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5th B

Computer Networks - 2nd Assignment

1. Define congestion control & its mechanisam, Discuss the caues & the costs of its on various scenarios

→ There are 3 approaches for dealing with TCP's ~~congesti~~ congestion control : They are :

1. Local Recovery.
   → These protocols recover from bit-errors. For Eg:- ARQ protocol.

ii) TCP sender Awarences of wireles Links :

→ The sender and receiver must be aware of the existence of a wireles - link.

→ The sender and receiver must be to distinguish b/w.

- Congestive Losses occuring at wired network.
- congestive losses occuring at wireless network.

→ Sender & reciver invoke congestion - control only in reciver invoke congestion - control only in responsive to congestive wired network losses

iii) Split Connection :-

- The end to end connection between mobile user and other end point are broken into 2 connections
- One connection from the mobile host to the wireless accessing point
- Another connection from the wireless access point to the other end point.

2. Compare Link state & distance vector routing protocol

Distance Protocol.	Lint state protocol!
• Entire routing table is send as an update	• updates are incremented & entirie routing. table is not sent as update.
• Distance vector protcol send. periodic update at every 30 to 90 second.	• Update are triggered not periodically.
• Updates are brodeasted	• update are multicasted
• prone to routing loops.	• no routing loops
• updates are send to directly connected.	• update are sent to entire network & to just
• Each node talke to only its directly connected.- neighoours.	• Each node, talks with all other nodes.

③ Define congestion control & its mechanisms Discuss the cause and the costs of its on various scenarios:

→ A state occuring in network layer when the message traffic is to heavy that its shows down network response time, As delay increases, performance decreases. To stop this state from occaring congetion Control is implemented

① senorio :- Two senders, a routar with infinite buffer. 2. host A & B have a connection that share a single hope between source & destination

→ as the sending rate approches the average delay becomes large & Carger.

② scenaro 2: Two senders, a router with finete buffers.

→ unnated retrememinions by the sender in the face of large delay may cause a routr to use its link bandwidth to forward unsend copies of a packet

(3) scenario 3:- four sender, routers with finite buffers & multihop paths.

- when a packet is dropped along a path, the transmission capacity that was used at each of the upstream routers to forward that packet to the point at which it is dropped ends up having been wasted.

(4) Define the working principle of BGP. Illustrate intra & inter communication in A.S:

→ • Border gatway protocal is a strantarelized exterior gateway protocol designed to exchange routing and reachability information among autonomous system on the Internet.

→ Intra - As Routing Protocal

- The Routing algorithm running within an outcomous system is called intra As routing protocol.
- All routingrs within the same as must run the same intra as routing protocal for Eg: RIP and osPF.

→ Inter - As Routing protocal

- The Routing algorithm running between 2 Autonomus system called inter As Routing protocol.
- gatway routers are used to connect As to each other

→ gateway router are responsible for forwarding packets to destinations outside the As.

⑤ Different IPV6 and IPVG? how mapping is carried out in tunneling:

→

IPV4	IPV6
• IPV4 is a 32 bit IP. address	• IPV6 is 128 bit IP address
• number of header fields is 12	• number of header fields is 8
• has checksum fields	• does not have checksum fields
• IPV4 offers five different classes of IP address class A to E	• IPV 6 allows storing on unlimited number of IP address
• SNMP protocol used for system management.	• SNMP does not support IPV6.

Tunneling:

- On the sending side of the tunnel:

→ IPV6 node B takes and puts the IPV6 datagram in the data field of a IPV4 datagrom

→ The IPV4 datagram is addressed to the IPV6. node E

- on the receiving side of tunnel

→ Receivers the IPV4 datagram

→ Extracts the IPV6 datagram from the data field of the IPV4 datagram.

→ routes the IPV6 datagram to IPV6 node of.