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## IMPLEMENTING CISCO IP TELEPHONY AND VIDEO PART 1 & 2 (CIPTV 1&2)

### Temario

This course prepares delegates for implementing a Cisco Unified Communications Manager, CUBE and audio and video conferences in a single-site environment. This course focuses primarily on Cisco Unified Communications Manager Version 10.6 which is the call routing and signaling component for the Cisco Unified Communications solution. Prepares delegates for implementing Cisco Unified Communications Manager, Cisco VCS-C and Cisco Expressway in a multisite environment. It covers globalized call routing, Call Control Discovery (CCD), Cisco Unified Survivable Remote Site Telephony (SRST), and mobility features such as Cisco Device Mobility and Cisco Extension Mobility.

Delegates will apply a dial plan for a multisite environment, configure survivability for remote sites during WAN failure and implement solutions to reduce bandwidth requirements in the IP WAN. Delegates will also enable Call Admission Control (CAC).

### Dirigido a

Network engineers deploying Cisco IP Telephony and Video solutions and students looking to achieve the CCNP Collaboration Certification.

### Pre-requisitos

**Attendees should meet the following prerequisites:**

- Working knowledge of fundamental terms and concepts of computer networking, including LANs, WANs, and IP switching and routing
- Ability to configure and operate Cisco routers and switches and to enable VLANs and DHCP
- Basics of digital interfaces, PSTN, and VoIP
- Fundamental knowledge of converged voice and data networks
- Ability to configure Cisco IOS gateways with traditional and VoIP call legs
- Prior attendance of the following is recommended: ICND1 and ICND2 or CCNABC, CICA or ICOMM and VIVND2 or CIVND2.

## Objetivos

### **After you complete this course you will be able to:**

- Describe Cisco Unified Communications Manager, including its functions, architecture, deployment and redundancy options, and how to install or upgrade
- Perform Cisco Unified Communications Manager initial configuration and user management
- Configure Cisco Unified Communications Manager to support on-cluster calling
- Implement PSTN access in Cisco Unified Communications Manager and to build a dial plan in a single-site Cisco Unified Communications Manager deployment
- Implement Cisco Unified Communications Manager media resources
- Implement Cisco Unified Communications Manager features and applications
- Describe multisite deployment issues and solutions, and describe and configure required dial plan elements
- Implement call-processing resiliency in remote sites by using Cisco Unified SRST, MGCP fallback
- Implement bandwidth management and CAC to prevent oversubscription of the IP WAN
- Implement Device Mobility and Cisco Extension Mobility
- Describing Cisco VCS and Cisco Expressway Series Deployment Options
- Deploy users in Cisco VCS environment

## Contenido

### **Cisco Unified Communications Manager Introduction**

- Describing the role of Cisco Unified Communications Manager, its architecture and its deployment and redundancy options.
- Performing Initial Cisco Unified Communications Manager Configuration
- Deploying Endpoints and Users
- Deploying IP Phone Services

### **Dial Plan Introduction and Implementation of Single-Site On-Cluster Calling**

- Describing Dial Plan Components
- Implementing Endpoint Addressing and Call Routing
- Implementing Calling Privileges
- Implementing Call Coverage in Cisco Unified Communications Manager

## Implementation of Single-Site Off-Cluster Calling

- Implementing PSTN Access Using MGCP Gateways
- Describing Cisco IOS H.323 and SIP Gateways
- Implementing PSTN Access Using H.323 Gateways
- Using the Cisco Unified Border Element to Access the PSTN via a SIP Trunk

## Multisite Deployment Implementation

- Identifying Issues in a Multisite Deployment
- Identifying Multisite Deployment Solutions

## Centralized Call-Processing Redundancy Implementation

- Implementing SRST and MGCP Fallback

## Media Resources

- Describing Media Resources in Cisco Unified Communications Manager
- Implementing Annunciators and MOH
- Implementing MTPs

## Audio and Video Conferencing

- Describing Conferencing Devices and their Functions
- Implementing Conference Bridges
- Describing Cisco TelePresence Server and TelePresence Conductor

## Bandwidth Management and CAC Implementation

- Managing Bandwidth
- Implementing CAC

## Implementation of Features and Applications for Multisite Deployments

- Implementing Device Mobility

## Cisco VCS and Cisco Expressway

- Describing Cisco VCS and Cisco Expressway Series Deployment Options

## Quality of Service

- Describing QoS Components and their Functions
- Implementing Marking and Queuing