Sri Lanka Institute of Information Technology

Computer Networks 2nd Year, 2nd Semester

Tutorial 4

1. Which of the following describes static routing?
   1. Routes are determined by a static RARP table.
   2. Routes are automatically entered into a routing table.
   3. Routes are manually entered into the routing table by the network administrator.
   4. Routes are received from the local name server and are permanently entered into the routing table.
2. What are the basic functions of a router?

* Capable of storing current configuration
* Capable of copy configuration files from ram to nvram
* Capable of store details in TFTP Server as a backup
* Select the best part to remote networks
* Maintaining and updating the routing table

1. Describe an AS (Autonomous System).

A collection of inter-connected routers and networks under one administrative control domain area. All devices in an autonomous system must use the same routing protocol. By autonomous system number can uniquely identify the autonomous system

1. Why do we use Routing Protocols?

From router to destination there can be multiple available paths. To select the best part out of other paths from router to destination we use routing protocols. Also maintain and update routing table in every router based on the receiving from neighboring routers.

1. State the main difference between the Interior Routing protocols and Exterior Routing Protocol. Give examples of IP Routing protocols.

Interior routing protocol

Used within an autonomous system

Ex – RIP, EIGRP

Exterior routing protocol

Used to connect autonomous systems(used between autonomous systems)

Ex - BGP

1. What are the problems in RIP and write the solutions for them.

Slow convergence – Triggered updates

Counting to infinity – Route Poisoning

Instability – Split Horizon

RIP1 cannot identify classless addresses – RIPV2

1. Compare and contrast RIPv1 and RIPv2.

|  |  |
| --- | --- |
| RIPV1 | RIPV2 |
| Used in classful networks only | Used in classful and classless networks |
| Does not automatically summarize net address | Automatically summarize network address – (Use no auto summary code) |

1. Compare and contrast RIP and EIGRP.

|  |  |
| --- | --- |
| RIP | EIGRP |
| Use in small networks | Use in large networks |
| Maximum number of devices are 16 and the largest hop count is 15 | Maximum number of routers are 256 |
| AD is 120 | AD is 90 |
| Not a proprietory protocol | A Cisco proprietory protocol |
| Uses a single metric of hop count | Uses a composite metric of bandwidth , delay of the line, reliability, maximum transmission unit |

AD will give the trustworthiness for the protocol. Less is more trustworthy