

Computer Networks Lab

Week-1

Create a topology consisting of 2 or more end devices connected with the help of hub and switch and simulate a simple PDU.

1. Switch and hub hybrid network

Output

The screenshot shows the Cisco Packet Tracer interface with a network topology. The topology consists of three PCs (PC0, PC1, PC2) connected to two hubs (Hub1, Hub2) and one switch (Switch1). Hub1 is connected to PC0 and PC1. Hub2 is connected to PC2 and Switch1. Switch1 is connected to Hub1. A command prompt window is open, showing the results of a ping command from PC0 to 10.0.0.2. The output indicates that the ping was successful with 100% success rate and 0% loss.

```
PC>ping 10.0.0.2
Pinging 10.0.0.2 with 32 bytes of data:
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>ping 10.0.0.3
Pinging 10.0.0.3 with 32 bytes of data:
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
```

Simulation

The screenshot shows the same network topology in simulation mode. The event list panel on the right displays a list of network events, including ICMP packets being sent and received between the devices. The simulation is running, and the network is stable.

Vis.	Time(sec)	Last Device	At Device	Type	Info
	0.000	PC0	PC0	ICMP	
	0.001	PC0	Hub2	ICMP	
	0.002	Hub2	PC2	ICMP	
	0.002	Hub2	Switch1	ICMP	
	0.003	Switch1	Hub1	ICMP	
	0.004	Hub1	PC1	ICMP	

2. Hub Network Output

The screenshot shows a Cisco Packet Tracer interface with a network topology consisting of a central Hub (Hub2) connected to three PCs (PC0, PC1, PC2). A Command Prompt window is open on PC1, displaying the output of a ping command to 10.0.0.2. The output shows successful results with 100% success rate and 4ms round trip time.

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.2
Pinging 10.0.0.2 with 32 bytes of data:

Ping statistics for 10.0.0.2:
    Packets: Sent = 1, Received = 1, Lost = 0 (0% loss),
    Approximate round trip times in milliseconds:
        Minimum = 4ms, Maximum = 4ms, Average = 4ms
PC>
```

Simulation

The screenshot shows the same network topology as the previous image, but with the Simulation Panel open. The Event List shows a successful ping from PC1 to PC2. The Play Controls section shows the simulation is running.

Vis.	Time(sec)	Last Device	At Device	Type	Info
	0.000	PC0	PC0	ICMP	
	0.001	PC0	Hub2	ICMP	
	0.002	Hub2	PC2	ICMP	
	0.002	Hub2	PC1	ICMP	

3. Switch Network Output

Simulation