Learning@Cisco

Deploying Cisco Service Provider Mobile Backhaul Solutions

The Deploying Cisco® Service Provider Mobile Backhaul Solutions (MOBBKHL300) course¹ is an instructor-led, lab-based, hands-on course offered by Learning@Cisco.

This course focuses on service provider mobile backhaul solutions to include instruction and lab exercises on implementation, installation, and troubleshooting. It covers legacy mobile backhaul architectures and the Cisco mobile backhaul solution including the Cisco ASR 920 Router, ASR 907 Router, and Cisco ASR 9000 Series Routers. The end-to-end communication between devices as well as the configuration of those devices in particular architectures is also reviewed.

Duration
Instructor-Led Training (ILT): 4 days
Virtual Instructor-Led Training (VILT): 5 days

Target Audience
This course is designed for technical professionals who need to know how to deploy Cisco Service Provider Mobile Backhaul Solutions.

Targeted roles include:
- Network architects
- System engineers
- Field engineers

¹ Course content is dynamic and subject to change without notice.
Tasks and Features

The following tasks and features are described in the course:

- How to differentiate technologies and standards in legacy and Cisco IP architectures as they support a service provider mobile network
- How to plan the paths and protocols used to forward traffic end-to-end across all Cisco mobile backhaul devices
- How to configure the paths and protocols used to forward traffic end-to-end across all mobile backhaul devices
- Understand why there is a need for legacy mobile backhaul support in our Multiprotocol Label Switching (MPLS) and IP infrastructure

Course Prerequisites

- None

Recommended Prerequisites

Cisco recommends that you have the following prerequisite knowledge and skills:

- Understanding of IP-MPLS technologies
- Basic understanding of Quality-of-Service (QoS) deployment strategies
- Understanding of Border Gateway Protocol (BGP) operations
- Understanding of Interior Gateway Protocol (IGP) operations for Intermediate System-to-Intermediate System (IS-IS) and Open Shortest Path First (OSPF) Protocols
- Basic understanding of 2G, 3G, and 4G architectural attributes
- Basic understanding of technologies and procedures at a legacy cell site

Course Outline

- Module 1: Mobile Network Architecture
  - Examining Mobile Backhaul Architecture
  - Examining Foundational Principles of Radio Frequency
- Module 2: Mobile Backhaul End-to-End Communication
  - MBH End-to-End Communication Basics
  - Examining Cisco UMMT Architectures
  - Cisco UMMT Service and Control Architectures
  - Implementing Clocking and Timing
  - Implementing Traffic Management
  - Examining Migration Strategies for MBH
- Module 3: Configuring the Backhaul Network
  - Configuring Cisco ASR Devices for MBH
  - Configuring Core Layer Device
  - Configuring Aggregation Layer Devices
Configuring Cisco RAN Layer Access Devices
Configuring Advanced Features

Module 4: Cisco Mobile Backhaul Legacy Configuration and Timing
- Mobile Backhaul Legacy Interoperability
- Synchronizing Backhaul Device Communication

Lab Outline
- Lab 1: Cisco RAN Network Discovery
  - Task 1: Document Your Lab
  - Task 2: Understanding Lab Network Routing
- Lab 2: Configuration Planning for MBH End-to-End IP Traffic Forwarding
  - Task 1: Provide Network Documentation
- Lab 3: Configuration Planning for MBH End-to-End Timing and Clock Recovery
  - Task 1: Provide Network Documentation
- Lab 4: Configuring Core for Multiarea IGP Design with Labeled BGP Access
  - Task 1: Configure Mobile Transport Gateway Routers
  - Task 2: Configure Core Route Reflectors
  - Task 3: Configure Core Node Area Border Routers
- Lab 5: Configuration of Aggregation Devices
  - Task 1: Configure Aggregation Devices
- Lab 6 Configuration of RAN Access Layer Devices for Multiarea IGP Design with Labeled BGP Access
  - Task 1: Configure RAN Access Layer Devices
- Lab 7: SyncE and IEEE 1588v2 Timing Configuration
  - Task 1: Configure SyncE
  - Task 2: Configure Precision Time Protocol (1588v2)
- Lab 8: Pseudowire Configuration
  - Task 1: ATM Pseudowire Configuration
  - Task 2: TDM Pseudowire Configuration
  - Task 3: APS Configuration
Figure 1. Topology Used for All Labs in This Course

Lab Topology
The topology used in this course is shown here in Figure 1. The topology contains Cisco ASR 920, 907, 9001, and 9006 Routers and CSR 1000v Routers.

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

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