

Recommended reading for Multilayer Switching (Master course)

Rich Seifert, *The Switch Book*

Chapter 2 Transparent Bridges.
Chapter 3 Bridging between Technologies
Chapter 4 Principles of LAN Switches
Chapter 5 Loop Resolution
Chapter 9 Link Aggregation
Chapter 11 Virtual LAN
Chapter 12 Virtual LAN
Chapter 13 Priority Operation

On-line Cisco materials CCNP3 Building Multilayer Switched Networks

Module 2: Defining VLANs

2.1 Implementing Best Practices for VLAN Topologies
2.2 Implementing VLANs
2.3 Implementing Trunks

Module 3: Implementing Spanning Tree

3.1 Describing STP
3.2 Implementing RSTP
3.3 Implementing MSTP
3.4 Configuring Link Aggregation with EtherChannel (only Describing EtherChannel, Describing PAgP and LACP)

Module 4: Implementing Inter-VLAN Routing

4.1 Describing Routing Between VLANs
4.2 Enabling Routing Between VLANs (only Describing Layer 3 SV, Describing Routed Ports on a Multilayer Switch)
4.3 Deploying CEF-Based Multilayer Switching

Module 5: Implementing High Availability in a Campus Environment

5.1 Configuring Layer 3 Redundancy with HSRP (only Describing Routing Issues, Identifying the Router Redundancy Process, Describing HSRP, Identifying HSRP Operations, Describing HSRP States)

Module 8: Minimizing Service Loss and Data Theft in a Campus Network

8.1 Understanding Switch Security Issues
8.2 Protecting Against VLAN Attacks (only Explaining VLAN Hopping, VLAN Access Control Lists, Private VLANs and Protected Ports)
8.3 Protecting Against Spoof Attacks (only Describing a DHCP Spoof Attack, Describing DHCP Snooping, Describing ARP Spoofing , Dynamic ARP Inspection)
8.4 STP Security Mechanisms (only Protecting the Operation of STP, Root Guard)
8.5 Preventing STP Forwarding Loops (only Unidirectional Link Detection, Loop Guard)

CCNP4 Optimizing convergent networks

Module 2: Cisco VoIP Implementations

- 2.1 Introducing VoIP Networks**
- 2.2 Digitizing and Packetizing Voice**
- 2.3 Encapsulating Voice Packets for Transport**
- 2.4 Calculating Bandwidth Requirements for VoIP**

Module 3: Introduction to IP QoS

- 3.1 Introducing QoS**
- 3.2 Implementing Cisco IOS QoS**
- 3.3 Selecting an Appropriate QoS Policy Model**

Module 4: Implement the DiffServ QoS Model

- 4.1 Introducing Classification and Marking**
- 4.3 Introducing Queuing Implementations**
- 4.4 Configuring WFQ (only Weighted Fair Queuing, Architecture and Benefits , WFQ Classification)**
- 4.5 Configuring CBWFQ and LLQ (only Combining Queuing Methods, Class-Based Weighted Fair Queuing, CBWFQ Architecture, Classification and Scheduling)**

Module 6: Implement Wireless Scalability

- 6.1 Implementing WLAN QoS**
- 6.2 Introducing Wireless Security**