Computer Networks - Exp 11

Kartik Jolapara

60004200107 - B1

Aim

To implement RIP in Packet Tracer.

Theory

Routing Information Protocol (RIP) is one of the oldest distance vector routing protocols, invented in the 1980s. Two versions of the protocol were developed:

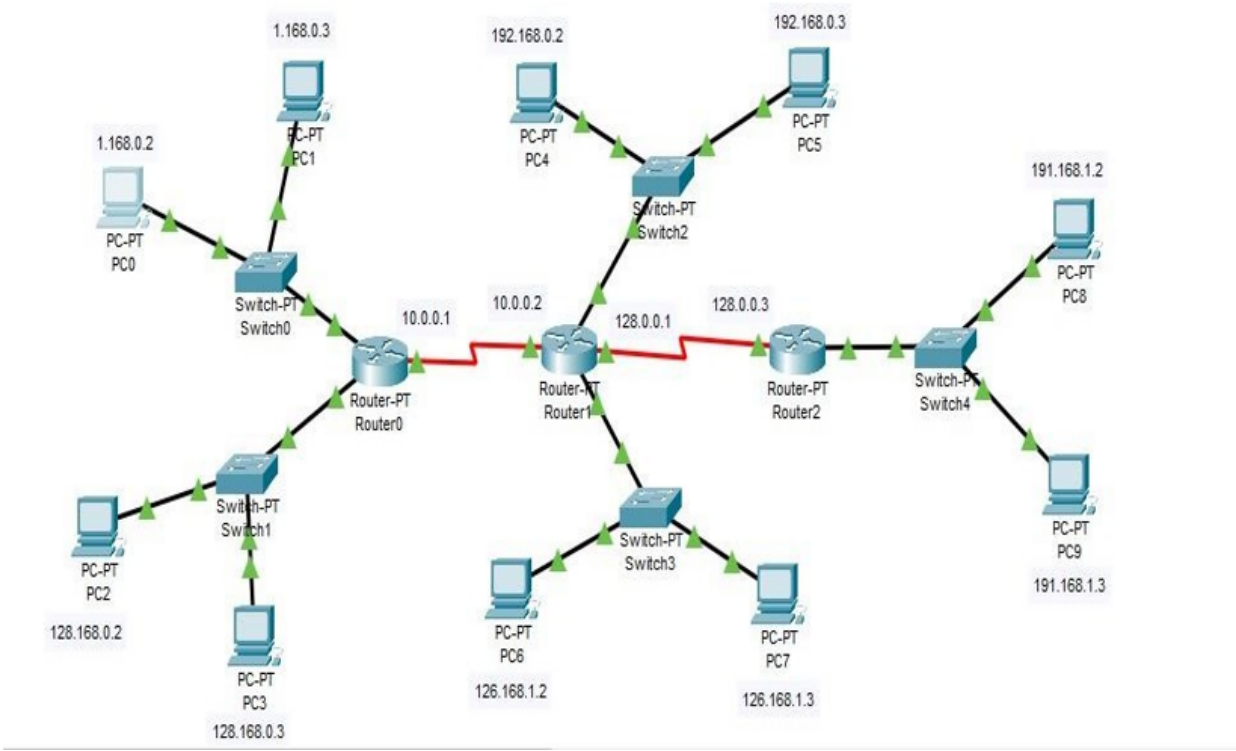
Version 1 - supports only classful routing and doesn’t send subnet masks in routing updates. Uses broadcasts for updates.

Version 2- supports classless routing and sends subnet masks in routing updates. This version uses the multicast address of 224.0.0.9to send routing updates.

There is also a version of RIP developed for IPv6 networks called RIPng.

RIP has a default administrative distance of 120. It uses the hop count (the number of routers between the source and destination network) as the metric. The hop count limit is 15. Any route with a higher hop count will be marked as unreachable.

Diagram



Output

Packet Tracer PC

Command Line 1.0

C:\>ping 128.168.0.2

Pinging 128.168.0.2 with 32

bytes of data: Request

timed out.

