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Tutorial

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Q1.) Explain how IGMP supports internet multicasting. (3.5)

Q2) How are the routing-updates communicated among different autonomous systems?

~~Q3.)~~ Explain the features of Exterior gateway protocol BGP. (3.5)

Q8) Describe the operation and packet format of UDP (3).

Answers

Q1.) - IGMP is a Internet Group Management Protocol that allows a host to advertise its multicast group membership to neighbouring switches and routers.

- when a multicast transmission initials, the software of servis creates a multicast group.
- This multicast group address consists of a IP address with first octet in the range of class D IP.
- This is specified in the IP packet as the destination address for multicast traffic.
- The host initiating the transmission sends a message (called IGMP membership report) to all multicast

routers.

- IGMP (version 2) specifies a join as well as a leave message telling the switch / router when they wish to leave a multicast group.

- In an effort to keep the membership information current the IGMP querier continues to send membership queries
  - All host that wish to remain in the group must reply to these queries.
  - If the host in the group does not reply within a specified time period the switch removes those ports from the group table.

A2.) Autonomous System can be difinders a collection of routers that have similar routing table information difind as the boundary line for routing protocol.

- The routing update mechanis is the process of transfers of information between the neighbouring routers
- This can be explain as follows while routing at a particular time duration between the neighbouring routers.
- Various routing protocol have various time intervals.
- Thes routing updates contains information of routing protocols such as Autonomous system, Administrative distance, matrix value and interface details.

~~- Bord~~

- BGP (Border Gateway Protocol) – Features

- Border gateway protocol is a standardized exterior gateway protocole designed to exchange routing and reachability information among autonomous systems on the internet.

- It is classified as a path vector Protocol.

- It makes routing decisions based on paths, network policies or rule-sets configured by a network administrator.

- Therefor it is involved in core routing decisions.

- Border Gateway protocol prevents routing loops

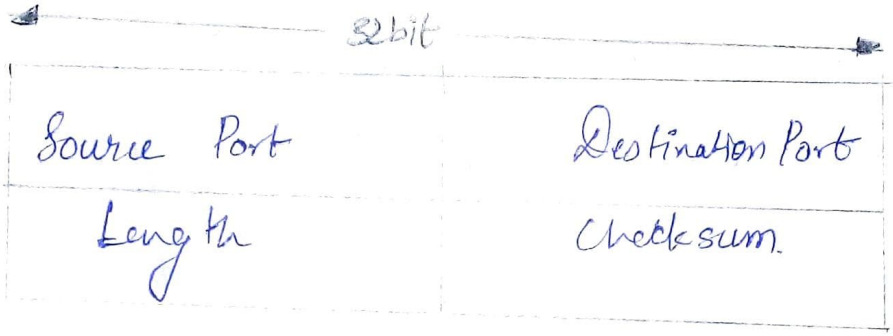
- Further BGP or Border Gateway Protocol discovers or enables routers to comunicate via diffent types of messages.

- Like most protocols BGP does not detect conjection and is poor at load balancing

- Since BGP is integrated to core it leaves the network vulnurable.

A3.) Operations and packet format of UDP.

- UDP stands for User Datagram Protocol.
- UDP is basically an IP with an additional short header.
- The packet format of UDP header is shown below



Source Port Number

- This port/field identifies the sender's port, when used, and if not used is set to zero.
- If the source host is the client, the port number is likely to be an ephemeral port.

Destination port number

- This field identifies the reciever's port and is required. Similar to source port number, if the client is the destination host the the porth number is likely to be ephemeral.

Length

This field specifies the length in bytes of UDP header & data.

Checksum

The checksum field is used for error checking of the header and data.

- UDP works without the overhead of creating a connection with a 3-way handshake.
- Thus UDP is very efficient for the multicast or broadcast type of network transmission.
- UDP is also known as a wrapper protocol and though its simpler and efficied it is not reliable
- UDP does not retransmit the lost packets.
- Neither will UDP offer any sequencing of the data.