

Multilayer switching Recommended reading

Enterprise Campus Design

Access layer

Distribution Layer

Core Layer

Defining VLANs

Best Practices for VLAN Design

End-to End VLAN

Local VLAN

VLANs

Trunking protocols

802.1Q Trunking

Native VLAN

VTP

Private VLANs

Link Aggregation with EtherChannel

Describing PAgP and LACP

Spanning Tree

STP Basics

STP Operation

RSTP

RSTP ports

MSTP

STP Enhancements (BPDU Guard, BPDU Filtering, Root Guard, UDLD)

Inter-VLAN Routing

Describing Routing Between VLANs

Enabling Routing Between VLANs

SVI

Routed Ports on a Multilayer Switch

DHCP in Multilayer switch environment

Deploying CEF-Based Multilayer Switching

Implementing High Availability in a Campus Environment

High Availability (Redundancy, Resiliency, Tools)

Network Monitoring (Syslog, SNMP, IP SLA)

Layer 3 Redundancy with HSRP

Layer 3 Redundancy with VRRP

Layer 3 Redundancy with GLBP

Minimizing Service Loss and Data Theft in a Campus Network

Understanding Switch Security Issues

Layer2 Attack Categories

Protecting Against VLAN Attacks

VLAN Hopping,

VLAN Access Control Lists

Private VLANs

Port security and Protected Ports

Protecting Against Spoof Attacks

DHCP Spoof Attack and DHCP Snooping

ARP Spoofing and Dynamic ARP Inspection

STP Security Mechanisms

Securing Network switches

Preparing the Campus Infrastructure for Advanced Services

VoIP Implementations

Introducing VoIP Networks

Campus Network Design Requirements for Deploying VoIP

Digitizing and Packetizing Voice

Encapsulating Voice Packets for Transport

Calculating Bandwidth Requirements for VoIP

IP QoS

Understanding of QoS(delay, jitter, packet loss)

QoS Service Models

Implementing Cisco IOS QoS

Selecting an Appropriate QoS Policy Model

Auto QoS

DiffServ QoS Model

Classification and Marking

Trust Boundaries

Traffic Shaping and Policing

Congestion Management (Queuing Implementations)

Congestion Avoidance

Wireless Scalability

Wireless LAN Topologies

WLAN QoS

Wireless Security