

# ADMINISTERING UNIFIED CONTACT CENTER ENTERPRISE PART 2 v10 (AUCCE 2)

## ***COURSE OVERVIEW:***

**Administering Cisco Unified Contact Center Enterprise Part 2 (AUCCE Part 2)** is an Advanced 5 day instructor-led course **developed by Sunset Learning Institute** for system engineers and customers who will be involved with day 2 support of a UCCE solution deployed in a CVP comprehensive environment. This course gives the learner an understanding of the requirements, resources and tools required to perform complex adds, moves and changes in the inbound/outbound UCCE environment.

This course is intended for those performing advanced administration of the solution, or who may be responsible for Level 2-3 support of the solution. The AUCCE Part 1 course or equivalent prior experience is a prerequisite for attending this course. This course is also a good companion course to the DUCCE course which covers more detail on the installation/maintenance of the solution. The overall goal of this course is advanced administration of the solution by a deeper exposure into the technical operational requirements and the tools used to configure and ensure functionality. Do Not take this course if you are new to CCE, you will not have a good time. If you are already working with CCE, or if you've taken the Part 1 course, you'll love this course!

If you are using an earlier version of UCCE, you will benefit from this training. Although we use 10.x in the class, skills taught will be equivalent and still of value to you.

## ***WHO WILL BENEFIT FROM THIS COURSE?***

The primary audience for this course is as follows:

- Cisco Unified Communications system channel partners and resellers
- Day 2 support personnel responsible advanced administration and support of the UCCE environment

## ***PREREQUISITES:***

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

- Attendance of AUCCE Part 1 or equivalent real world experience is a requirement to attend this course.
- **DO NOT take this course if you are new to UCCE**, you will be wasting your time and time of those around you in class! You need some experience with UCCE before attending this course!! If you cannot spell UCCE, this course is not for you! If you don't know what ICM object binds a Dialed Number to a Script, you need to take the Part 1 course, not this one! If you don't know the 2 main uses for Call Types, you should not take this course!! Obviously, this means you need some prerequisite knowledge before attending this course.
- Working knowledge of Unified Communications Manager and Voice Gateways would be really helpful. The VFCC is a perfect foundational course.

## ***RELATED COURSES:***

- AUCCE Part 1
- DUCCE



## ***COURSE OBJECTIVES:***

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

- Demonstrate advanced proficiency with add/move/change of the ACD/PBX (agent/skill) environment of UCCE
- Demonstrate advanced proficiency with add/move/change of the IVR (prompt/collect) environment of UCCE including both MicroApp and VXML solution scripting (ICM Scripting and Call Studio scripting).
- Demonstrate effective use of system tools to track and troubleshoot a call within a call flow.

## ***COURSE OUTLINE:***

### **Module 1: Cisco Unified Contact Center Enterprise v10 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: CCE Configuration and Scripting Review**

### **Lesson 1: Configuration Manager and Script Editor Review**

- Configuration Manger
- Script Editor

### **Lesson 2: CTI Review**

- CTI Server Review
- Finesse
- CTI OS Server
- CTI OS Client
- Cisco Agent Desktop
- Agent States

### **Lesson 3: Agent Skill Review**

- Agent Functionality: ICM Configuration Steps
- Agent Login
- Agent Functionality: UCM Configuration Steps
- UCM Application User
- Configuring Agent IP phones for Unified CCE
- Agent phone / JTAPI User association

### **Lesson 4: Microapps and Media File Review**

- Microapps
- Understanding Media Server and Audio Files
- Audio Prompt Gateway Considerations
- Implementing Microapps in an ICM Script

### **Lesson 5: Precision Routing Review**

- Precision Routing Overview
- Implementing Precision Routing
- Agents and Attributes
- Precision Queues
- CCE Scripting for Precision Routing
- Precision Routing Limitations and Reporting

### **Lesson 6: Transfers and RONA Review**

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

### **Lesson 7: Mobile Agents**

- Mobile Agent Review
- Mobile Agent Configuration to support CCE



## **Module 3: Implementing Business Rules**

### **Lesson 1: Advanced Scripting and Routing**

- Script Editor Advanced Features and Tools
- Best Practice ICM Scripting for Reporting
- Region /Area Code Routing
- Call Types vs Requalify
- Route Select
- Congestion Control
- Multiline
- Dealing with IVR Node Failures
- Supervisor Assistance Scripts
- Emergency Assistance Scripts
- Reason Codes

