PES1UG20CS821
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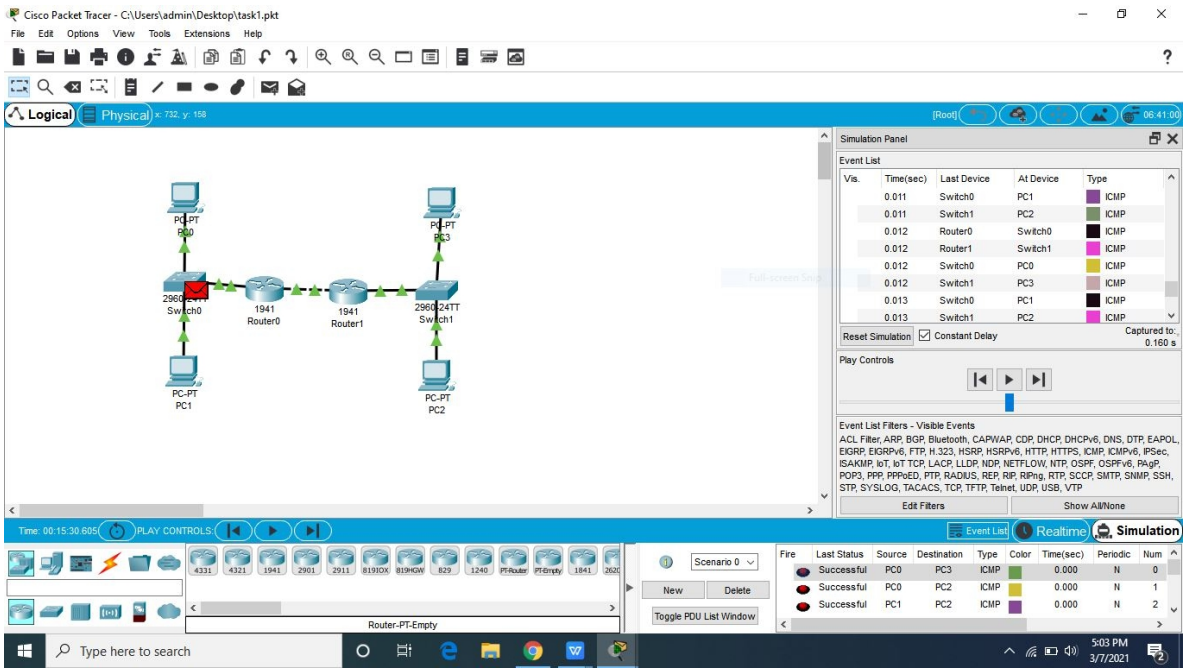
Week 6
Designing and Simulation of Network Topology using Cisco Packet Tracer

1. Task 1

1.1 Required Devices:2 Routers(1941),2 Switches(2960-24TT),4 End Devices(PC)

1.2 Configuration

- Create a Network using above required devices as shown in the figure below and establish a connection using appropriate connection type.
- Assign the ip addresses to each devices used.
- Configure the routers manually by adding information in the routing table.
- Later transfer the PDU packet from one end system to remaining end system of other network
- We can see the transfer of packets from one device to another device and the status can be seen at the end of the transfer i.e either successful or failed along with source,destination,time elapsed etc.



1.3 IP Addresses

1.3.1 End Systems:

End System	Interface Name	IP Address	Subnet Mask	Gateway
PC0	FastEthernet0	10.0.0.1	255.0.0.0	10.0.0.3
PC1	FastEthernet0	10.0.0.2	255.0.0.0	10.0.0.3
PC2	FastEthernet0	30.0.0.2	255.0.0.0	30.0.0.1
PC3	FastEthernet0	30.0.0.3	255.0.0.0	30.0.0.1

1.3.2 Routers:

Router	Interface Name	IP Address	Subnet Mask
Router0	FastEthernet0/0	10.0.0.3	255.0.0.0
Router0	FastEthernet0/1	20.0.0.1	255.0.0.0
Router1	FastEthernet0/0	20.0.0.2	255.0.0.0
Router1	FastEthernet0/1	30.0.0.1	255.0.0.0

