Building Converged Cisco Multi-layered Switched Networks (BCMSN)

This course is designed for network administrators and support or design staff requiring a greater understanding of the advanced features and functions of Cisco Switching.

This 4 day instructor led course explains how to design, build, configure and troubleshoot resilient campus networks using Cisco products and understand the appropriate technologies to build scalable multilayer switched networks.

- All exam topics are covered
- Authorised Cisco Instructors
- 12 months post course support

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Objectives</th>
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<tr>
<td>Building Cisco Multi-layered Switched Networks</td>
<td>Upon completion of this course, the delegate will be able to:</td>
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<td>This course forms part of the following Cisco certifications</td>
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<tr>
<td><strong>CCNP</strong> (Cisco Certified Network Professional)</td>
<td>• Creating VLANs</td>
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<tr>
<td><strong>CCDP</strong> (Cisco Certified Design Professional)</td>
<td>• Propagating VLAN information with VTP</td>
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<tr>
<td>Certification</td>
<td>• Managing Redundant Links with Spanning Tree</td>
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<td>Required topics are covered for the Cisco exam:</td>
<td>• Enabling InterVLAN Routing</td>
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<td><strong>642-812 BCMSN</strong></td>
<td>• Improving IP Routing performance with Multilayer Switching</td>
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<td>Duration</td>
<td>• Implementing HSRP for Fault Tolerant Routing</td>
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<td>4 days</td>
<td>• Managing high bandwidth broadcasts with IP Multicast</td>
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<td>• Implementing secure wireless connectivity into the campus topology</td>
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<td>• Using QoS to meet the service levels required by applications</td>
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<td>• Securing the network and eliminating unwanted traffic</td>
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<td>• Extending the campus through the use of Metropolitan Ethernet</td>
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Course Pre-Requisites
Delegates are required to meet the following prerequisites:
- Completion of the CCNA course or equivalent
- A basic knowledge of the windows operating system
Course Content

- Introduction to Campus Networks
- Course Introduction
- Campus Networks as part of an Enterprise Network
- Devices in a Non-hierarchical Network
- Layer 2 Network Issues
- Routed Network Issues
- What is a Multilayer Switch
- Issues with Multilayer Switches and VLANs in a Non-hierarchical Network
- The Enterprise Composite Model
- Benefits of the Enterprise Composite Model
- Campus Infrastructure Module
- Best Practices for VLAN Topologies
- Implementing VLANs
- Implementing Trunks
- Propagating VLAN Configurations with VTP
- Correcting Common VLAN Configuration Errors
- Spanning Tree Protocol
- Preventing STP Forwarding Loops
- Implementing Rapid Spanning Tree Protocol (RSTP)
- Implementing the Multiple Spanning Tree Protocol (MSTP)
- Configuring Link Aggregation and Ether Channel
- Routing Between VLANs
- Deploying CEF-Based Multilayer Switching
- Enabling Routing Between VLANs
- Configuring Layer 3 Redundancy with HSRP
- Configuring Layer 3 Redundancy with VRRP and GLBP
- Implementing Hardware and Software Redundancy in Modular Switches
- Redundant Power Supply Configuration Commands
- Introducing Wireless LANs (WLANs)
- Wireless Theory and Standards
- Implementing WLANs
- Cisco WLAN
- Cisco Wireless Clients
- Configuring Basic WLAN
- Planning for Implementation of Voice in a Campus Network
- Accommodating Voice Traffic on Campus Switches
- Switch Security Issues
- Protecting Against VLAN Attacks
- Protecting Against Spoof Attacks
- Securing Network Switches
- STP Security Mechanisms