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Assignment 06

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Title: Packet Tracer

Problem Statement:

Configure 3 routers using packet tracer in a network using one of RIP/OSPF/ BGP Protocols

Learning Objective:

Students will be able to configure protocols like RIP, OSPF, BGP using packet Tracer.

Software & Hardware Requirements:

Window 10 PC, 8GB RAM, 512GB SSD, i5 8th Gen. 4 core processor.
Cisco Packet Tracer

Theory:

Routing protocols maintains routing tables where routing table contain route to destination network.

Dynamic Routing Protocols:

There are three types as follows:

1. Routing Information Protocol (RIP)
2. Open Shortest Path First (OSPF)
3. Border Gateway Protocol (BGP)

RIP & OSPF are Interior Gateway Protocols (IGP). They are designed to operate in a single autonomous system. As it a group of networks administered by same authority.

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BGP is Exterior Gateway Protocol (EGP) which allows routers in different AS to exchange routers.

How routing protocols work:

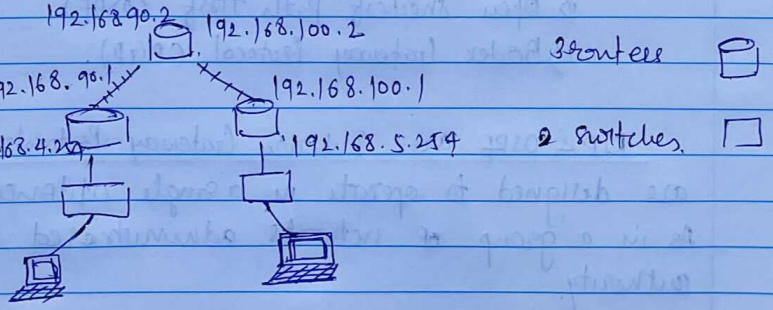
A router constructs it's routing table using the information it receives from other routers.

The router changes it's routing table in response to routing updates that provides additional information/ notification that conditions in the network have changed.

This responsiveness explains why using a routing protocol often called dynamic routing

The protocol must dictate parameters such as the following:

i) How routers compute a route's metric & select the best route for their routing table
ii) What information routers include in routing updates
iii) Which routers & router interfaces send & receive updates.
iv) When routers send & receive updates & hellos.



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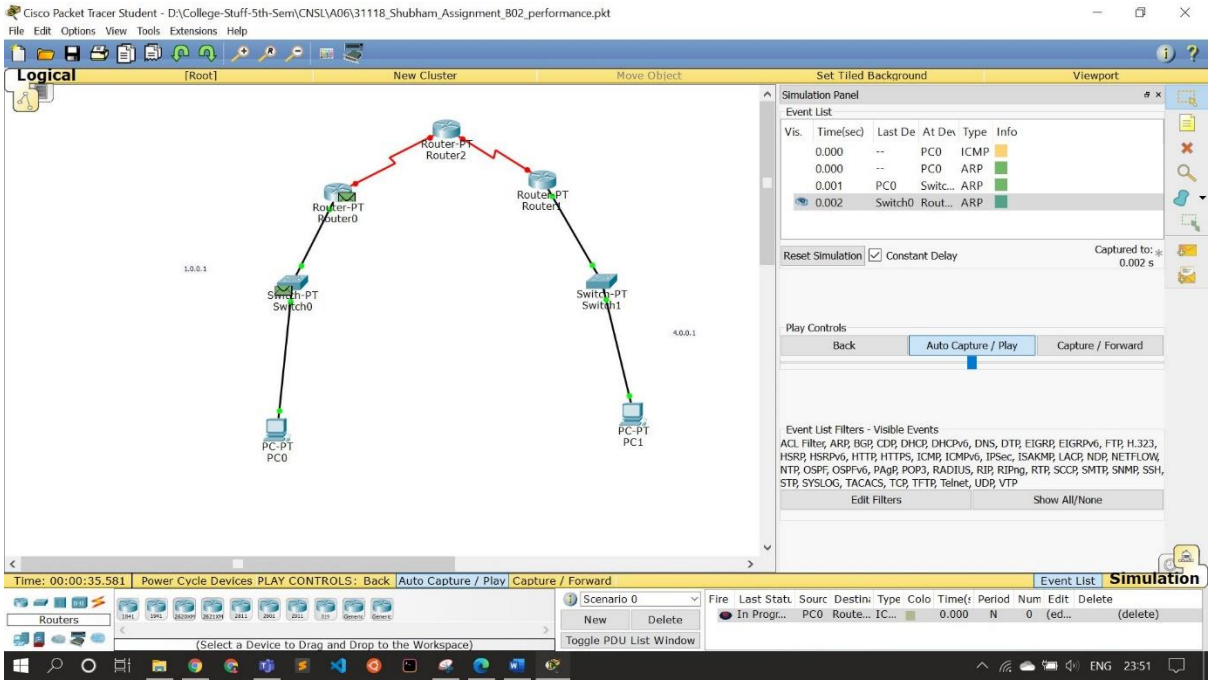
Conclusion:

Hence we have configured 3 routers in a network using packet tracers.


Cisco Packet Tracer Student - D:\College-Stuff-5th-Sem\CNSL\A06\31118_Shubham_Assignment_802_performance.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Router-PT Router2
Router-PT Router0
Router-PT Router1
Switch-PT Switch0
Switch-PT Switch1
PC-PT PC0
PC-PT PC1
1.0.0.1
4.0.0.1
Simulation Panel
Event List
Vis. Time(sec) Last De At De Type Info
0.000 -- PC0 ICMP
0.000 -- PC0 ARP
0.001 PC0 Switc... ARP
0.002 Switch0 Rout... ARP
Reset Simulation
Constant Delay
Captured to: 0.002 s
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/None
Time: 00:00:35.581
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Routers
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Stat Sourc Destin Type Colo Time(Period Num Edit Delete
In Progr... PC0 Route... IC... 0.000 N 0 (ed... (delete)
ENG 23:51