

## CCIE Voice Lab Exam v3.0 Topics (*blueprint*)

The blueprint is a detailed outline of the topics likely to appear on the lab exam. This blueprint introduces pre-configurations of basic tasks (such as phone registration, basic application integration, basic dial plan, etc.), in order to devote additional focus on expert level skills (advanced configuration and troubleshooting) assessments. As usual, knowledge of troubleshooting is an important skill and candidates are expected to diagnose and solve issues as part of the CCIE lab exam. The topics listed are guidelines and other relevant or related topics may also appear.

<b>1.00</b>	<b>Implement and Troubleshoot Campus Infrastructure and Services</b>
1.01	VLAN
1.02	DHCP
1.03	TFTP
1.04	NTP
<b>2.00</b>	<b>Implement and Troubleshoot CUCM Endpoints</b>
2.01	CUCM SCCP Endpoints
2.02	CUCM SIP Endpoints
<b>3.00</b>	<b>Implement and Troubleshoot CUCME Endpoints</b>
3.01	CUCME SCCP Endpoints
3.02	CUCME SIP Endpoints
<b>4.00</b>	<b>Implement and Troubleshoot Voice Gateways</b>
4.01	T1/E1 PRI
4.02	T1/E1 CAS
4.03	H.323
4.04	MGCP
4.05	SIP
4.06	H.323 RAS
4.07	IP-IP Gateway/CUBE
<b>5.00</b>	<b>Implement and Troubleshoot Call Routing Policies</b>
5.01	Route Patterns and Dial-peers
5.02	Digit Manipulations and Translations
5.03	Class of Services
5.04	Route Selection Preference and Redundancy
5.05	Mobility and Single Number Reach
<b>6.00</b>	<b>Implement and Troubleshoot High Availability Features</b>
6.01	SRST
6.02	AAR
<b>7.00</b>	<b>Implement and Troubleshoot Media Resources</b>
7.01	CODEC Selection and Flexibility
7.02	Conference Bridges
7.03	Transcoder
7.04	Music-on-hold
7.05	Media Resources Preference and Redundancy

7.06	Other CUCM Media Resources
<b>8.00</b>	<b>Implement and Troubleshoot Supplementary Services</b>
8.01	Call Park
8.02	Call Pickup
8.03	Barge
8.04	Callback
8.05	Other Supplementary Services
<b>9.00</b>	<b>Implement and Troubleshoot Other CUCM Voice Applications</b>
9.01	Extension Mobility
9.02	IPMA
9.03	Other CUCM Voice Applications
<b>10.00</b>	<b>Implement and Troubleshoot QoS and CAC</b>
10.01	L2/L3 Traffic Classifications and Policing
10.02	L2/L3 Queuing Mechanisms
10.03	L2 LFI
10.04	RSVP
10.05	Call Admission Control
<b>11.00</b>	<b>Implement and Troubleshoot Messaging</b>
11.01	Cisco Unity Connection
11.02	Cisco Unity Express
11.03	Call Handling and Routing
<b>12.00</b>	<b>Implement and Troubleshoot Cisco Unified Contact Center Express</b>
12.01	Advanced Configuration
12.02	Script Customization
12.03	Redundancy
<b>13.00</b>	<b>Implement and Troubleshoot Cisco Unified Presence</b>
13.01	CUCM Presence
13.02	Cisco Unified Presence Server Integration