

# Implementing Cisco Fluidmesh Solutions for Fixed and Mobile Infrastructure (FMIS) v1.0

## What you'll learn in this course

The **Implementing Cisco Fluidmesh Solutions for Fixed and Mobile Infrastructure (FMIS) v1.0** is an e-learning course that teaches how to configure Multiprotocol Label Switching (MPLS) parameters using the Radio Configuration environment and the basics of the Cisco® Fluidmesh Fluidity functionality for mobility-centric networking. You will learn the basics of Fluidity application in Open Systems Interconnection (OSI) Layer-2 and Layer-3 networks, and study the configuration of Fluidity features for the vehicle and infrastructure unit roles. You will study the Fluidity Frequency scan functionality, how to configure the Fluidmesh Fluidity Pole Proximity settings, and the controller settings using the Fluidmesh Command-Line Interface (CLI). The operating principles behind the Fluidity Wireless Data Rate Controller, the of use Fluidmesh Titan, the fast-failover feature, and the working principles will also be taught. You will learn how to arrange settings for VLAN, Quality of Service (QoS), Spanning Tree Protocol (STP), Network Time Protocol (NTP), Ethernet, remote access, View mode, Pass-list and Block-list functionalities, Multicast, Simple Network Management Protocol (SNMP), Remote Access Dial-In User Service (RADIUS), Link Layer Discovery Protocol (LLDP), Trivial File Transfer Protocol (TFTP), and Inter-car communication. In addition, you will examine the implementation of Fluidmesh wireless networks for the entertainment, mining, intermodal port, and terminal, rail, smart cities, and security sectors. You will learn to optimize a Fluidmesh wireless network for low latency, high throughput, and high traffic density, as well as monitor network configuration and performance using the Fluidmesh FM-MONITOR network management tool.

## Course duration

- E-learning: 10 hours

## How you'll benefit

This class will help you:

- Describe intermediate and advanced principles that govern MPLS
- Explain intermediate and advanced principles that govern Fluidmesh Fluidity (mobile) networking for OSI Layer-2 and Layer-3 networks
- Understand how to apply advanced device configuration settings relating to Fluidity functionality
- Identify how to apply other important device configuration settings
- Describe the basics of how to create Fluidmesh wireless networks for customer-driven applications
- Design and build Fluidmesh wireless networks for specific OT markets
- Optimize a Fluidmesh wireless network by overcoming conditions of high latency, low throughput, and high traffic density
- Use the Fluidmesh network monitoring tool (FM-MONITOR) to monitor and enhance network performance

## Who should enroll

- System sales engineers
- Deployment engineers

## How to enroll

### E-learning

- For more than one license, or a learning library subscription, contact us at [learning-bdm@cisco.com](mailto:learning-bdm@cisco.com).

## Technology areas

- Internet of Things (IOT)

## Course details

### Objectives

After taking this course, you should be able to:

- Describe the intermediate and advanced principles that govern MPLS
- Explain the intermediate and advanced principles governing Fluidmesh Fluidity networking for Layer-2 and Layer-3 networks
- Describe how to apply the advanced Fluidity device configuration settings
- Describe how to apply all other important device configuration settings
- Create Fluidmesh wireless networks for customer-driven applications
- Design and build Fluidmesh wireless networks for specific Operational Technologies (OT) markets
- Optimize a Fluidmesh wireless network under conditions of high latency, low throughput, and high traffic density
- Use the Fluidmesh network monitoring tool (FM-MONITOR) to monitor and enhance network performance

### Outline

- MPLS and Fluidity
  - Introducing MPLS and Fluidity
  - Fluidmesh Multi-Protocol Label Switching
  - Fluidmesh Mobility-Oriented Networking
  - Fluidmesh Fluidity for OSI Layer 2 Networks
  - Fluidmesh Fluidity for OSI Layer 3 Networks
  - Advanced Fluidity Configuration Settings
  - Fluidity Frequency-Scan Functionality
  - Fluidity Pole Proximity Functionality
  - Fluidity Wireless Data Rate Controller
  - Fluidmesh Fast-Failover Functionality
  - Other Fluidmesh Software Functionality

- Creating Fluidmesh Wireless Networks
  - Introduction to Creating Fluidmesh Wireless Networks
  - Creating Fluidmesh Wireless Networks for Train -to-Ground Applications
  - Creating Fluidmesh Wireless Networks for Port and Intermodal Applications
  - Creating Fluidmesh Wireless Networks for Mining Applications
  - Creating Fluidmesh Wireless Networks for Entertainment Applications
  - Creating Fluidmesh Wireless Networks for Smart City and Security Applications
  - Fluidmesh Network Optimization for Latency, Throughput, and Density
- The Fluidmesh Network Monitoring Tool
  - The Fluidmesh Network Monitoring Tool

### Lab outline

- This class does not have any labs.



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