Advanced Services' Cisco ONS 15454 MSTP Implementing DWDM from Installation to Protection Release 9.2 Version 1

In this lab-intensive course you will learn the skills necessary to deploy a multiservice transport platform (MSTP) network, including fiber-cleaning techniques, fiber test requirements, and node turn-up. The course covers three shelf types, the M12, M6, and M2. You will learn to deploy linear and ring dense wavelength-division multiplexing (DWDM) topologies. The course covers multiplexer and demultiplexer cards, Erbium doped fiber amplifier cards, Raman amplifiers and transponder cards and how they are used in terminal, amplifier, and Reconfigurable Optical Add-Drop Multiplexer (ROADM) node configurations. You will configure wavelength selective switch (WSS) rings and single-module ROADM (SMR) rings. Using Cisco® Transport Planner, you will design a DWDM network and use the output to configure the Cisco ONS MSTP Node. The MSTP Basic course covers 2.5 G and 10G protected and unprotected DWDM circuits.

Duration

Five days.

Target Audience

This course is for technical professionals who are responsible for installation, deployment, and maintenance of the Cisco 15454 MSTP network. Network operations, planners, and designers will also benefit.

Course Objectives

Upon completion of this course, you should be able to:

- Connect and configure a Cisco ONS 15454 MSTP chassis
- Identify node configurations according to card population
- Characterize the role of Cisco Transport Planner in turning up an MSTP network
- Provision DWDM circuits using Cisco Transport Controller
- Perform performance monitoring, alarm verification, and fault isolation

- Provision M12 WSS and M6 SMR nodes in ring topologies
- Perform Raman amplifier initialization
- Isolate “optical” network issues

Course Prerequisites

Following are the prerequisites for this course:

- Familiarity with the Cisco ONS 15454 family
- Knowledge of SONET or SDH structure and hierarchy
- Knowledge of DWDM basics

To locate Cisco courses that cover the listed prerequisites, go to the Cisco Training & Events webpage at www.cisco.com/web/learning/index.html.

Course Outline

The course outline is as follows:

- Module 1: Cisco ONS 15454 MSTP Product Overview
- Module 2: DWDM Fundamentals
- Module 3: Safety
- Module 4: Optical Fiber and Cleaning
- Module 5: DWDM Test Equipment
- Module 6: Shelf Layout and Components
- Module 7: Documentation
- Module 8: CTC Operations
- Module 9: MSTP Topologies
- Module 10: Shelf and Card Installation
- Module 11: System Setup
- Module 12: Demonstrate Node Turn-Up
- Module 13: Linear Configurations
- Module 14: Node Turn-Up
- Module 15: Network Connections
- Module 16: Optical Channel Network Connection Circuits
- Module 17: Transponder and Optical Channel Client Connection Circuits
- Module 18: Transport_Planner
- Module 19: Linear Amplifier
- Module 20: Multishelf
- Module 21: MSTP M12 WSS-Based Rings
- Module 22: MSTP M6 SMR-Based Rings
- Module 23: 2.5G Transponder Protection
- Module 24: 10G Transponders
- Module 25: 10G Protection
- Module 26: Raman Amplifier

- Module 27: Troubleshooting

Lab Outline

The lab outline is as follows:

- Lab 1: Fiber Cleaning
- Lab 2: Test Equipment
- Lab 3: Shelf and Card Installation
- Lab 4: System Setup and Login
- Lab 5: Node Turn-Up
- Lab 6: Network Connections
- Lab7: Direct Connection Circuits
- Lab 8: Transponder Optical Client Circuits
- Lab 9: Transport_Planner Design
- Lab 10: Amplifier
- Lab 11: WSS-Based M12 Ring
- Lab 12: SMR-Based M6 Ring
- Lab 13: 2.5G Transponder Protection
- Lab 14: 10G Transponders
- Lab 15: 10G Protection
- Lab 16: Raman Amplifier
- Lab 17: MSTP Troubleshooting

Optional Sections

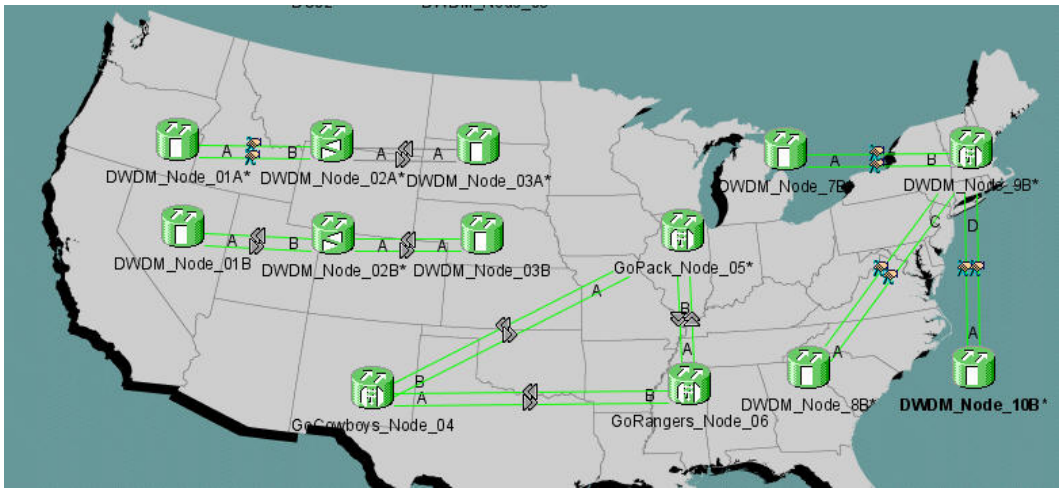
The following optional sections are available:

- Optical Verification
- Optical Add-Drop Multiplexer

Lab Topology

Figure 1 shows the lab topology that is used in this course.

Figure 1. Lab Topology of ONS 15454 MSTP Basic



Registration Information

For more information about schedules and registration for this course, contact aeskt_registration@cisco.com.

For More Information

For more information about Advanced Services Education course offerings, including custom training options, as well as Advanced Services Curriculum Planning Services and the Advanced Services Technical Knowledge Library (TKL), refer to the Advanced Services Education website at www.cisco.com/go/ase.

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