

UNIFIED COMMUNICATIONS, WEB 2.0 & MICE FOR CISCO SYSTEMS, INC.®

Applied Learning Solutions' *Unified Communications, Web 2.0 and MICE* is a comprehensive 2 day course. It was designed specifically to provide the essential skills and knowledge needed to work with Unified Communications protocols, architectures and system testing and to understand where Cisco's Unified Communications 6.0 fits into the overall industry direction.

Background:

"That's the future." John Chambers said in his keynote address to Networld/Interop 2007 in Las Vegas, referring to the powerhouse combination of Unified Communications applications running in the emerging Web 2.0 context, an approach increasingly referred to as Multimedia, Internet, Communications and Entertainment (MICE). "It's a hard concept, but it goes right to the issue of increased productivity. But when Unified Communications becomes common, it will not only change how we work, but how much we get done." Chambers said that years ago he predicted that the Internet and now-common ways of communicating would lead to productivity increases of between 3 to 5 percent. He said many scoffed at those predictions, but they became true. "This will be a replay of that first wave," Chambers predicted in his keynote.

Highlights:

Applied Learning Solutions' *Unified Communications, Web 2.0 and MICE* provides both the high level architectural and industry perspectives and also presents the detailed level view of the protocols and the functional aspects of these topics. Students will gain an understanding of the technologies, how to deal with the next generation of applications and the network infrastructure required to support them. Highlights include:

- Brief competitive overview of UC and Web 2.0 industry landscape
- Architectural overview of Cisco Unified Communications 6.0
- Protocol Workshop based upon a discovery learning approach
- Emphasis on Product Requirements and System Testing
- Focus on Quality of Service and Quality of Experience Issues
- Security, Certificate Authorities, Encryption and Key Management
- 40% Traditional and Discovery Labs and Interactive Group Lab Debriefs

Objectives:

At the end of this session students will be able to:

1. Describe Unified Communications architectures
2. Explain multiple definitions of UC in the marketplace and where Cisco Unified Communications 6.0 fits in
3. Dissect traditional and emerging communications protocols used in UC and Web 2.0
4. Explain how MICE represents the post-Triple Play world of IP networking
5. Participate in making John Chamber's promise of the next generation IP network a reality

Level: This is an Intermediate level course. See Prerequisites for additional detail.

Prerequisites:

A working knowledge of the Internet Protocol suite, data, voice and video protocols and a basic understanding of principles of Quality of Service and Quality of Experience are desirable to fully appreciate the materials being presented. Individuals without some or all of these prerequisites will benefit from this learning experience, as well, but may be unable to finish lab work during class.

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Day 1

Module 1: Three Views of Unified Communications

- Microsoft View
- Service Provider View
- Cisco View
- UC vs Unified Messaging

Module 2: Web 1.0 → Web 2.0

- The O'Reilly Factor
- Shifting Paradigms

Module 3: Multimedia, Internet, Communications, Entertainment (MICE)

- MICE Overview
- Life Beyond The Triple Play
- Infrastructure, QoS and QoE
- Service Ubiquity
 - Broadband Wireless
 - Standards
 - Platforms & Mobility
 - Role of IMS

Module 4: Cisco Unified Communications System 6.0

- Integrated Solution
 - Network Infrastructure
 - Security
 - Mobility
 - Network Management
 - Lifecycle Services
- Third-party Applications

Module 5: Inside UC Part 1: Sessions

- Session Initiation Protocol (SIP)
 - SIP Protocol
 - SIP Call Flows
 - SIP Testing
 - SIP Security
- SIP SIMPLE
- Session Description Protocol (SDP)
 - SDP Format
 - SDP: Data Sessions
 - SDP: Voice Sessions/VoIP
 - SDP: Video Sessions
- RSVP
 - Call Admission Control
 - Quality of Service (QoS)
 - Quality of Experience (QoE)

- Location Tracking
- Presence Applications/SIP Presence Engine (SPE)
- User Location
 - Wireless
 - Wireline
- Cisco Emergency Responder
- Session Border Controller (SBC)

Individual Lab Exercise & Group Debrief: SIP, SDP and RSVP Internals and Testing

Day 2

Module 6: Inside UC Part 2: Data

- HTTP/sHTTP
- HTML/XML
- FTP/TFTP

Module 7: Inside UC Part 3: Voice

- SIP Voice
- SCCP/Cisco Skinny
- H.323
- MGCP

Module 8: Inside UC Part 4: Video

- Videoconferencing Rooms
- Unified IP Phones
- Unified Video Advantage
- Multipoint/Multimedia Control Unit
- H.320 / H.323
- SCCP
- SIP

Module 9: Inside UC Part 5: Rich Media Conferencing

- Integration
 - SMTP
 - Jabber
 - Outlook
- Webex and Web Conferencing
- Cisco TelePresence

Module 10: Inside UC Part 6: Security

- Privacy & Security
- Certificates and Certificate Authorities
- Encryption
- Key Management, PKI, pKI
- SIP Proxy/Secure Authentication
- HTTP Digest Authentication
- Secure Real Time Protocol
- Cisco Remote Party ID (RPID)

Module 11: Pulling it All Together

- UC & MICE

**Individual Discovery Lab Exercise & Group Debrief:
Unified Communications**

Conclusion