

Deploying Unified Contact Center Enterprise (DUCCE)

COURSE OVERVIEW:

Deploying Cisco Unified Contact Center Enterprise (DUCCE) is a 5-day instructor-led course developed by Sunset Learning Institute intended for system engineers and customers who will be involved with day-to-day maintenance and installation of the Cisco Unified Contact Center Enterprise (CCE) product deployed in a CVP comprehensive environment. This course gives the learner an understanding of the Unified CCE deployment capabilities, processes, fault tolerance, installation, and troubleshooting tools for inbound and outbound Contact Center functionality. This will be accomplished by installing and configuring the Unified CCE software and introducing Unified CCE troubleshooting tools.

DUCCE is intended for those installing the solution, or who may be responsible for Level 3 support of the solution. This course also serves as a good stepping-stone for AUCCE Part 1 and AUCCE Part 2, but is not a prerequisite. Students will learn enough about CCE scripting in this course to ensure system functionality only, not become scripting experts.

WHO WILL BENEFIT FROM THIS COURSE?

The primary audience for this course is as follows:

- Cisco Unified Communications system channel partners and resellers
- System engineers

The secondary audience for this course is as follows:

- Customers deploying and maintaining Cisco Unified Contact Center Enterprise products

PREREQUISITES:

To fully benefit from this course, students should have the following prerequisite skills and knowledge:

- Working knowledge of basic networking and components (router, switch, NIC)
- Working knowledge of Microsoft Windows Server deployed within an Active Directory environment
- Working knowledge of a Windows computer including a mouse and the simultaneous use of the Alt-Tab keys

COURSE OBJECTIVES:

After completion of this course, students will be able to...

- Demonstrate an overall understanding of the Cisco Unified CCE solution, processes, and its environment.
- Install and configure a Cisco Unified CCE solution as deployed with Unified CVP, including CTI functionality used with Unified Communications Manager.
- Install and configure Cisco Outbound Option using a SIP Dialer.
- Utilize the Legacy Command Line Utilities within the ICM environment for support and troubleshooting UCCE.

- Utilize the Diagnostic Framework suite of utilities (Analysis Manager, Diagnostic Portico, CLI) within the UCCE environment for support and troubleshooting of UCCE.
- Demonstrate proficiency with various utilities within the UCCE solution for troubleshooting and support of the environment.

COURSE OUTLINE:

Module 1: Cisco Unified Contact Center Enterprise Foundations

Lesson 1: Introducing UCCE

- Unified CCE Overview
- Attributes of Cisco Unified CCE
- Cisco Unified CCE Components
- Unified CCE Naming Conventions
- Cisco Unified CCE Options
- Agent Desktop Options
- What's New

Lesson 2: Unified CCE Architecture and Components

- Overview
- Voice Gateways (VG)
- Unified Communications Manager (UCM)
- Agent Phones and Features
- Intelligent Contact Manager (ICM)
- Customer Voice Portal (CVP)
- VXML
- Features of Unified CVP

Lesson 3: UCCE Terms, Routing and Additional Components

- Unified CCE Terms
- Unified CCE Call Flow Types
- Additional Unified CCE Components
- Contact Center Management Portal (CCMP)
- Cisco Unified Intelligence Center (CUIC)
- Geographic Dependencies/CCE Networks
- Packaged Contact Center Enterprise (PCCE)

Lesson 4: Accessing UCCE Tools

- Accessing UCM
- Accessing ICM
- Accessing CVP
- Accessing Voice Gateways
- Accessing CCMP

Module 2: Preparing UCCE for Basic IVR Scripting**Lesson 1: UCCE Call Flows and Protocols**

- UCCE Comprehensive Call Flow
- UCCE Comprehensive Protocols
- Installation and Configuration Checklist
- Lesson 2: Using Domain Manager
- Active Directory (A/D) Overview
- Domain Manager and Organizational Units (OU's)

Lesson 3: Introducing the Unified CCE Main Installer

- Overview
- Domain Manager
- ICM Main Installer
- Web Setup Tool
- PG Setup Tool
- Admin Data Client Installer

Lesson 4: Central Controller Installation

- Using the Web Setup Tool
- Using ICMdba for Logger Database
- Using Web Setup for Router(s)
- Using Web Setup for Logger(s)
- Diagnostic Framework Portico

Lesson 5: Installing Admin Data Servers and Clients

- Admin Workstation Types
- Using ICMDBA for Admin Workstation Databases
- Using Web Admin to configure Admin Data Server
- Installing the Admin Data Client
- Configuration Manager Overview

