Bahria University

Karachi Campus



LAB EXPERIMENT NO.

13

LIST OF TASKS

|  |  |
| --- | --- |
| **TASK NO** | **OBJECTIVE** |
| 1 | Discuss routing, neighbors and topology tables.. |
| 2 | What is successor and feasible successor? |
| 3 | Configure the example network using different IPs for each network and then configure EIGRP on it. Attach all coding and screenshots. |

Submitted On:

**27-12-2023**

(Date: DD/MM/YY)

**Task#1:**

**Routing:**

The process of determining the path that data packets should take from their source to their destination in a network. It involves making decisions based on routing algorithms, which consider factors such as network topology, traffic load, and link costs.

**Neighbors:**

In networking refer to devices that are directly connected to a particular network node, typically a router. Neighbors share a direct link or interface with the node, and information about these neighbors is crucial for routing decisions.

**Topology tables:**

They are data structures maintained by routers to store information about the network's physical and logical layout. These tables contain details about neighboring devices, network links, and routing information.

**Task#2:**

**Successor:**

* A successor is the primary or best route to a specific destination from the perspective of a router.
* The router selects the successor route based on the lowest metric (path cost) to reach the destination. The metric is typically calculated using factors like bandwidth, delay, reliability, and load along the path.
* The router uses the successor route to forward traffic to the destination.

**Feasible Successor:**

* A feasible successor is an alternative route to a destination that can be considered as a backup or secondary route.
* For a route to be considered a feasible successor, it must meet certain criteria. One crucial criterion is that the reported metric of the feasible successor must be lower than the metric of the current successor route.
* The existence of feasible successors is a key feature of EIGRP and contributes to the protocol's fast convergence and loop prevention mechanisms.

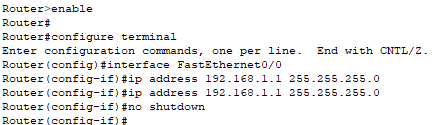
**Task#1:**

A diagram of a network

Description automatically generated

**Router 1 configuration:**

Configure Fast Ethernet Port



Configure Serial Port 2

A screen shot of a computer

Description automatically generated

Configure Serial Port 3

A white background with black numbers

Description automatically generated

Locate to EIGRP Protocol



Configure EIGRP Protocol

A close-up of a computer code

Description automatically generated

Configure DHCP Protocol

A black text on a white background

Description automatically generated

**Router 2 configuration:**

Configure Fast Ethernet Port

A computer screen shot of a number

Description automatically generated

Configure Serial Port 2

A close-up of a computer code

Description automatically generated

Configure Serial Port 3

A white background with black numbers

Description automatically generated

Locate to EIGRP Protocol



Configure EIGRP Protocol

A black text on a white background

Description automatically generated

Configure DHCP Protocol



**Router 0 configuration:**

Configure Fast Ethernet Port

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Description automatically generated

Configure Serial Port 2

A computer code with black text

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Configure Serial Port 3

A screen shot of a computer

Description automatically generated

Locate to EIGRP Protocol



Configure EIGRP Protocol

A number and numbers on a white background

Description automatically generated

* **PC 1:**

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* **PC 2:**

A screenshot of a computer

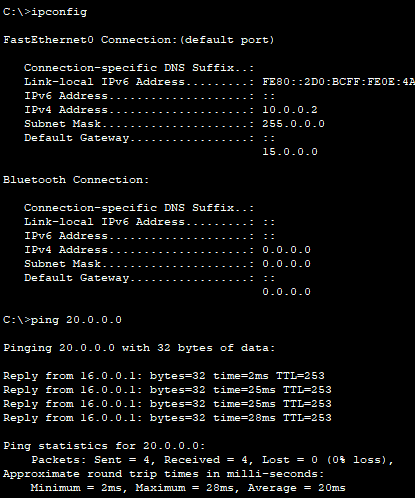
Description automatically generated

* **PC 3:**

**A screenshot of a computer

Description automatically generated**

* **Ping from PC 1 to PC 2:**



* **Ping from PC2 to PC3:**

**A screenshot of a computer program

Description automatically generated**