Cisco Networking Academy CCNA Semester 3

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Chapter 2: LAN Switching

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- 3.3.3 Static VLANs
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3.4 Benefits of VLANs

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- 3.4.2 How VLANs help control broadcast activity
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Chapter 4: LAN Design

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- 4.1.2 Critical components of LAN Design
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- 4.1.4 Intranet
- 4.1.5 Why contention is an issue with Ethernet

- 4.1.6 How broadcast domains relate to segmentation
- 4.1.7 The difference between bandwidth and broadcast domains

4.2 Network Design Methodology

- 4.2.1 Gathering and analyzing requirements
- 4.2.2 Factors that affect network availability
- 4.2.3 Physical topologies used in networking

4.3 Layer 1 Design

4.3.1 Designing the Layer 1 Topology : signaling method, medium type, and maximum length

- 4.3.2 Diagramming a standards-based Ethernet cable run from the workstation to the
- HCC, including distances
- 4.3.3 HCC, VCC, MDF, IDF, and POP
- 4.3.4 10BASE-T and 100BASE-TX Ethernet
- 4.3.5 Elements of a logical topology diagram

4.4 Layer 2 Design

- 4.4.1 Common Layer 2 devices and their impact on network domains
- <u>4.4.2</u> Asymmetric switching
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- <u>4.4.4</u> Determining the number of cable runs and drops
- 4.4.5 Determining the size of collision domains in hubbed and switched networks
- <u>4.4.6</u> Diagraming hub placement in a standards-based extended star topology
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- 4.5.2 How VLANs can create smaller broadcast domains
- 4.5.3 Explain how a router provides structure to a network
- 4.5.4 Why large, scalable LANs need to incorporate routers
- 4.5.5 Diagramming a standards-based LAN that uses routers
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- 5.1.1 Explain path determination
- 5.1.2 Path determination
- 5.1.3 The operation of routing tables
- 5.1.4 Metrics
- 5.1.5 Router forwarding decisions

5.2 Routed and Routing Protocols

- 5.2.1 Routing Protocols
- 5.2.2 Multiprotocol routing

5.3 IP Routing Protocols

- 5.3.1 Differentiating one routing protocol from another
- 5.3.2 The goals of routing protocols
- 5.3.3 Routing loops
- 5.3.4 Static and dynamic routing
- 5.3.5 Classifications of routing protocols
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5.4 IGRP Operation

5.4.1 IGRP's Metrics

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- 5.4.4 Describe three features of IGRP which enhance its stability
- 5.4.5 IGRP metrics and routing updates
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Chapter 6: ACLs

6.1 Access Control Lists (ACLs)

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- 6.1.2 Reasons to create ACLs
- 6.1.3 Testing packets with ACLs
- 6.1.4 How ACLs work
- 6.1.5 Flowchart of the ACL test matching process

6.2 ACL Configuration Tasks

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- 6.2.2 The purpose and function of wildcard mask bits
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6.3 Standard ACLs

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- 6.3.3 How to verify access lists
- 6.3.4 Writing a standard ACL to permit traffic from a source network
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- 6.4.2 Extended ACL parameters
- 6.4.3 UDP and TCP port numbers
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6.5 Named ACLs

- 6.5.1 Configuring named ACLs
- 6.5.2 The deny command
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6.6 Using ACLs with protocols

6.6.1 Protocols for which ACLs can be created

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- 6.7.1 Rule: "Putting the extended ACL as close as possible to the source of traffic denied"
- 6.7.2 Using ACLs in firewall routers
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6.8 Verifying ACLs

6.8.1 How to verify ACLs and interpret the output

Chapter 7: Novell IPX

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- 7.1.2 IPX features

7.1.3 IPX addressing

7.2 Novell Encapsulation

- 7.2.1 Netware Ethernet encapsulation terms
- 7.2.2 The IOS encapsulation names for Ethernet, FDDI, and Token Ring
- 7.2.3 The IPX packet format

7.3 Novell Routing

- 7.3.1 Novell RIP
- 7.3.2 Service advertising protocol
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7.4 Novell IPX Configuration

7.4.1 Novell IPX configuration tasks

7.4.2 Writing a valid IOS command sequence to assign IPX network numbers to interface

7.4.3 Writing a valid IOS commands for monitoring and troubleshooting IPX

7.5 Monitoring and Managing an IPX Network

- 7.5.1 Writing a valid IOS commands for monitoring the status of an IPX interface
- 7.5.2 Writing a valid IOS command sequence to monitor IPX routing tables
- 7.5.3 Writing a valid IOS command sequence for monitoring Novell IPX servers

7.5.4 Writing a valid IOS command to monitor IPX traffic, and describe some of the field

options for that command

- 7.5.5 Writing a valid IOS command for troubleshooting IPX routing
- 7.5.6 Writing a valid IOS command for troubleshooting IPX SAP
- 7.5.7 Using the privileged IPX ping command
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- 8.1.1 Cut sheet diagrams
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- 8.1.5 Maintenance records
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8.2 Network Security

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8.3 Environmental Factors

- 8.3.1 Static, Dust, Dirt and Heat
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- 8.3.3 EMI and RFI
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8.4.1 Network Baseline, updates and change verification

8.5 Server Administration

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- 8.5.2 8.5.3 Client-Server
- Network Control

8.6 Network troubleshooting

- Scientific method
- <u>8.6.1</u> <u>8.6.2</u> Analyze Network Troubleshooting