Packet Tracer - Who Hears the Broadcast?

# Objectives

Part 1: Observe Broadcast Traffic in a VLAN Implementation

Part 2: Complete Review Questions

# Scenario

In this activity, a 24-port Catalyst 2960 switch is fully populated. All ports are in use. You will observe broadcast traffic in a VLAN implementation and answer some reflection questions.

# Instructions

## Use ping to generate traffic.

* + 1. Click **PC0** and click the **Desktop** tab> **Command Prompt**.
    2. Enter the **ping 192.168.1.8** command. The ping should succeed.

Unlike a LAN, a VLAN is a broadcast domain created by switches. Using Packet Tracer **Simulation** mode, ping the end devices within their own VLAN. Based on your observation, answer the questions in Step 2.

## Generate and examine broadcast traffic in a VLAN implementation.

* + 1. Switch to **Simulation** mode.
    2. Click **Edit Filters** in the Simulation Panel. Uncheck the **Show All/None** checkbox. Check the **ICMP** checkbox.
    3. Click the **Add Complex PDU** tool, this is the open envelope icon on the right toolbar.
    4. Float the mouse cursor over the topology and the pointer changes to an envelope with a plus (+) sign.
    5. Click **PC0** to serve as the source for this test message and the **Create Complex PDU** dialog window opens. Enter the following values:
* Destination IP Address: 255.255.255.255 (broadcast address)
* Sequence Number: 1
* One Shot Time: 0

Within the PDU settings, the default for **Select Application:** is PING.

### Question:

What are at least 3 other applications available for use?

Type your answers here.

* + 1. Click **Create PDU**. This test broadcast packet now appears in the **Simulation Panel Event List.** It also appears in the PDU List window. It is the first PDU for Scenario 0.
    2. Click **Capture/Forward** twice.

### Question:

What happened to the packet?

Type your answers here.

* + 1. Repeat this process for **PC8** and **PC16**.

# Reflection Questions

* 1. If a PC in VLAN 10 sends a broadcast message, which devices receive it?

Type your answers here.

* 1. If a PC in VLAN 20 sends a broadcast message, which devices receive it?

Type your answers here.

* 1. If a PC in VLAN 30 sends a broadcast message, which devices receive it?

Type your answers here.

* 1. What happens to a frame sent from a PC in VLAN 10 to a PC in VLAN 30?

Type your answers here.

* 1. Which ports on the switch light up if a PC connected to port 11 sends a unicast message to a PC connected to port 13?

Type your answers here.

* 1. Which ports on the switch light if a PC connected to port 2 sends a unicast message to a PC connected to port 23?

Type your answers here.

* 1. In terms of ports, what are the collision domains on the switch?

Type your answers here.

* 1. In terms of ports, what are the broadcast domains on the switch?

Type your answers here.

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