Network Documentation

1. Overview

- The network consists of three Cisco switches: MLS (Catalyst 3560 Series), S1, and S3.

- MLS serves as the core switch, while S1 and S3 are access switches.

- The network follows a hierarchical design with MLS at the core and S1 and S3 as access layer switches.

2. Equipment

- MLS (Core Switch):

  - Model: Cisco Catalyst 3560 Series

  - Ports: 24 FastEthernet ports, 2 GigabitEthernet ports

- S1 and S3 (Access Switches):

  - Model: Cisco Catalyst 2960-24TT

  - Ports: 24 FastEthernet ports

3. VLAN Configuration

- VLAN 10: User devices

- VLAN 20: User devices

- VLAN 30: User devices

- VLAN 99: Management VLAN

4. IP Addressing

- VLAN 10: 192.168.10.0/24, Gateway: 192.168.10.254

- VLAN 20: 192.168.20.0/24, Gateway: 192.168.20.254

- VLAN 30: 192.168.30.0/24, Gateway: 192.168.30.254

- Management VLAN (VLAN 99): 192.168.99.0/24, Gateway: 192.168.99.254

5. Inter-VLAN Routing

- Inter-VLAN routing is enabled on MLS.

- Each VLAN has its own SVI (Switch Virtual Interface) with an IP address serving as the default gateway for the respective VLAN.

6. Trunking

- Trunk ports are configured between MLS and S1 (GigabitEthernet0/1) and between MLS and S3 (GigabitEthernet0/2).

- Native VLAN for trunk ports: VLAN 999.

7. Default Gateway

- Default gateway for all switches: 192.168.99.254.

8. Spanning Tree Protocol (STP)

- Spanning Tree Protocol is configured in PVST mode on all switches.

9. Management Access

- Telnet access is enabled for virtual terminals on all switches (vty 0 to 15).

10. IPv6 Routing

- IPv6 routing is configured on MLS with a default route pointing to GigabitEthernet0/2.

11. DHCP Configuration

- DHCP pools are configured on MLS for VLANs 10, 20, and 30.

- DHCP excluded addresses are configured for each VLAN.

- DHCP default router is set to the corresponding VLAN interface IP address.

12. Security

- Service timestamps are disabled.

- Password encryption is disabled.

13. Interfaces

- Access ports are configured on S1 and S3 for VLANs 10, 20, and 30.

- Trunk ports are configured between switches and the core switch.

14. VLAN Interface

- VLAN interfaces are configured with IP addresses on MLS for each VLAN.

- VLAN interfaces are not configured on S1 and S3.

15. Summary

- The network is designed with VLAN segmentation for user traffic and a separate management VLAN.

- Inter-VLAN routing is enabled on the core switch.

- Trunk links are used to connect access switches to the core switch.

- Security features such as service timestamps and password encryption are disabled.