Module 3: Network Module 3 PT8

Network Layer - Layer 3 - Packets - Day 6

Vocabulary and Links

Layer 2 vs Layer 3 Switch - PowerCert
Collision vs. Broadcast Domain: Hub, Switch and Router - Sunny's Classroom
Collision Domain vs Broadcast Domain - PowerCert
VLANs Explained - PowerCert
VLANs vs Subnets - PowerCert
What is VLAN and Why VLAN? - Sunny's Classroom
Static VLAN vs Dynamic VLAN - Sunny's Classroom
Default VLAN vs Native VLAN - Sunny's Classroom
InterVLAN Routing - 3 options - Sunny's Classroom
IEEE 802.1Q: Tagging and Trunking 101 - Sunny's Classroom

Broadcast Domain

Logical group of devices on the same data link network can reach each other.

- Different types of broadcasts.
- Generally, all devices connected to a hub, bridge and switch are in the same broadcast domain.

Multiple Broadcast Domain

- Two or more broadcast domains
- Traditionally, multiple broadcast domains are separated by layer 3 device (e.g. router)
- Number of broadcast domains increase
- Number of collision domains stay the same
    - Each switch port is its own collision domain

Methods for connecting Multiple Broadcast Domains

Virtual Local Area Network (VLAN) - VLAN is a logical network that can group devices/users regardless of their different physical locations. A VLAN is created at the switch.

- Segmentation
- The simplicity of network design and deployment
- Easier troubleshooting and management

Static VLAN - Port based VLAN that is manually assigned.

- Dedicated device

Dynamic VLAN - Can control many ports via a central server instead of manually assigning.

- MAC Based assignment

ELI5: VLANS Edition

You have a large box of legos. You divide the legos into 3 groups and build 3 separate lego cities. These cities don't talk to each other even though they are from the same lego box set.