Reply from 128.168.0.2:

bytes=32 time<1ms TTL=127

Reply from 128.168.0.2:

bytes=32 time=16ms TTL=127

Reply from 128.168.0.2:

bytes=32 time=1ms TTL=127

Ping statistics for 128.168.0.2:

Packets: Sent = 4, Received = 3,

Lost = 1 (25% loss),

Approximate round trip times in

milli- seconds:

Minimum = 0ms, Maximum =

16ms, Average = 5ms

C:\>ping 128.168.0.3

Pinging 128.168.0.3 with 32

bytes of data: Request

timed out.

Reply from 128.168.0.3:

bytes=32 time=11ms TTL=127

Reply from 128.168.0.3:

bytes=32 time<1ms TTL=127

Reply from 128.168.0.3:

bytes=32 time<1ms TTL=127

Ping statistics for 128.168.0.3:

Packets: Sent = 4, Received = 3,

Lost = 1 (25% loss),

Approximate round trip times in

milli- seconds:

Minimum = 0ms, Maximum =

11ms, Average = 3ms

C:\>ping 192.168.0.2

Pinging 192.168.0.2 with 32

bytes of data: Request

timed out.

Reply from 192.168.0.2:

bytes=32 time=1ms TTL=126

Reply from 192.168.0.2:

bytes=32 time=1ms TTL=126

Reply from 192.168.0.2:

bytes=32 time=2ms TTL=126

Ping statistics for

192.168.0.2:

Packets: Sent = 4, Received = 3,

Lost = 1 (25% loss),

Approximate round trip times in

milli- seconds:

Minimum = 1ms, Maximum =

2ms, Average = 1ms

C:\>ping 192.168.0.3

Pinging 192.168.0.3 with 32

bytes of data: Request

timed out.

Reply from 192.168.0.3:

bytes=32 time=1ms TTL=126

Reply from 192.168.0.3:

bytes=32 time=15ms TTL=126

Reply from 192.168.0.3:

bytes=32 time=1ms TTL=126

Ping statistics for 192.168.0.3:

Packets: Sent = 4, Received = 3,

Lost = 1 (25% loss),

Approximate round trip times in

milli- seconds:

Minimum = 1ms, Maximum =

15ms, Average = 5ms

C:\>ping 126.168.1.2

Pinging 126.168.1.2 with 32

bytes of data: Request

timed out.

Reply from 126.168.1.2:

bytes=32 time=1ms TTL=126

Reply from 126.168.1.2:

bytes=32 time=14ms TTL=126

Reply from 126.168.1.2:

bytes=32 time=2ms TTL=126

Ping statistics for 126.168.1.2:

Packets: Sent = 4, Received = 3,

Lost = 1 (25% loss),

Approximate round trip times in

milli- seconds:

Minimum = 1ms, Maximum =

14ms, Average = 5ms

C:\>ping 126.168.1.3

Pinging 126.168.1.3 with 32

bytes of data: Request

timed out.

Reply from 126.168.1.3:

bytes=32 time=1ms TTL=126

Reply from 126.168.1.3:

bytes=32 time=24ms TTL=126

Reply from 126.168.1.3:

bytes=32 time=15ms TTL=126

Ping statistics for 126.168.1.3:

Packets: Sent = 4, Received = 3,

Lost = 1 (25% loss),

Approximate round trip times in

milli- seconds:

Minimum = 1ms, Maximum =

24ms, Average = 13ms

C:\>ping 191.168.1.2

Pinging 191.168.1.2 with 32 bytes of data:

Request timed out.

Reply from 191.168.1.2:

bytes=32 time=2ms TTL=125

Reply from 191.168.1.2: bytes=32 time=13ms

TTL=125 Reply from 191.168.1.2: bytes=32 time=2ms

TTL=125 Ping statistics for 191.168.1.2: Packets: Sent = 4,

Received = 3, Lost = 1 (25%

loss), Approximate round trip

times in milli- seconds:

Minimum = 2ms, Maximum =

13ms, Average = 5ms

C:\>ping 191.168.1.3

Pinging 191.168.1.3 with 32

bytes of data: Request

timed out.