1.3.3 Static Routing Table value:

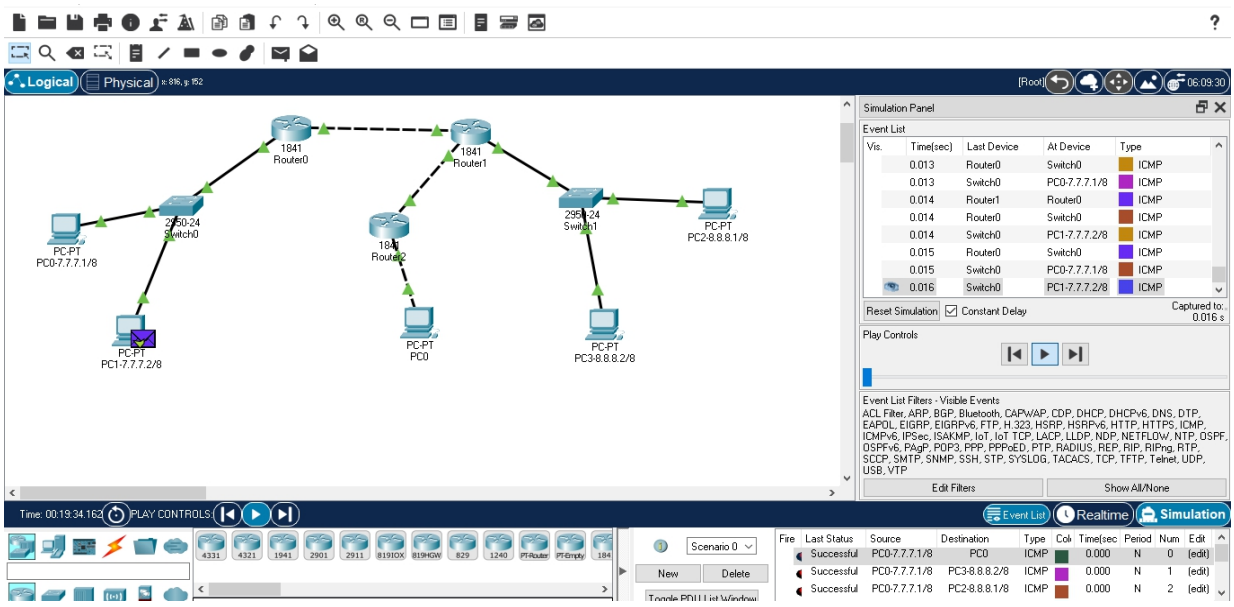
Router	Destination Network	Next Hop
Router0	30.0.0.0	20.0.0.2
Router1	10.0.0.0	20.0.0.1

2. Task 2

2.1 Required Devices:3 Routers(1841),2 Switches(2950-24TT),5 End Devices(PC)

2.2 Configuration

- Follow the same steps used in Task 1
- In this task 1 router and 1 end system are used (not used in task1)
- For Router1 go to physical->off the device->select WIC-1ENET->on the device and on the router.
- Send the packet to the PC0 also and view the status.



2.1 Configuring Network and Routing Tables

2.2.1 End Systems

End System	Interface Name	IP Address	Subnet Mask	Gateway
PC0-7.7.7.1/8	FastEthernet0	7.7.7.1	255.0.0.0	7.7.7.7
PC1-7.7.7.2/8	FastEthernet0	7.7.7.2	255.0.0.0	7.7.7.7
PC0	FastEthernet0	6.6.6.1	255.0.0.0	6.6.6.6
PC2-8.8.8.1/8	FastEthernet0	8.8.8.1	255.0.0.0	8.8.8.8
PC3-8.8.8.2/8	FastEthernet0	8.8.8.2	255.0.0.0	8.8.8.8

2.2.2 Routers

Router	Interface Name	IP Address	Subnet Mask
Router0	FastEthernet0/0	7.7.7.7	255.0.0.0
Router0	FastEthernet0/1	4.4.4.1	255.0.0.0
Router1	FastEthernet0/0	4.4.4.2	255.0.0.0
Router1	FastEthernet0/1	3.3.3.2	255.0.0.0
Router1	Ethernet0/0/0	8.8.8.8	255.0.0.0
Router2	FastEthernet0/0	3.3.3.1	255.255.255.0
Router2	FastEthernet0/1	6.6.6.1	255.255.255.0

2.2.3 Routing Table

Router	Destination Network	Next Hop
Router0	8.8.8.0	4.4.4.2
Router0	3.3.3.0	4.4.4.2
Router0	6.6.6.0	4.4.4.2
Router1	7.7.7.0	4.4.4.1
Router1	6.6.6.0	3.3.3.1
Router2	4.4.4.0	3.3.3.2
Router2	7.7.7.0	3.3.3.2
Router2	8.8.8.0	3.3.3.2

OBSERVATION

By conducting the above experiment I get to know that cisco packet tracer application can be used to design the complex network and test the networking topology which provides various of networking devices and different variants.cisco packet tracer help to keep track of the flow of packets and easy for troubleshooting also which reduces time and cost.its better way to build stimulation network.

From above experiment I was able to design a simple topology and made to communicate with end system from different networks also I was able to see the movements of packets from one device to another and also there status,source ip addresses ,destination ip addressees, time elapsed and type of protocol used can also be viewed.