### **Lesson 2: ICM Scripting Variables, Expressions, Formulae and Functions**

- Variables
- Formula Editor
- Using Builtin Functions
- Custom Function

### **Lesson 3: Creating and Admin Script for Time of Day Routing**

- Administrative Scripts Overview
- Building an Admin Script
- Scheduling an Admin Script
- Testing an Admin Script

### **Lesson 4: Creating Feature Control Sets and Users**

- Feature Control Sets
- ICM Users
- Internet Script Editor

## **Module 4: 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: Basic VXML - SQL Database Lookup**

- Overview
- SQL/JDBC/JNDI Configuration
- Call Studio Configuration
- ICM Scripting and Testing

### **Lesson 4: Exploring Courtesy Callback**

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



### **Lesson 5: Agent Greeting**

- Agent Greeting Overview
- Deployment Considerations
- ICM Configuration
- Verification

## **Module 5: 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: Configuring Outbound Option for Agent and IVR Campaigns**

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

## **Module 6: CCE Support considerations**

### **Lesson 1: Supporting UCCE**

- Troubleshooting Methodology for UCCE
- Importance of Accurate Troubleshooting Information
- Contacting Cisco TAC

### **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: Tracking an Agent call through the Database**

- TOD and RCD Review
- Querying RCD and TCD Records



## **LABS:**

### **Lab 1-1: Review Labs**

- Identify UCCE Components
- Identify the Communications Protocols Between UCCE Components
- Review the CVP Call Flow, Part 1
- Review the CVP Call Flow, Part 2

### **Lab 1-2: Verify and Prepare the Lab Environment:**

- Verify Phone Calls: Agent IP Phone to Agent IP Phone.
- Verify Phone Calls: Agent IP Phone to PSTN IP Phone
- Change Agent Phone Directory Numbers

### **Lab 1-3: Explore and Verify Your Voice Gateway:**

- Verify the Voice Gateway Router Configuration
- Show the Router Flash
- Show Voice Port Summary
- Show and Debug Calls

### **Lab 1-4: Explore and Verify 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 and Examine CVP Ops Console (OAMP Server) Configuration
- Explore CCE Administration Tools Program Group
- Explore the Diagnostic Framework Portico to Observe the PG Status
- Map Drives to Student Shares for Lab Activities

### **Lab 2-1: Administering ICM Dialed Numbers and Call Types:**

- Add DN's and Call Types and Map DN's to Call Types
- Deleted Objects Tool

### **Lab 2-2: Media Files and Variables in ICM Scripts:**

- Media Server Configuration
- ECC Variables
- Create PodXY\_mApp\_Variable ICM script
- Script Reference Tool

### **Lab 2-3: Basic IVR Scripting with MicroApps:**

- Create Network VRU Scripts (MicroApps)
- Build PodXY\_mApp Script to Execute microApps for Prompt/Collect
- Use Go To nodes in Scripting – PodXY\_mApp\_Variable script goes to PodXY\_mApp script
- Schedule/Test/Troubleshoot call flow thus far – transfer to Label fails
- UCM SIP Trunks for Transfers – transfer to Label now works

### **Lab 2-4: Configure ICM for Agent and Skill Group Functionality:**

- Add Skill Groups, Routes
- Add Agents, map to Skill Group(s)
- Agent Target Rules
- More Call Types



**Lab 2-5: Configure UCM for Agent Functionality:**

- Failed Login via Finesse
- Associate Agent Phone with JTAPI user
- Successful Login with Finesse

**Lab 2-6: Install CTIOS Agent Desktop (optional)**

- Install Desktop
- Test Login

**Lab 2-7: Scripting for Skill Groups and Queuing:**

- Create PodXY\_QtoSG script with Queue to Skill Groups and Queue logic
- Configure PodXY\_mApp script to GO TO PodXY\_QtoSG script and test