Reply from 191.168.1.3:

bytes=32 time=5ms TTL=125

Reply from 191.168.1.3:

bytes=32 time=4ms TTL=125

Reply from 191.168.1.3:

bytes=32 time=2ms TTL=125

Ping statistics for

191.168.1.3:

Packets: Sent = 4, Received = 3,

Lost = 1 (25% loss),

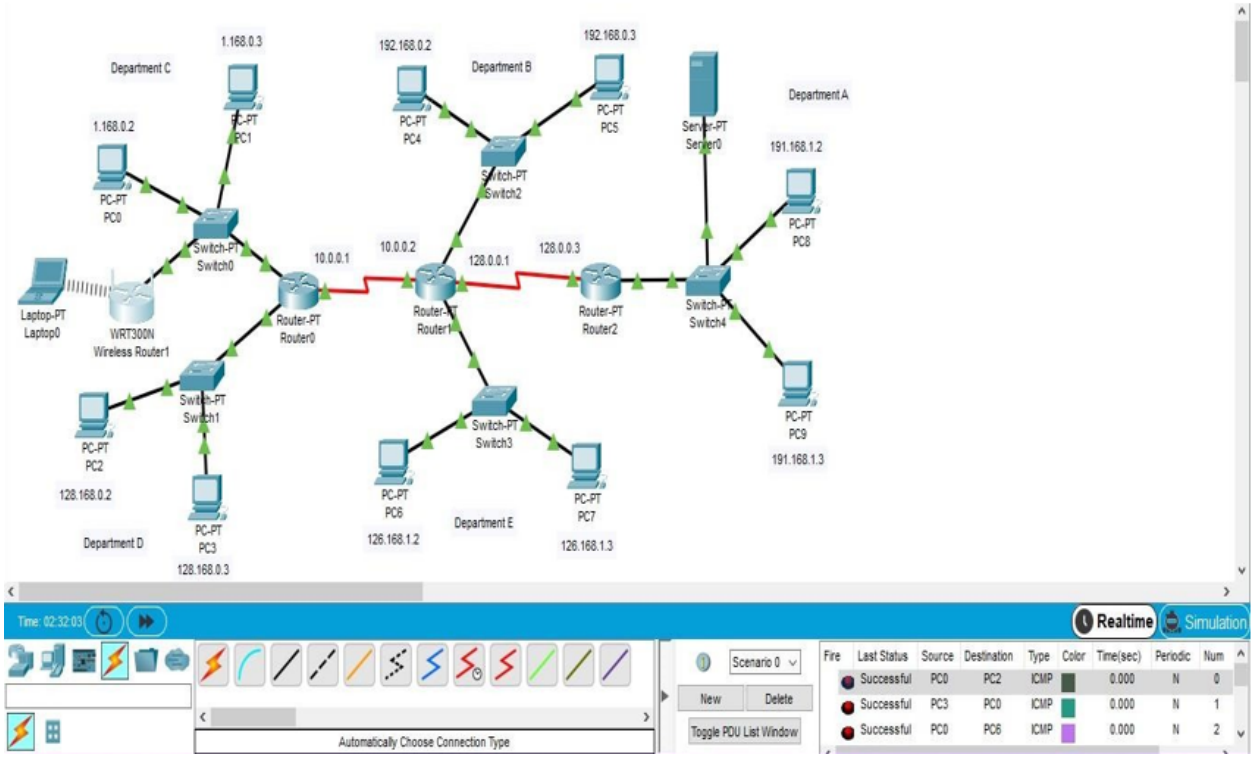
Approximate round trip times in

milli- seconds:

Minimum = 2ms, Maximum =

5ms, Average = 3ms

C:\>



Conclusion

Learned about RIP Packet Tracing and implemented using Cisco Packet Tracer.