

**Course Description:** Troubleshooting Cisco Unified Communications Systems (TUC) v1.0 equips network professionals with the knowledge and skills required to troubleshoot Unified Communications systems & solutions in Enterprise, Mid-Market, and Commercial deployments. TUC teaches troubleshooting methodology, triage, resources, tools and fixes at the integrated system or solution level, and for components such as Cisco Unified Call Manager, Cisco Unity, videoconferencing, and infrastructure. This is a troubleshooting course and the learners should spend 60-70 percent of their time in the lab.

**Who Should Attend:** This course is for Network administrators, Network engineers, System engineers, and Network managers.

**Prerequisites:** The knowledge and skills that a learner must have before attending this course are as follows: \* Sound fundamental networking knowledge (CCNA), \* Voice fundamentals: Cisco Voice over IP (CVOICE), \* Call Agent (Cisco Unified CallManager) skills and knowledge: Cisco IP Telephony Part 1 and Part 2 (CIPT1 and CIPT2), \* Voice Infrastructure: Implementing Gateways and Gatekeepers (GWGK), and \* an understanding of factors that affect voice and video quality: Implementing Cisco Quality of Service (QoS).

**Benefits of Attendance:** Upon completion of this course, students will be able to:

- Use a systematic methodology to troubleshoot Cisco Unified Communication systems by using knowledge of tools and reports that help isolate Cisco Unified Communication system problems.
- Isolate the specific problem, propose a solution, and, where appropriate, implement the solution when given a trouble call that has been categorized as a Cisco Unified CallManager-related issue.
- Diagnose a call setup issue and resolve the issues.
- Troubleshoot the quality of both voice and video streams.
- Isolate the specific problem, propose a solution, and, where appropriate, implement the solution when given a trouble call that has been isolated to a Cisco Unified Communications system component application.

## Course Outline:

### Course Introduction

Overview  
Course Goal and Objectives  
Course Flow  
Additional References  
Your Training Curriculum

### Module 1: A Methodology and Tools for Troubleshooting Cisco Unified Communications Systems

Introducing Cisco Unified Communications Systems Troubleshooting  
Understanding Troubleshooting Methodology in Cisco Unified Communications Systems  
Gathering Information for Troubleshooting  
Lab 1-1: Lab Discovery and Phone Configuration  
Lab 1-2 Using TUC Tools

### Module 2: Troubleshoot Cisco Unified CallManager-Related Issues

Troubleshooting Common Endpoint Registration Issues  
Troubleshooting Cisco Unified CallManager Availability Issues  
Troubleshooting Cisco Unified CallManager Security Issues  
Troubleshooting Database Replication Issues  
Troubleshooting LDAP Replication Issues  
Troubleshooting Common Gateway Registration Issues  
Lab 2-1: Trouble Ticket 1  
Lab 2-2: Trouble Ticket 2  
Lab 2-3: Trouble Ticket 3  
Lab 2-4: Trouble Ticket 4  
Case Study 2-5: Troubleshoot LDAP Synchronization Issues for Cisco Unified CallManager Release 4.1(3)  
Lab 2-6: Trouble Ticket 6  
Case Study 2-7: Troubleshoot Database Replication Issues for Cisco Unified CallManager Release 4.x  
Lab 2-8: Trouble Ticket 8

### Module 3: Troubleshoot Call Setup Issues

Introducing Call Setup Issues and Causes  
Troubleshooting On-Premises Single-Site Calling Issues  
Troubleshooting Offsite Call Issues  
Troubleshooting Intercluster Dial Plan Issues  
Troubleshooting Gatekeepers in a Cisco Unified Communications System  
Lab 3-1: Trouble Ticket 1  
Lab 3-2: Trouble Ticket 2  
Lab 3-3: Trouble Ticket 3  
Lab 3-4: Trouble Ticket 4  
Lab 3-5: Trouble Ticket 5  
Lab 3-6: Trouble Ticket 6

Lab 3-7: Trouble Ticket 7  
Lab 3-8: Trouble Ticket 8  
Lab 3-9: Trouble Ticket 9  
Lab 3-10: Trouble Ticket 10

### Module 4: Troubleshoot Voice and Video Quality Issues

Defining Common Voice and Video Quality Issues  
Troubleshooting VoIP Quality Problems  
Troubleshooting Echo  
Troubleshooting Quality Problems of Cisco Unified Video Advantage  
Lab 4-1: Trouble Ticket 1  
Lab 4-2: Trouble Ticket 2  
Lab 4-3: Trouble Ticket 3  
Lab 4-4: Trouble Ticket 4

### Module 5: Application Integration and Media Resource Issues

Troubleshooting Common Cisco Unity Integration Issues  
Troubleshooting CTI Issues  
Troubleshooting Media Resources  
Lab 5-1: Trouble Ticket 1  
Lab 5-2: Trouble Ticket 2  
Lab 5-3: Trouble Ticket 3  
Lab 5-4: Trouble Ticket 4  
Lab 5-5: Trouble Ticket 5  
Lab 5-6: Trouble Ticket 6