Two computers, PC1(192.168.1.2) and PC2 (192.168.2.3), from different networks must be configured to communicate with each other. In this experiment, you will use the router as an intermediate device. Configure Cisco 1841 ISR router with the two PCs mentioned above. Experiment and observe that the data transfers between two computers are reliable.

Aim:

Configure Cisco 1841 router with the two PCs and observe that the data transfer between two computers are reliable.

Requirements

- Windows PC / Laptop
- CISCO Packet Tracer Software (Student Version)

Procedure

- Open the CISCO Packet tracer software

LAN 1

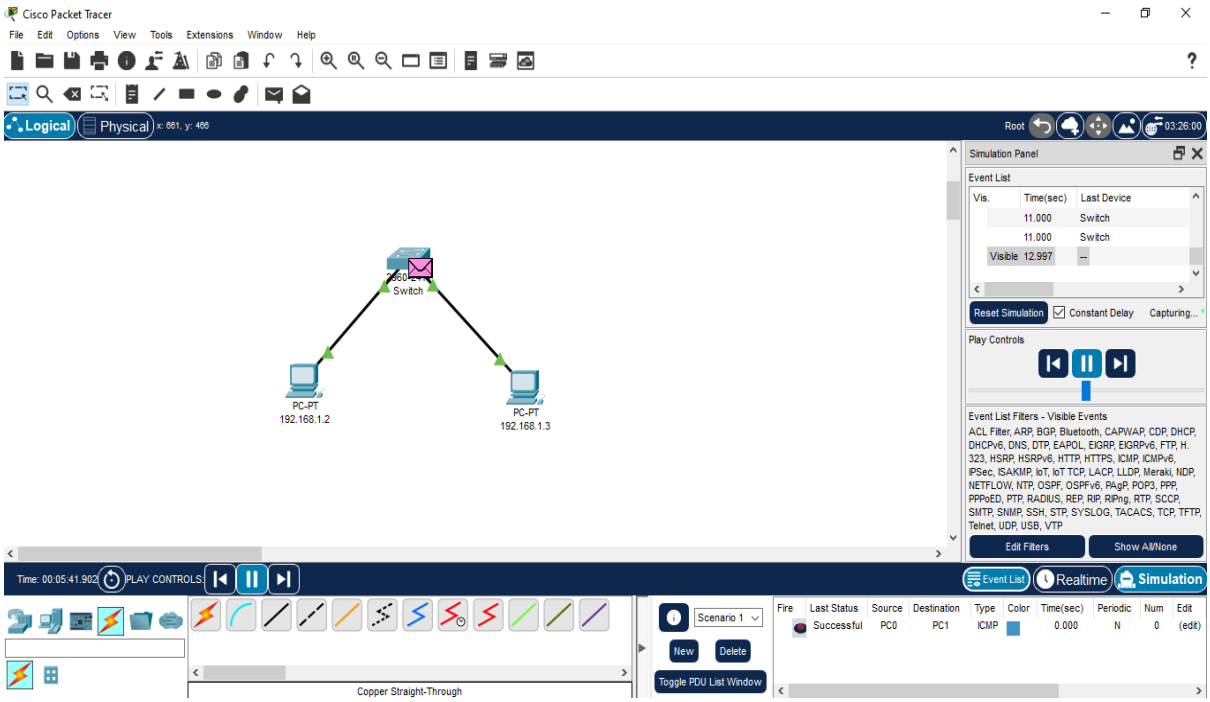
- Drag and drop 2 pcs using End Device Icons on the left corner
- Cisco 2960 switch from switch icon list in the left bottom corner
- Make the connections using Straight through Ethernet cables
- Give IP address of the PC1 and PC2 as 192.168.1.2 and 192.168.1.3 respectively, ping between PCs and observe the transfer of data packets in real and simulation mode.

LAN 2

- Drag and drop 2 pcs using End Device Icons on the left corner
- Cisco 2960 switch from switch icon list in the left bottom corner
- Make the connections using Straight through Ethernet cables
- Give IP address of the PC1 and PC2 as 192.168.2.2 and 192.168.2.3 respectively, ping between PCs and observe the transfer of data packets in real and simulation mode.

Internet

- Drag Cisco 1841 router from router icon list in the left bottom corner
- Make the connections using straight through Ethernet cables.
- Give the interface of LAN1 switch to router as 192.168.1.1 and LAN2 switch to router as 192.168.2.1.
- Then add static gateway to the PC's connected in LAN1 as 192.168.1.1 and PC's connected in LAN2 as 192.168.2.1.
- Ping between two LAN's and observe the transfer of data packets in real and simulation mode.



Theory

A local area network (LAN) is a collection of devices connected together in one physical location, such as a building, office, or home. A LAN can be small or large, ranging from a home network with one user to an enterprise network with thousands of users and devices in an office or school.

A LAN comprises cables, access points, switches, routers, and other components that enable devices to connect to internal servers, web servers, and other LANs via wide area networks.

The advantages of a LAN are the same as those for any group of devices networked together. The devices can use a single Internet connection, share files with one another, print to shared printers, and be accessed and even controlled by one another.

OUTPUT (PINGING FROM PC0-PC1)

Packet Tracer PC Command Line 1.0

C:\>ping 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time=13ms TTL=128

Ping statistics for 192.168.1.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 13ms, Average = 3ms

LAN - MAC ADDRESS TABLE

```
Switch>en
Switch#show mac-address-table
Mac Address Table
-------------------------------------------

Vlan Mac Address Type Ports
---- ----------- -------- -----

1 0040.0b86.916b DYNAMIC Fa0/1
1 0090.213e.7d06 DYNAMIC Fa0/2
```

Result

Hence, Cisco 1891 router is configured with the two LANs and observed that the data transfer between two computers was reliable.