Task1: Troubleshoot Port Duplex Issues

* **Procedure1:**

On SW2, verify that you have console logging enabled. Use the **show logging** command.

CLOSE TIP

From the output, you can see that logging is enabled.

SW2# **show logging**

Syslog logging: enabled (0 messages dropped, 0 messages rate-limited, 0 flushes, 0 overruns, xml disabled, filtering disabled)

No Active Message Discriminator.

No Inactive Message Discriminator.

Console logging: level debugging, 15 messages logged, xml disabled,

filtering disabled

Monitor logging: level debugging, 0 messages logged, xml disabled,

filtering disabled

Buffer logging: level debugging, 15 messages logged, xml disabled,

filtering disabled

Exception Logging: size (4096 bytes)

Count and timestamp logging messages: disabled

Persistent logging: disabled

Trap logging: level informational, 18 message lines logged

Logging Source-Interface: VRF Name:

<... output omitted ...>

* **Procedure2:**

Press the **Enter** key or the **Next** button to get more information.

Because you have console logging enabled, the switch is reporting its status. As a result, your colleague is seeing the duplex mismatch message.

CLOSE TIP

The duplex mismatch message appears.

%CDP-4-DUPLEX\_MISMATCH: duplex mismatch discovered on FastEthernet0/13 (not full duplex), with R1 FastEthernet0/0 (full duplex).

SW2#

**Note**

In a real environment, you would use the **Space** key to get more information. However, this is a simulation, so a part of the output has been omitted.

* **Procedure3:**

Use the **show interfaces FastEthernet0/13** command to identify the duplex setting on the interface.

CLOSE TIP

SW2# **show interfaces FastEthernet0/13**

FastEthernet0/13 is up, line protocol is up (connected)

Hardware is Fast Ethernet, address is 000b.5fe5.81cd (bia 000b.5fe5.81cd)

MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

Keepalive set (10 sec)

Half-duplex, Auto-speed, media type is 100BaseTX

input flow-control is unsupported output flow-control is unsupported

ARP type: ARPA, ARP Timeout 04:00:00

<? output omitted ?>

SW2#

You can see that half duplex is set on the FastEthernet0/13 interface.

* **Procedure4:**

Use the **show ip interface brief | include 0/13** command to verify that the interface is functional.

CLOSE TIP

SW2# **show ip interface brief | include 0/13**

FastEthernet0/13 unassigned YES unset up up

The output shows that the FastEthernet0/13 interface is in an "up/up" state. This status means that, although the duplex settings are mismatched on the link, it is still functional. The drawback is that the connection is not efficient. With a half-duplex operation, the device cannot send and receive data at the same time.

* **Procedure5:**

Now you need to fix the issue that you identified. You need to enter the configuration mode and set the FastEthernet 0/13 interface duplex setting to "full" using the **duplex full** command.

CLOSE TIP

On SW2, enter the following commands:

SW2# **configure terminal**

Enter configuration commands, one per line. End with CNTL/Z.

SW2(config)# **interface FastEthernet 0/13**

SW2(config-if)# **duplex full**

**Procedure6:**

Do not forget to save the changes that you made.

CLOSE TIP

Save your changes by copying the running configuration to the startup configuration. Usually, you would execute the **copy running-config startup-config** command from the privileged mode. But by adding the **do** command in front of it, you can also execute it from the interface configuration mode where you are currently in.

SW2(config-if)# **do copy running-config startup-config**

Destination filename [startup-config]? <Enter>

Building configuration...

[OK]