



Building Cisco Multilayer Switched Networks (BCMSN) v3.0

Associated Certifications : CCDP / CCNP
Duration : 5 days, Classroom

Prerequisites

CCNA (INTRO and ICNDv2.2 or newer)

Course Content

CCNP Training for advance skills in building Enterprise level switched networks and applications. Integrate Advance Technologies such as VoIP and Wireless.

Course Objective:

In this course, students will learn how to create an efficient and expandable enterprise network by installing, configuring, monitoring, and troubleshooting network infrastructure equipment (especially Catalyst Multilayer Switches) according to the Campus Infrastructure module in the Enterprise Composite Network model. The campus switched network includes converged IP data, IPC (voice), and Airspace WLAN (Wireless) connectivity.

Course Outline

- Introduction to Campus Networks
- Defining Virtual Networks (VLANs)
- Implementing Spanning Tree
- Implementing InterVLAN Routing
- Implement High Availability in a Campus Environment
- Wireless Client Access
- Minimizing Service Loss and Data Theft in a Campus Network
- Configuring Campus Switches to Support Voice

Who Should Attend

- Channel Partner / Reseller
- Customer
- Employee



642-812 BCMSN: Building Converged Cisco Multilayer Switched Networks

Exam Number	: 642-812
Associated Certifications	: CCNP and CCDP
Duration	: 90 minutes
Available Languages	: English
Register for Exam	: Pearson VUE

Exam Description

The Building Converged Cisco Multilayer Switched Networks (BCMSN 642-812) is a qualifying exam for the Cisco Certified Network Professional CCNP® and the Cisco Certified Design Professional CCDP® certifications. The BCMSN 642-812 exam will certify that the successful candidate has important knowledge and skills necessary to implement scalable multilayer switched networks. The exam includes topics on Campus Networks, describing and implementing advanced Spanning Tree concepts, VLANs and Inter-VLAN routing, High Availability, Wireless Client Access, Access Layer Voice concepts, and minimizing service Loss and Data Theft in a Campus Network.

Exam Topics

The following information provides general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes the guidelines below may change at any time without notice.

Implement VLANs

- Explain the functions of VLANs in a hierarchical network.
- Configure VLANs (e.g., Native, Default, Static and Access).
- Explain and configure VLAN trunking (i.e., IEEE 802.1Q and ISL).
- Explain and configure VTP.
- Verify or troubleshoot VLAN configurations.

Conduct the operation of Spanning Tree protocols in a hierarchical network

- Explain the functions and operations of the Spanning Tree protocols (i.e., RSTP, PVRST, MISTP).
- Configure RSTP (PVRST) and MISTP.
- Describe and configure STP security mechanisms (i.e., BPDU Guard, BPDU Filtering, Root Guard).
- Configure and Verify UDLD and Loop Guard.
- Verify or troubleshoot Spanning Tree protocol operations.
- Configure and verify link aggregation using PAgP or LACP.

Implement Inter-VLAN routing

- Explain and configure Inter-VLAN routing (i.e., SVI and routed ports).
- Explain and enable CEF operation.
- Verify or troubleshoot InterVLAN routing configurations.

Implement gateway redundancy technologies

- Explain the functions and operations of gateway redundancy protocols (i.e., HSRP, VRRP, and GLBP).
- Configure HSRP, VRRP, and GLBP.
- Verify High Availability configurations.

**Describe and configure wireless client access**

- Describe the components and operations of WLAN topologies (i.e., AP and Bridge).
- Describe the features of Client Devices, Network Unification, and Mobility Platforms (i.e., CCX, LWAPP).
- Configure a wireless client (i.e., ADU).

Describe and configure security features in a switched network

- Describe common Layer 2 network attacks (e.g., MAC Flooding, Rogue Devices, VLAN Hopping, DHCP Spoofing, etc.)
- Explain and configure Port Security, 802.1x, VACLs, Private VLANs, DHCP Snooping, and DAI.
- Verify Catalyst switch (IOS-based) security configurations (i.e., Port Security, 802.1x, VACLs, Private VLANs, DHCP Snooping, and DAI).

Configure support for voice

- Describe the characteristics of voice in the campus network.
- Describe the functions of Voice VLANs and trust boundaries.
- Configure and verify basic IP Phone support (i.e. Voice VLAN, Trust and CoS options, AutoQoS for voice).