

**QUESTION:** Routing Traffic using RIP Protocol

**AIM:** To Route traffic through different routers using Distance Vectoring RIP protocol

Exp-6

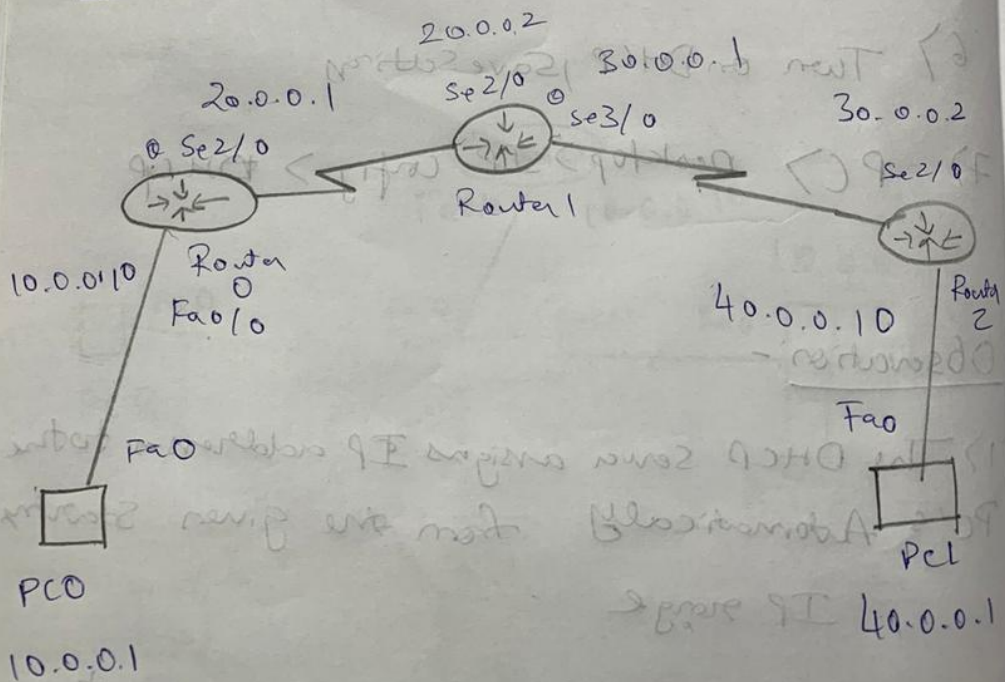
VARAD VITTHAL  
KJ

IBM18CS122

Question: Routing traffic using RSP protocol

Aim: To Route traffic through different router using distance vectoring RSP protocol

Topology:-



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RIP

protocol

Header

IP

0.0.2

Serial 0/0

Router 2

200

0.1

0.1

0.1

0.1

0.1

0.1

0.1

0.1

0.1

0.1

0.1

0.1

0.1

### Procedure:-

1) configure IPv4 addresses for all the PC's

2) configure default gateway for the PC's

3) config IPv4 for all Serial Interfaces of all routers.

4) Encapsulate the traffic

5) Set clock rate

6) configure the RIP protocol

### CLI commands:-

1) enable

2) conf t

3) interface FastEthernet 0/0

4) ip address 10.0.0.10 255.0.0.0

5) interface Serial 2/0

6) ip address 20.0.0.1 255.0.0.0

7) no shut

8) encapsulate PPP

9) clock rate 64000

10) router rip

11) network 10.0.0.0

12) network 20.0.0.0

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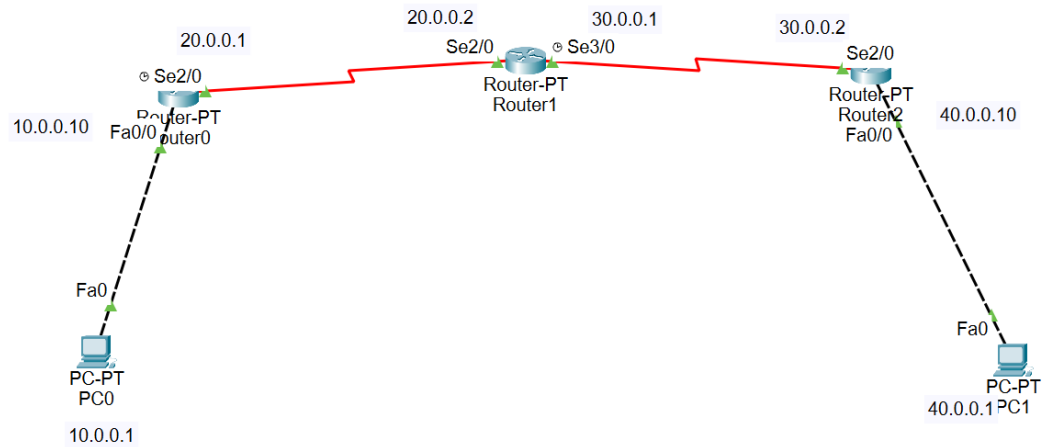
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### Observation:

The RDP protocol is Distance Vector protocol,  
It learns about hops connected directly to  
the router & shares that information with  
other routes.

