Assignment B3.

Title : Configure RIP / OSPF / BGP using packet tracer

Requirements:
Wireshark Packet Analyzer Tool.

Theory:

Dynamic Routing Protocols:
Most routing protocols implement a shortest path algorithm, which for a given set of routers, determines the shortest path between the routers.

RIP is the simplest and one of the oldest Distance vector routing protocol.
It is very easy to setup and troubleshoot.

Packet tracer is a cross-platform visual simulation tool designed by Cisco Systems that allows users to create network topologies and imitate modern computer networks.

In addition to simulation, Packet Tracer can also be used for collaboration
As of Packet Tracer 5.0, it supports a multi-user system that enables multiple users to connect multiple topologies together over a computer network.

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Create a topology following the steps-

1) Assign IP address to PC0.
   1. Double click on PC0.
   2. Go to desktop config and set
      IP - 192.168.1.2.
      Subnet Mask - 255.255.255.0.
      Default Gateway - 192.168.1.1.

2) Assign IP address to PC1
   1. Double click on PC1
   2. Go to desktop config and set
      IP address - 192.168.2.2.
      Subnet Mask - 255.255.255.0.
      Default Gateway - 192.168.2.1.

Now we have to configure Routers.
Configuration of Router 0.
Steps:
1. Double click on Router 0.
2. Go to Config / fast / Ethernet 0/0 and set
   IP - 192.168.1.1.
   Subnet mask - 255.255.255.0.
3. Enable 'ON' button and close it.

Configuration of Router 1.
1. Double click on Router 1.
2. Go to Config / interface / fast Ethernet 0/0 and set
   IP - 192.168.2.1.
   Subnet mask - 255.255.255.0
3. Enable 'ON' button and close it.

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Pick packets from right side toolbar and drop on PC0 & PC1. Due to unknown network packets can't transfer from PC0 to PC1, so we have to set RIP by clicking on Router0.

1. Configuration of RIP for Network 1.
   1. Go to routing / select RIP.
   2. Mention / add networks - 192.168.1.0 & 10.0.0.0
   3. Go to setting and save the configuration.

2. Configuration of RIP for Network 2.
   (i) Go to routing / select RIP.
   (ii) Mention / add networks - 192.168.2.0. & 10.0.0.0.
   (iii) Go to setting and save the configuration

Now, check packet transfering from PC0 to PC1 by clicking on simulation mode.
Click on capture / forward button and analyze the packet transformation.

Conclusion:

We have successfully designed topology with different network devices by using packet tracer simulator and analyzed packet transmission from different devices to different devices by using RIP protocol.

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