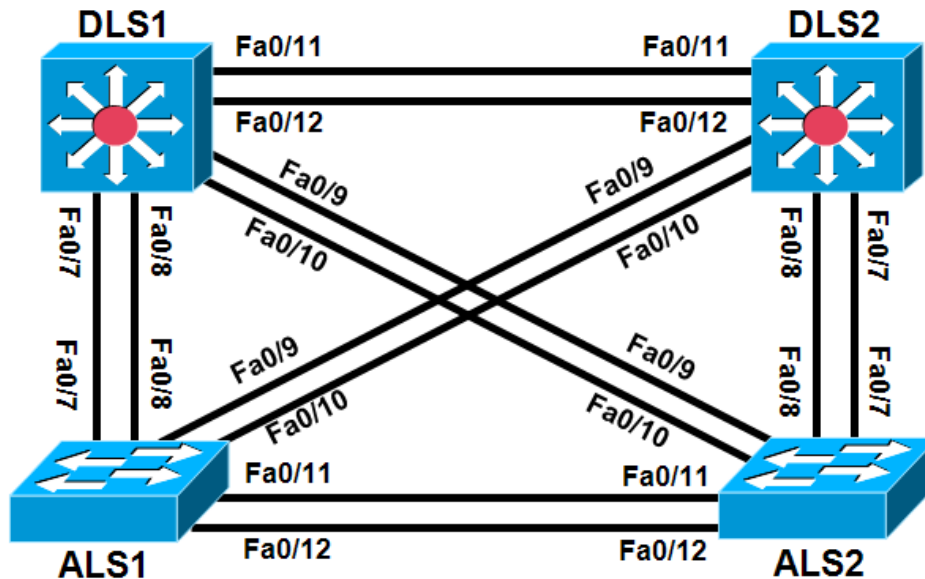# Chapter 7 Lab 7-3, Voice and Security in a Switched Network - Case Study

Topology

Objectives

- Plan, design, and implement the International Travel Agency switched network as shown in the diagram and described below.
- Implement the design on the lab set of switches.
- Verify that all configurations are operational and functioning according to the guidelines.

Note: This lab uses Cisco WS-C2960-24TT-L with the Cisco IOS image c2960-lanbasek9-mz.122-46.SE.bin and Catalyst 3560-24PS with the Cisco IOS image c3560-advipservicesk9-mz.122-46.SE.bin. Other switches (such as 2950 or 3550), and Cisco IOS Software versions can be used if they have comparable capabilities and features. Depending on the switch model and Cisco IOS Software version, the commands available and output produced might vary from what is shown in this lab.

Required Resources

- 2 switches (Cisco 2960 with the Cisco IOS Release 12.2(46)SE C2960-LANBASEK9-M image or comparable)
- 2 switches (Cisco 3560 with the Cisco IOS Release 12.2(46)SE C3560-advipservicesk9-mz image or comparable)
- Console and Ethernet cables

Requirements

The International Travel Agency has two distribution switches, DLS1 and DLS2, and two access layer switches, ALS1 and ALS2. Configure the switches as follows:

1. Disable the links between the access layer switches.

2. Place all switches in the VTP domain CISCO and set them all to VTP mode transparent.

3. Configure all inter-switch links statically as 802.1q trunk links.

4. Create VLANs 10 and 200 on all switches. Configure DLS1 and DLS2 SVIs in VLAN 10 and assign addresses in the 172.16.10.0/24 subnet.

5. Configure DLS1 and DLS2 to use HSRP on the 172.16.10.0/24 subnet. Make DLS1 the primary gateway, and enable preemption on both switches.

6. Place ports Fa0/15 through Fa0/20 in VLAN 10 on both access layer switches.

7. Enable PortFast on all access ports.

8. Enable QoS on all switches involved in the scenario.

9. Configure ALS1 Fa0/15 and F0/16 for use with Cisco IP phones with a voice VLAN of 200 and trust the IP phone CoS markings using AutoQoS.

10. Configure ALS1 Fa0/18 through Fa0/20 for port security. Allow only up to three MAC addresses to be learned on each port and then drop any traffic from other MAC addresses and set the violate mode to **protect**.

11. Configure ALS2 Fa0/18 to only allow the MAC address 1234.1234.1234 and to shut down if a violation occurs.

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