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## Building Cisco Multilayer Switched Networks

**Duration: 5 Days**    **Course Code: BCMSN**

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### Overview:

BCMSN is a five-day instructor-led course which will enable delegates to implement appropriate technologies to build scalable, multi-layer, switched networks; build switched networks using multilayer switching technologies; create and deploy a global intranet, and implement basic troubleshooting techniques in environments that use Cisco multilayer switches for client hosts and services. This course will also enable delegates to improve traffic flow, reliability, redundancy and performance for LAN switching that is self-supported or transported via a service provider. The purpose of this course is to enable delegates to achieve a mid-career professional -level.

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### Target Audience:

This course is intended for network administrators and technicians who are responsible for implementing or troubleshooting a multilayer switched network in an enterprise environment.

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### Objectives:

- Use the Campus Infrastructure module of the Enterprise Composite Network Model to deploy an efficient and expandable enterprise network.
  - Define VLANs to segment network traffic and manage network utilization.
  - Implement STP to accelerate network traffic convergence in Layer 2.
  - Troubleshoot spanning tree, and identify enhancements provided by RSTP and MST.
  - Implement multilayer switching to enable higher data throughput between isolated VLANs
  - Implement redundancy in the routing layer to improve and ensure end-to-end availability of network services.
  - Secure switches in the Campus Infrastructure module against data theft and service loss in the event of network compromise.
  - Configure the campus switches to optimize traffic flow when voice, video and data applications traverse a single converged network.
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### Prerequisites:

- Valid CCNA or have attended
- INTRO - Introduction to Cisco Network Technologies
- ICND - Interconnecting Cisco Network Devices

### Testing and Certification:

- 642-811
  - 642-891 – Composite Exam incorporating BSCI & BCMSN  
BCMSN is part of the CCDP/ CCNP Certification Paths
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### Follow-on-Courses:

- BCRAN – Building Cisco Remote Access Networks
  - CIT – Cisco Internetwork Troubleshooting
  - ARCH - Designing Cisco Network Architectures
  - BSCI - Building Scalable Cisco Internetworks
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## Content:

### Designing a Network Using the Campus Infrastructure Module

- Describing the Campus Infrastructure Module.
- Deploying Technology in the Campus Infrastructure Module

### Defining VLANS

- Implementing vlans
- Supporting Multiple VLANs on a Single Trunk
- Propagating VLAN Information with VTP

### Implementing Spanning Tree

- Defining the Spanning Tree Protocol
- Maintaining and Configuring STP
- Configuring PortFast
- Guarding against Rogue STP Root Bridges
- Configuring UplinkFast
- Configuring BackboneFast
- Configuring EtherChannel

### Enhancing Spanning Tree

- Troubleshooting Spanning Tree
- Preventing STP Forwarding Loops
- Implementing RSTP
- Implementing MST

### Implementing Multilayer Switching

- Describing Routing Between VLANs
- Deploying CEF-Based Multilayer Switching
- Enabling Routing Between VLANs on a Multilayer Switch

### Implementing Redundancy in the Routing Layer

- Configuring Layer 3 Redundancy with HSRP
- Optimizing HSRP
- Configuring Layer 3 Redundancy with VRRP and GLBP
- Implementing Hardware and Software Redundancy on Modular Switches
- Designing High Availability in a Multilayer Switch

### Minimizing Service Loss and Data Theft in a Switched Network

- Understanding Switch Security Issues
- Mitigating VLAN Attacks
- Mitigating Spoof Attacks
- Implementing AAA
- Defending Network Switches

### Configuring Campus Switches to Support Voice and Video Applications.

- Accommodating Voice Traffic on Campus Switches
- Configuring IP Multicast

### Optimising and securing multilayer switched networks.

- Optimizing multilayer switched networks
- Securing multilayer switched networks

### Understanding Metro Ethernet.

- Examining metro Ethernet connectivity services and Layer 1 transport options
- Examining metro Ethernet tunneling

## Further Information:

For More information, or to book your course, please call us on 353-1-814 8200

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