

10/11/22

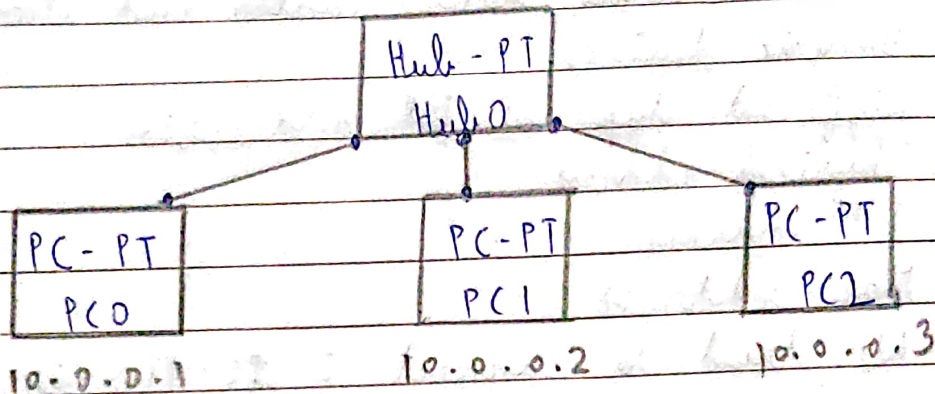
2

## LAB - 1

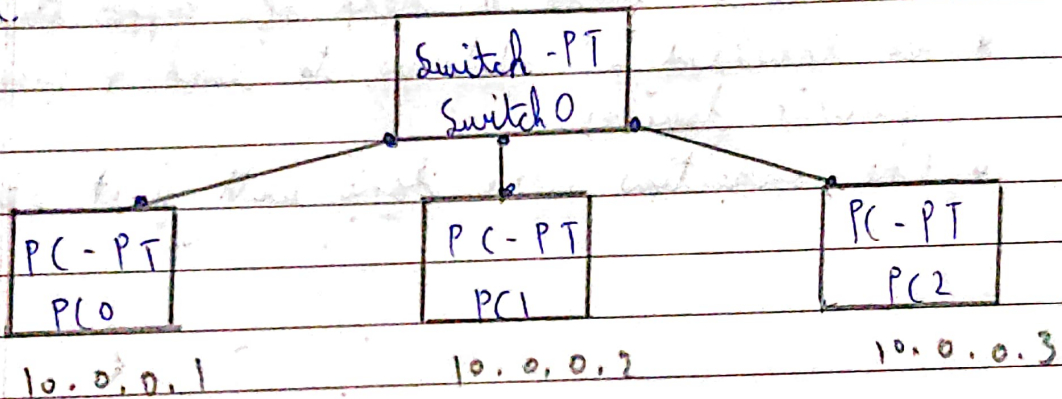
AIM: Creating a topology & simulate simple PDU from source to dest, using simple hub & switch

TOPOLOGY:

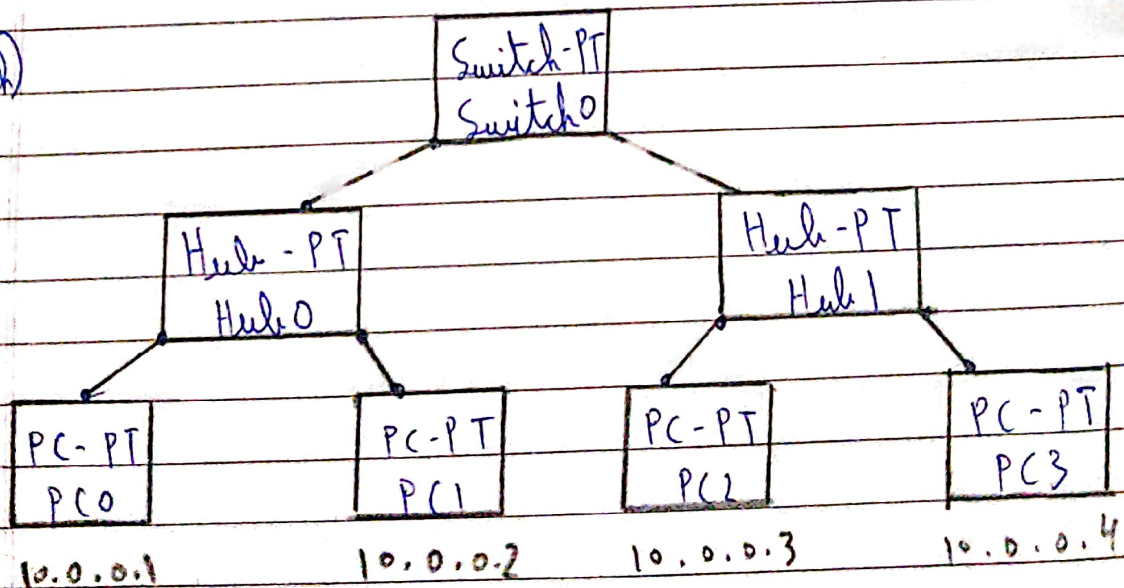
Using hub:



Using switch:



Hybrid:  
Hub & Switch



### Procedure:

Using Hub: Add generic hub & the PC's to workspace.

- Configure IP address of each PC in configuration tab.
- Connect all PC's to hub using copper straight wire.
- Hub & PC is connected to each other's fast ethernet connection.

Real time: Select source PC & in desktop tab, select CMD and type ping <IP address> to generate response.

Simulation: Select simple PDU & select source & dest. computer, clicking on auto capture, to see how ports are transferred to & from device.

Using Switch: Same similar steps to hub.

Real time: Same as hub.

Simulation: Same as hub connection, but not all transfer are successful.

Hybrid: We connect 2 hubs from a switch & generic devices to hubs, similar as above steps config. IP address

Real time &: Similar steps as above.

Simulation:

### Observation

- Hub, & When source sends a packet in network the hub source the packet & sends broad cast over the network, it sends data to all the end devices in network & node where it matches with specified address accepts the packet & acknowledge it. Remaining nodes ignore message.
- \* Comm<sup>n</sup> b/w hub & end devices is established through Copper straight through wire as they belong to different layers.



4

Switch → Similar as hub, but here it takes some time called learning time.

Result: 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 = 0 ms  
Reply from 10.0.0.3: bytes = 32 time = 0 ms  
Reply from 10.0.0.3: bytes = 32 time = 0 ms  
Reply from 10.0.0.3: bytes = 32 time = 0 ms  
ping statistics for 10.0.0.3  
Packets: Sent = 4, Received = 4, Lost = 0

Neelima  
17/11/2022

We'll notice the packets sent ~~not~~ successfully without any interruption.