NodeSetup Script
  - Accessing SilvxSource
  - Logging Into SilvxSource
  - The Object Tree
  - Resetting the SMC Cards
  - Force Swapping SMC Cards
  - Adding Users
  - Configuring the Node Optical Hierarchy
  - Viewing/Modifying Port Attributes
  - Configuring Time/NTP Server
  - Configuring System Timing Manager
  - Configuring External Timing Sources
  - Configuring Monitor Ports

- Configuring Line timing Ports
- Configuring the System Timing Source List
- SSM Status
- Displaying Node View
- Displaying Node Inventory
- Viewing/Modifying Node Attributes
- Port PM Statistics
- Port Threshold Crossing Alerts
- Viewing Alarms
- Card Resets

#### Troubleshooting & Diagnostics

- System Diagnostic Capabilities
- Power On Self Test
- SCX-320 – LED Status
- SMP – LED Status
- VXC-10 – LED Status
- 8 x OC-3:12/STM-1:4 SIM– LED Status
- 8 x OC-48/STM-16 SIM– LED Status
- N x DS1/E1 IDM – LED Status
- 63 x E1 SIM – LED Status
- Timing – Troubleshooting Tips
- Port Loopbacks
- Initiating a Port Loopback
- Event & Alarm Processing
- SONET/SDH Alarm Structure
- Network Failure Scenarios
- Trunk Configuration Settings
- Management Connectivity Issues