TOPOLOGY:



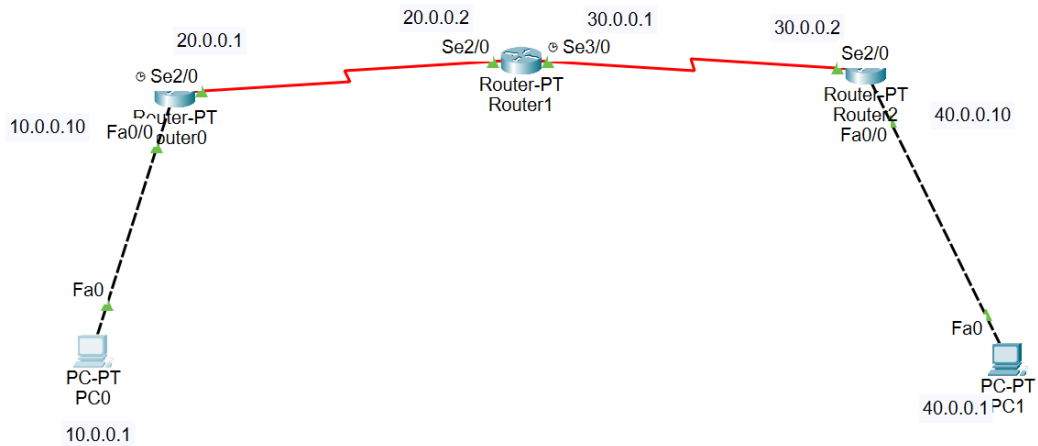
### PROCEDURE:

1. Configure IPV4 Addresses for the PC's
2. Configure Default Gateways for the PC's
3. Configure IPV4 for all Serial Interfaces of all routers
4. Encapsulate the traffic
5. Set clock rate
6. Configure the RIP protocol

### CLI COMMANDS – FOR ONE ROUTER

1. Enable
2. configure terminal
3. interface FastEthernet0/0
4. ip address 10.0.0.10 255.0.0.0
5. interface Serial2/0
6. ip address 20.0.0.1 255.0.0.0
7. no shut
8. encapsulate ppp
9. clock rate 64000
10. router rip
11. network 10.0.0.0
12. network 20.0.0.0

### SCREENSHOTS



Physical
Config
CLI
Attributes

IOS Command Line Interface

```

%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/0, changed state to up

Router(config-if) #
Router(config-if) #
Router(config-if) #
Router(config-if) #
Router(config-if) #
Router(config-if) #
Router(config-if) #
Router(config-if) #
Router(config-if) #
Router(config-if) #interface serial2/0
Router(config-if) #ip address 20.0.0.1 255.0.0.0
Router(config-if) #encapsulation ppp
Router(config-if) #clock rate 64000
Router(config-if) #
          
```

Ctrl+F6 to exit CLI focus

Copy
Paste

```

Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #
Router(config-router) #router rip
Router(config-router) #network 10.0.0.0
Router(config-router) #network 20.0.0.0
Router(config-router) #
          
```

Ctrl+F6 to exit CLI focus

1.1

```

Router(config-router)#
Router(config-router)#
Router(config-router)#
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B -
      BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
      inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

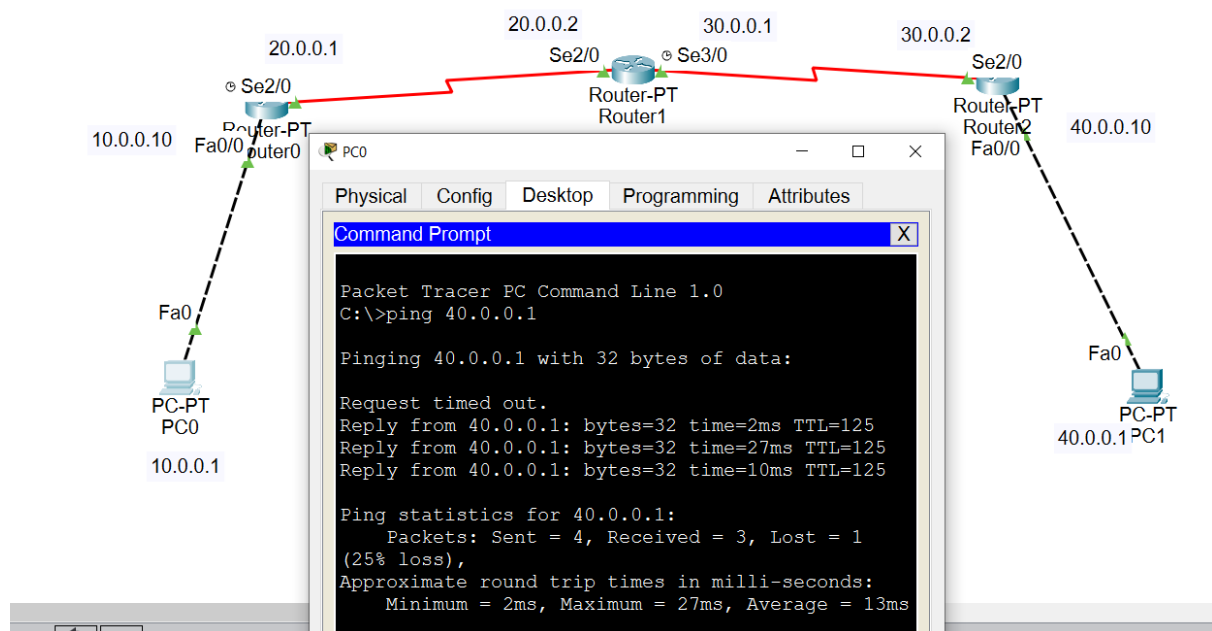
Gateway of last resort is not set

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    20.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    20.0.0.0/8 is directly connected, Serial2/0
C    20.0.0.2/32 is directly connected, Serial2/0
R    30.0.0.0/8 [120/1] via 20.0.0.2, 00:00:07, Serial2/0
R    40.0.0.0/8 [120/2] via 20.0.0.2, 00:00:07, Serial2/0

Router#

```

## PING



## OBSERVATION

The RIP protocol is Distance Vector protocol, it learns about hops connected directly to the router and shares that information with other routers