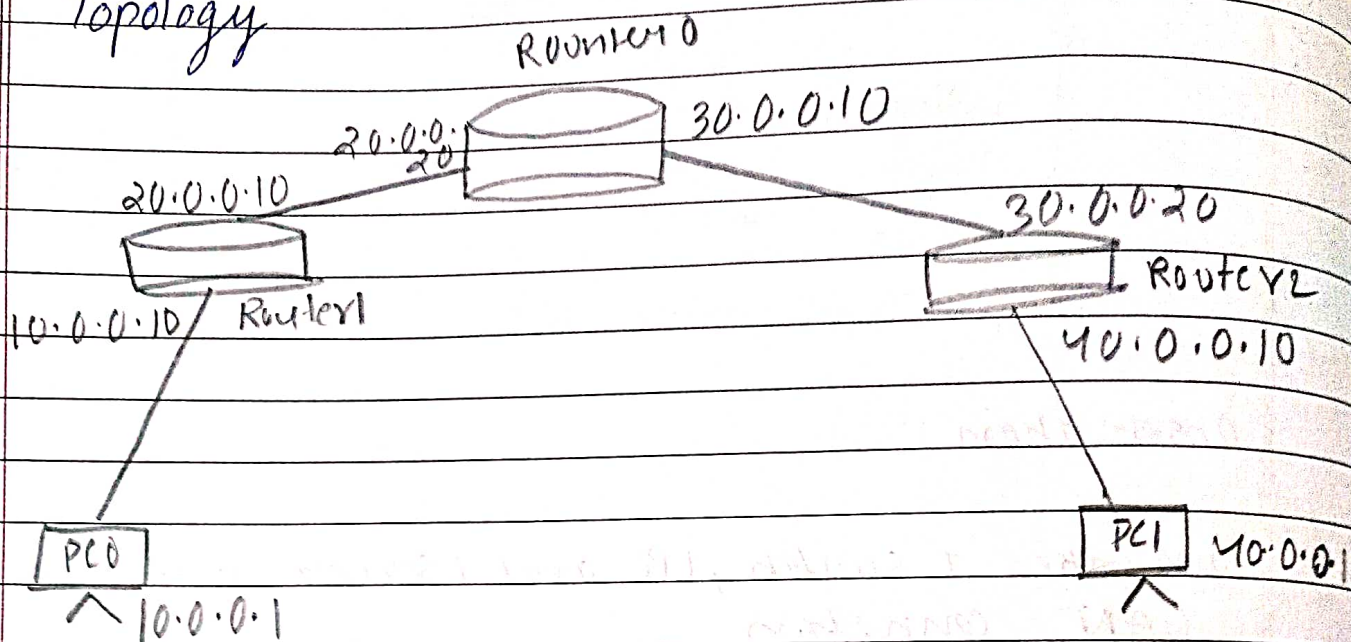


20/7/23

## Experiment-6

Aim: Configure RIP routing protocol in Routers

### Topology



### Procedure:

1. Take 2 PCs and 2 routers and place them in 2 different LAN networks is 10.0.0.0 and 40.0.0.0
2. Put IP address to both PCs 10.0.0.1 and 40.0.0.1 respectively with 10.0.0.10 and 40.0.0.10 at the gateways
3. Put a 3rd router in between to the 2 networks
4. Set up the routers using the usual IP interface
5. Note we have to use clocked cable while connecting to the middle router.
  - > enable
  - > config t
  - > interface <portname>
  - > ip address <ip address> <subnet mask>
  - > no shut
  - > exit



- 6 Repeat this for all the routers
- 7 We have to give the command for the all router interface as ppp encapsulation
- 8 Clock rate 64000 has to be given to the two gateway of the routers.
- 9 Now we set up the "hop" automatically using RIP protocol

```

> router rip
> # network <network-1 ip>
> # network <network-2 ip>
> exit exit
10 Now check ip route using
> show ip route

```

- 11 Finally ping the message from one PC to another PC.

Result:

PC > Ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data

Request timed out

Reply from 40.0.0.1 bytes=32 time=7ms TTL=125

Reply from 40.0.0.1 bytes=32 time=27ms TTL=125

Reply from 40.0.0.1 bytes=32 time=2ms TTL=125

Ping statistics for 40.0.0.1

Packet sent=4, received=3, lost=1, (25% loss)