Lesson 6: Configuring ICM for CVP

- Overview
- ICM Configuration for CVP Support
- ICM PG Setup for CVP Support

Lesson 7: Configuring CVP for UCCE

- Overview
- Installing CVP Server
- Installing the Operations Console
- Installing Remote Operations
- Installing the Reporting Server
- Ops Console Overview
- Configuring a Call Server
- Configuring a VXML Server
- Configuring a Reporting Server
- Configuring a Media Server in Ops Console
- Licensing

- Verify your Configuration
- SIP Routing Options for CVP

Lesson 8: UCCE Voice Gateway Internetworking Considerations

- Introducing SIP
- Ingress/VXML Gateway Overview
- Ingress/VXML Gateway CVP File Transfer to Flash
- Ingress/VXML Gateway File Transfer
- Call Server Configuration
- SIP Proxy Configuration
- UCM Configuration
- Configure IOS Voice Gateway through CVP OAMP

Lesson 9: Basic IVR Scripting with Microapps

- UCCE Script Editors
- ICM Script Editor Overview
- Using ICM Script Editor Nodes
- Configuring ICM Script Editor Nodes
- Scheduling ICM Scripts
- Scripting with a MicroApp

Module 3: Preparing UCCE for Basic Agent Functionality

Lesson 1: Configure UCM to Support UCCE

- Protocol Review
- UCM Configuration Steps
- PG Configuration and Setup
- Loading JTAPI Client
- CTI Route Point Considerations
- RTMT
- Verifying Functionality

Lesson 2: Installing UCCE CTI Software

- CTI Overview
- Installing CTI Server with PG Setup Tool
- Installing CTIOS Server
- Installing CTIOS Agent Desktop
- Agent and Skill Group Configuration
- Agent Targeting Rule
- Testing the Agent Functionality

Lesson 3: UCCE Configuration and Scripting for Additional Agent and IVR Functionality

- Overview
- Understanding Variables
- Understanding MicroApps
- Understanding Media Server and Audio Files
- Audio Prompt Gateway Considerations
- Implementing MicroApps in an ICM Script
- Implementing Queuing Nodes in an ICM Script

Lesson 4: Enabling Transfers and RONA

- Transfer Types Overview
- Subsequent Transfer Considerations
- ICM Configuration Steps
- UCM Configuration Steps
- RONA

Module 4: Installing CCE VXML Solution

Lesson 1: Basic VXML Functionality

- What is VXML?
- Cisco Unified CVP VXML Solution

Lesson 2: Installing and Configuring VXML Solution

- Cisco Unified CVP VXML Server Configuration
- Cisco Unified Call Studio Project Configuration
- Project Deployment and VXML Server Maintenance Tasks
- ICM Considerations for VXML Application Support

Lesson 3: Exploring Courtesy Callback

- What is Courtesy Callback?
- Courtesy Callback Call Flow
- Courtesy Callback Considerations
- Configuring Courtesy Callback

Module 5: Installing CCE Outbound

Lesson 1: Introduction to Outbound Option

- Outbound Option Overview
- Outbound Option Components
- Dialer Types
- Dialing Modes
- Outbound Campaign Features
- SIP Call Flows
- SIP Dialer Design Considerations
- Voice Gateway Design Considerations

Lesson 2: Outbound Option Installation and Configuration

- ICM Installation and Configuration for Outbound Option
- Voice Gateway and Unified CM Considerations
- Outbound Option Installation Verification

Lesson 3: Configuring Outbound Option for Agent and IVR Campaigns

- Campaign Types Overview
- Prerequisite Configurations for Outbound Campaigns
- Agent-Based Campaign
- Agent-Based Campaign Scripting
- IVR-Based Campaign Configuration
- IVR-Based Campaign Scripting

Module 6: Supporting CCE

Lesson 1: ICM Processes

- Simple Startup
- Simplex Central Controller Startup Detail
- Simplex PG Startup
- Administration and Data Server Startup
- ICM Fault Tolerance
- Duplexed Central Controllers
- Central Controller Failure Scenarios
- Configuration Change Sequence

Lesson 2: Diagnostic Framework Suite

- Diagnostic Framework Suite Review
- Analysis Manager
- Unified System CLI
- Diagnostic Framework Portico

