

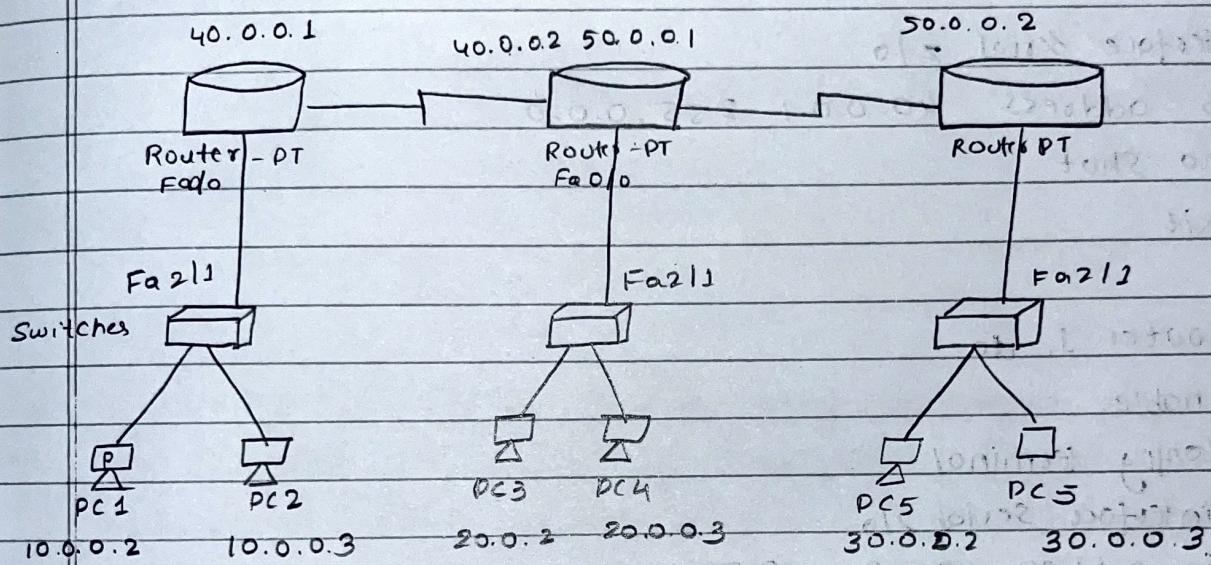
20-11-2024 LAB-07.

Configure routing information protocol in routers

Objective

Configure routing information protocol in routers

Topology.



Procedure

- place 6 pc's, 3 switches, and 3 routers.
- Connect 2 end devices to each switch and switched to each router using copper straight wire
- connect R₀ to R₁ and R₁ to R₂ using serial wires.
- set the IP address of the end devices and their gateways as shown in the figure.
- Now go to each router and configure them

20-11-2024

→ For Router 0, do:

> enable

config terminal

interface fa 0/0

ip address 10.0.0.1 255.0.0.0

no shut

exit

interface serial 2/0

ip address 40.0.0.1 255.0.0.0

no shut

exit

→ For Router 1, do:

> enable

config terminal

interface serial 2/0

ip address 40.0.0.2 255.0.0.0

no shut

exit

interface fa 0/0

ip address 20.0.0.1 255.0.0.0

no shut

exit

interface serial 3/0

ip address 50.0.0.1 255.0.0.0

no shut

exit

20-11-2024

→ For Router 2, do:

> enable

config terminal

interface serial 3/0

ip address 50.0.0.2 255.0.0.0

no shut

exit(secondary)

interface fa 0/0

ip address 30.0.0.1 255.0.0.0

no shut

exit

Observation

- Before the setup of the RIP, ping messages were not successful.
- It was observed that the configuration setup using the routing information protocol enabled in successful communication across the network.

> ping 10.0.0.2

pinging 10.0.0.3 with 32 bytes of data

ping statistics of 10.0.0.3:

packets sent = 4 Received = 4 lost = 0 (0% loss)

Approximate round trip times in milliseconds

Minimum = 0ms Maximum 2ms, Average = 1ms.

20-11-2024

> ping 20.0.0.2

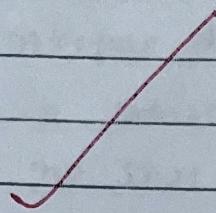
ping statistics for 20.0.0.2

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

> ping 30.0.0.2

ping statistics for 30.0.0.2

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



20-11-20-24

Demonstrate the TTL or life of a packet.

Objective

Demonstrate the TTL or life of a packet

procedure

- Add a simple PDU across the PC's of different networks
- Consider PC0 to PCs

Observation

- While Auto Capture and observing the TTL across each PC, it was observed as follows:

PDU information at Device : PC1

TTL : 225

PDU information at Device : Router1

TTL : 254

PDU information at Device : Router2

TTL : 253

- Cisco packet tracer has the maximum TTL as 225
- It is observed that the TTL decrements on the message is being passed step by step (Router to Router)
- The figure of OSI model of switch demonstrates flow of packets in 2 layers while 3 layers in the router
- The TTL reaches 210 once all the re-packets are received.

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