Approximate round trip time in ms

Minimum=2ms, Maximum=27ms, Average=12ms

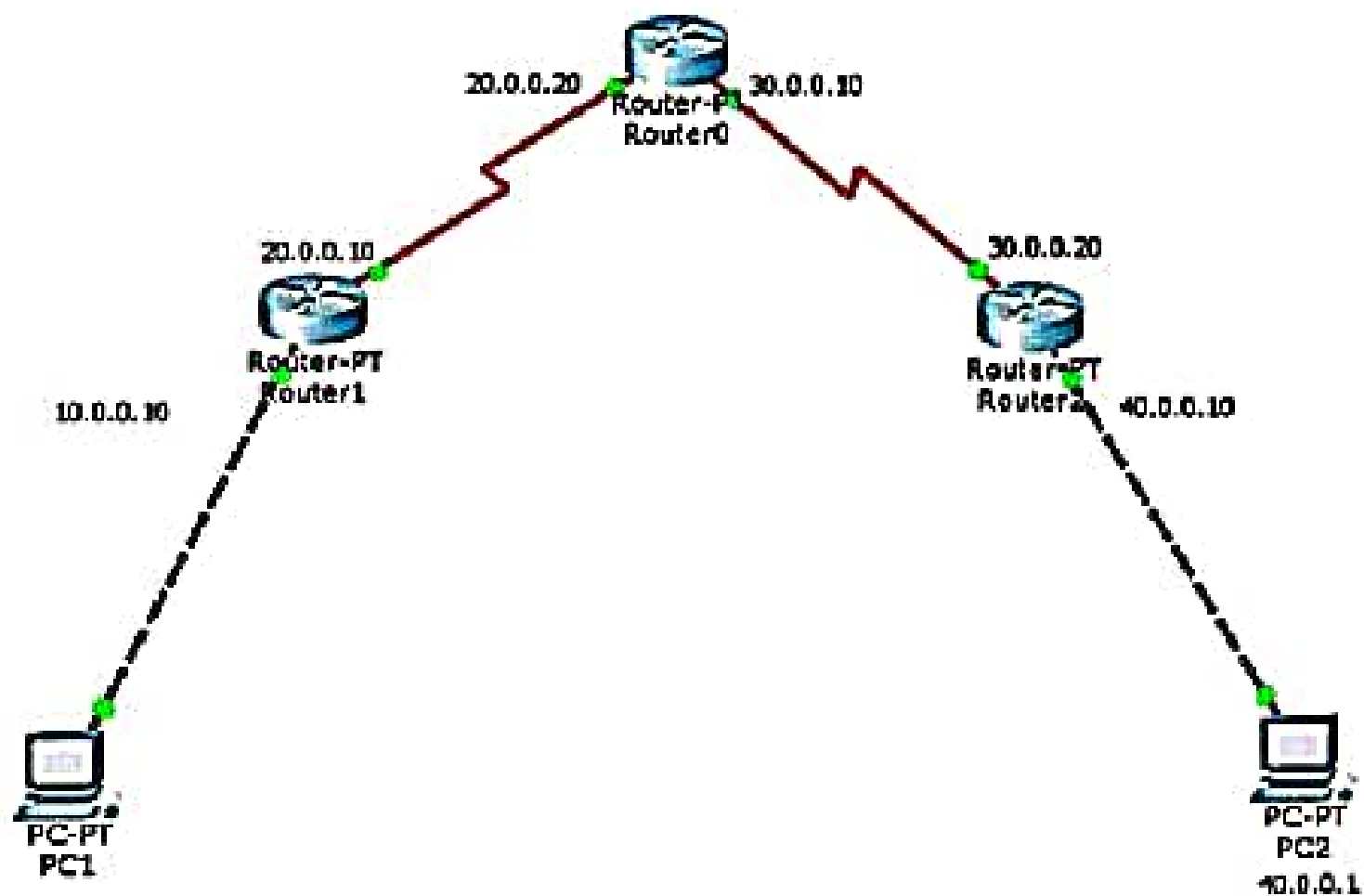


## Observation

- Routing Information Protocol (RIP) is an active routing protocol that separates hop count as routing metric to find the most suitable route between source destination network.
- So whenever, a router receives a packet / request from a particular network ~~the~~ has been assigned to its routing table. it directs that to the best possible next hop to reach its destination.
- Full routing tables are sent as update and when a router receives a information from its neighbour it trusts it completely.

The Request timed out comes here because routers are trying to find a best possible route.

9/10  
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105 Command Line Interface

```
> Invalid input detected at '^' marker.  
Router(config-if)#interface serial0/0  
Router(config-if)#ip address 20.0.0.10 255.0.0.0  
Router(config-if)#noencapsulation ppp  
Router(config-if)#clock rate 64000  
  
> Invalid input detected at '^' marker.  
Router(config-if)#clock rate 64000  
Router(config-if)#no shut  
  
ALERT-1-CRUISED: Interface Serial0/0, changed state to down  
Router(config-if)#test  
Router(config-if)#test  
Router#  
SERIAL0-0-CDRPT_1: Configured from console by console  
  
ALERT-1-CRUISED: Interface Serial0/0, changed state to up  
  
ALERTPDT0-1-UPDOWN: Line protocol on Interface Serial0/0, changed state to up  
  
Router#conf t  
Enter configuration commands, one per line. End with CTRL-D.  
Router(config)#router 20  
Router(config-router)#network 20.0.0.0  
Router(config-router)#network 20.0.0.0  
Router(config-router)#test  
Router(config-router)#
```

Copy Paste

Time: 00:20:14 Power Cycle Devices Fast Forward Time

Connections

Serial 0/0/0

Toggle PCU/Get Window

Realtime

Activate Windows  
Go to Settings to activate Windows

27°C Party sunny 10:21 AM 1/25/2021





Logical [Zoom] New Circuit Phys. Config Set Titled Background Viewport

PC-1

```
IOS Command Line Interface

Enter configuration commands, one per line. End with Ctrl-Z
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 10.0.0.10 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINE-6-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

% Invalid input detected at '^' marker.

Router(config-if)#interface serial0/0
Router(config-if)#ip address 20.0.0.10 255.0.0.0
Router(config-if)#encapsulation ppp
Router(config-if)#clock rate 64000

% Invalid input detected at '^' marker.

Router(config-if)#clock rate 64000
Router(config-if)#no shut

%LINE-6-CHANGED: Interface Serial0/0, changed state to down
Router(config-if)#ppp
Router(config-if)#ppp
Router
%SYS-5-CONFIG_2-Configured from console by console

Copy Paste
```

Time: 00:14:02 Power Cycle Devices Fast Forward Time



Type here to search

Toggle PDU List Window

Realtime

Activate Windows  
Go to Settings to activate Windows.

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