Lesson 3: UCCE Support

- ICM Support
- CVP Support
- Gateway Support
- UCM Support

Lesson 4: Service Assurance

- Syslog and SNMP
- Failover and High Availability

LABS:

Lab 1-1: Overview of UCCE Lab Environment:

- Make test phone calls to validate what is working/not.
- Change auto-assigned Agent DN in UCM to match Pod # and dial-plan

Lab 1-2: Explore Voice Gateway:

- Basic Navigation and show commands to demonstrate that this device is a part of the dial-plan
- Verify Calls delivered on inbound T-1 circuit

Lab 1-3: Explore CVP and ICM Servers:

- Use RDP to connect to CVP Call Server/VXML Server.
- Use RDP to connect to ICM PG and Admin Data Client
- Browse CVP Ops Console (OAMP Server) Configuration
- Service Control for PG, Diagnostic Framework Portico for PG Processes

Lab 2-1: Install the ICM Main Installer

- Install ICM Main Installer
- Run ICM Domain Manager to create Instance
- Join Instance in Web Setup

Lab 2-2: Install ICM Central Controller and Admin Data Server/HDS

- Install ICM Router(s)
- ICMDBA for Logger(s)
- Install ICM Logger(s)
- ICMDBA for HDS
- Install Admin Data Server
- Diagnostic Framework Portico to check Router/Logger/ADS processes.

Lab 2-3: Configure/Install PG for CVP and UCM

- JTAPI Application User, Client, Default Agent Desk Settings
- Configure Generic PG Logically (CVP, UCM)
- Type 10 Network VRU, Label
- Install PG Software
- Add ECC Variables
- DF Portico to check key processes
- Test UCM PG with CTI Route Point

Lab 2-4: Install, Configure and License CVP Components

- Install CVP Server
- Configure CVP component(s) in Ops Console (OAMP Server)
- License CVP components via OAMP, check status of ICM with Diagnostic Framework, check Control Center and /diag for CVP.

Lab 2-5: Configure IOS Voice Gateway for CVP

- Upload CVP Files to Flash
- Deploy IOS Configuration via Ops Console
- Test call flow thus far using UCCE tools/utilities

Lab 2-6: Configure ICM for CVP Scripting

- Add DN's, Call Types
- Map DN's to Call Types

Lab 2-7: Prepare a Simple CVP Test Script

- Configure Play Media Microapp
- Import and Configure Test ICM Script
- Test and Debug Script

Lab 2-8: Use ICM Tools to Observe Script Progress

- Monitor Mode
- Call Tracer
- Router Log Viewer

Lab 3-1: ICM Scripting with Microapps

- Media Files and Microapps
- SIP Trunks for Transfers
- UCM Route Patterns
- Microapps

Lab 3-2: Configure ICM for Basic Agent Functionality

- Configure Skill Groups/Routes
- Configure Agent
- Associate Phones with JTAPI User
- Configure Agent Targeting Rule

Lab 3-3: Install CTI Components

- CTI Server (CTI Gateway) Installation
- CTI O/S Server Installation
- CTI O/S Client Installation
- Login and Test MicroApp Script Transfer to Agent using CTI O/S client
- Configure Finesse Server
- Login and Test Finesse

Lab 3-4: CTI Route Point Initiated Calls

- Configure ICM DN and UCM Route Point
- Network VRU Label for UCM
- UCM Route Pattern for CVP Transfer
- Build/Test Transfer Script

Lab 3-5: Configure Calls Using SIP with Proxy (Optional)

- Observe Networks, Triggers, SIP Server Groups
- Configure Route Group, Element
- Configure Route Table
- Configure Call Server for CUSP

Lab 4-1: Configure Courtesy Callback (CCB)

- Install Call Studio
- Configure VXML/Reporting/Media Servers for CCB
- Modify CCB VXML Applications and Deploy
- Build CCB ICM Script, Test and Troubleshoot

Lab 5-1: Install and Configure Cisco Outbound Option – SIP

- Enable Dialer Functionality
- Configure/Install Media Routing (MR) PG and Dialer
- Trunking Considerations
- Configure System Options/Contact List/Import Rule
- Configure Campaign
- Configure Admin Script and Routing Script for Campaign
- Test Dialer

Lab 6-1: Using Troubleshooting Tools

- Turn up tracing (debug) via Unified System CLI
- Gather/Analyze Log Files

Lab 6-2: Troubleshooting Lab

- Hands-on troubleshooting using tools – Instructor break/you fix.

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