**Lab 2-8: Configuring Precision Routing:**

- Web Admin Overview
- Configure Attributes
- Add Attributes to Agents
- Build PQ's (SalesXY and SupportXY)
- Step Configuration
- Build PodXY\_PQ script and test with mApp script output (modify Go To)

**Lab 2-9: RONA**

- RONA Timeout and Configuration Considerations
- RONA Script Logic
- Testing RONA

**Lab 2-10: Configure CTI Route Point for CCE Calls and Agent-Initiated Transfers (Optional)**

- CTI Route Point (3XY6), JTAPI Association, ICM DN configuration
- Network VRU Label for UCM
- Route Pattern config for Label
- Build/test basic PodXY\_Transfer Script

**Lab 2-11: Configure Agent Transfers via Dialed Number Plan (Optional):**

- Configure DN 3XY5,
- Configure "Alias" pattern of 3XY4 in Dialed Number Plan
- Dialed Number Type plan considerations
- Test Transfer

**Lab 2-12: Configure Calls Using SIP with Proxy (3XY2): (Optional)**

- CUSP Config
- UCM Trunks, Route Patterns
- Ops Console and GW config for SIP Proxy
- Test calls thru SIP Proxy

**Lab 3-1: Administrative Scripts**

- Time of Day Admin Scripts
- Referencing Admin Script Variables in a Routing Script
- Challenge Lab – other Admin Scripts



**Lab 3-2: Feature Control Sets and Users:**

- Configure a Feature Control Set with limited access
- Configure ICM User and associate FCS
- Configure User group in A/D
- Test Login with limited permissions

**Lab 4-1: VXML Server Configuration and Call Studio Installation:**

- Observe VXML Server Configuration in Ops Console
- Install Call Studio

**Lab 4-2: Create and Deploy a Cisco Unified Call Studio Project:**

- Create Basic Call Studio Project to Exchange information between ICM and VXML Application
  - Play Callers ANI
  - Play Media\_ID
  - Menu for Sales/Support
  - Collect SalesXY and SupportXY to return to ICM in Caller\_Input
  - Deploy .zip Project to VXML Server via Ops Console
  - Check Status.bat on VXML Server

**Lab 4-3: Integrate VXML Applications with ICM Script:**

- Build ICM Script to “call” VXML Application deployed.
- Caller\_Input variable is used to pick Dynamic Call Type and Dynamic PQ!

**Lab 4-4: SQL DB Lookup Functionality for VXML:**

- Create SQL Customer Database and create SQL User with permissions
- Install JDBC Driver and add JNDI Context
- Add/Configure DB Lookup element in Studio Project and deploy
- ICM Scripting and testing
- Challenge Lab: Using Complex ICM formulas

**Lab 4-5: Courtesy Callback (CCB):**

- CVP Reporting Server Configuration
- Ingress/VXML Gateway considerations
- Ops Console and Media Files for CCB
- Customize VXML applications for CCB
- Build/test ICM script for CCB operations

**Lab 4-6: Agent Greeting:**

- Built-In Bridge and VXML Gateway configuration considerations
- Configure FTP for Agent Greeting
- Configure Media Server for Agent Greeting
- CVP OAMP configuration for Agent Greeting
- Configure DN's, Call Types, Microapps for Agent Greeting
- Import/configure/test ICM and VXML Agent Greeting apps
- Use Agent Greeting in ICM scripts

**Lab 5-1: Basic Outbound Agent Campaign:**

- Verify configuration of Outbound Option Components (optional, long)
- Agent Campaign Configuration
- Import Rules
- Contact/Do Not Call Lists
- Query Rules





- Call Types and DN's
- Campaigns
- Agent Campaign Routing and Admin Scripts
- Test Outbound Agent Campaigns

**Lab 5-2: IVR Campaign (Challenge Lab):**

- Configure IVR Campaign with minimal guidance

**Lab 6-1: Using Troubleshooting Tools:**

- Using System CLI to set trace levels
- Gather Log Files
- Analyze Log Files

**Lab 6-2: Track a call thru RCD/TCD Records:**

- RCD Query and Analysis
- TCD Query and Analysis

**Lab 6-3: Instructor Break/Fix:**

- We Break It
- You Fix It in ½ hour or less.

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