

Aneesh Jose  
AJC17C5021  
Roll no. 25

1) Load shedding is a closed loop technique in congestion control. In this method, whenever a router finds that there is congestion in the network, it simply starts dropping out the packets. There are different methods by which a host can find out which packet to drop. simplest way can be just choose the packet randomly which has to be dropped. For many application, some packets are more important than others so the sender can mark packets in priority classes to indicate how important they are. Local shedding removes excess load from the system in order to keep queue processing up with the input arrival rates.

2)

Q

Aneesh Jose  
AJC17CS027

25

The role of IGMP in multicasting is that IGMP helps build up multicasting groups and maintain membership lists. Multicast routers are needed to route multicast traffic; maintain a list of groups for each interface they are connected.

IGMP is a protocol that manages group ~~permissions~~ memberships. IGMP protocol gives the multicast routers information about the membership status of host routers connected to the network.

3)

A) Traffic shaping is a bandwidth management technique used in computer networks which delays some or all datagrams to bring them into compliance with a desired traffic profile.

B) Two most popular traffic shaping algorithms are Leaky bucket and token bucket.

- The leaky bucket is an algorithm that may be used to determine whether some sequence of discrete events conforms to specified limits on their average and peak rates or frequencies. ~~it is used to control~~ If bucket is full, packet or data is discarded, packets are transmitted continuously. It sends the packets at a constant rate. It does not save tokens.

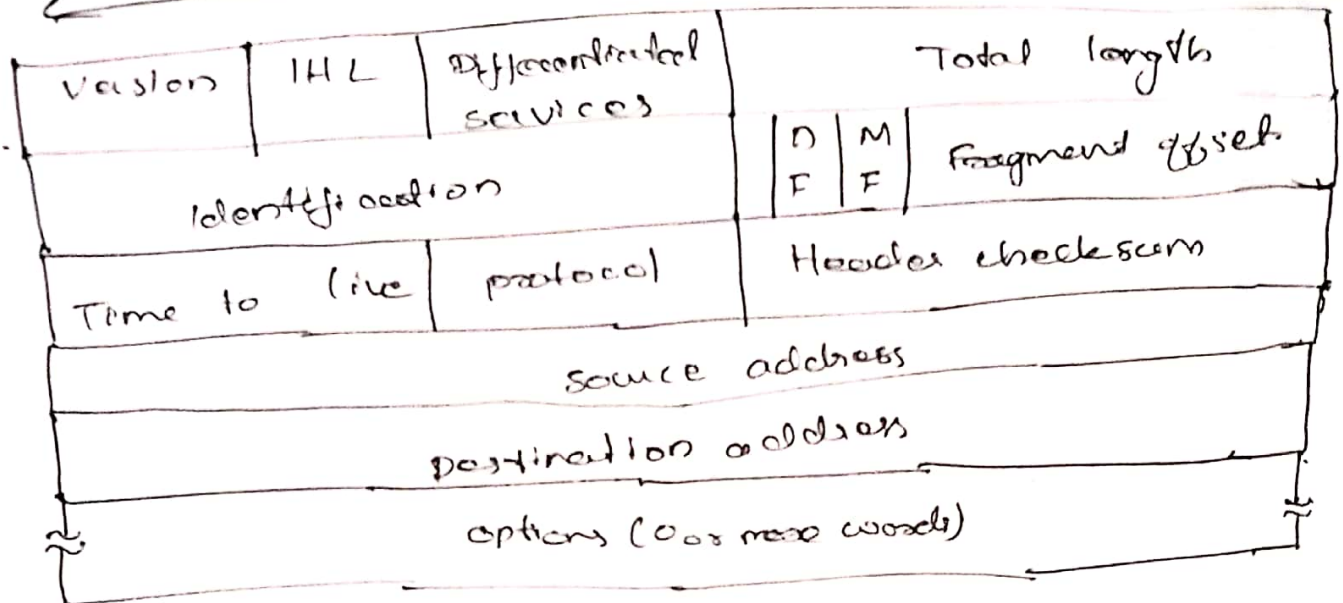
The token bucket is ~~as~~ used in packet switching. It can be used to check that data transmissions, in the form of packets, conforms to defined limits on bandwidth and burstiness. It allows the dr rate vary depending on the size of bursts. It is token dependent.

If bucket is full, tokens are discarded but not the packet. packets can only be transmitted when there are enough tokens.

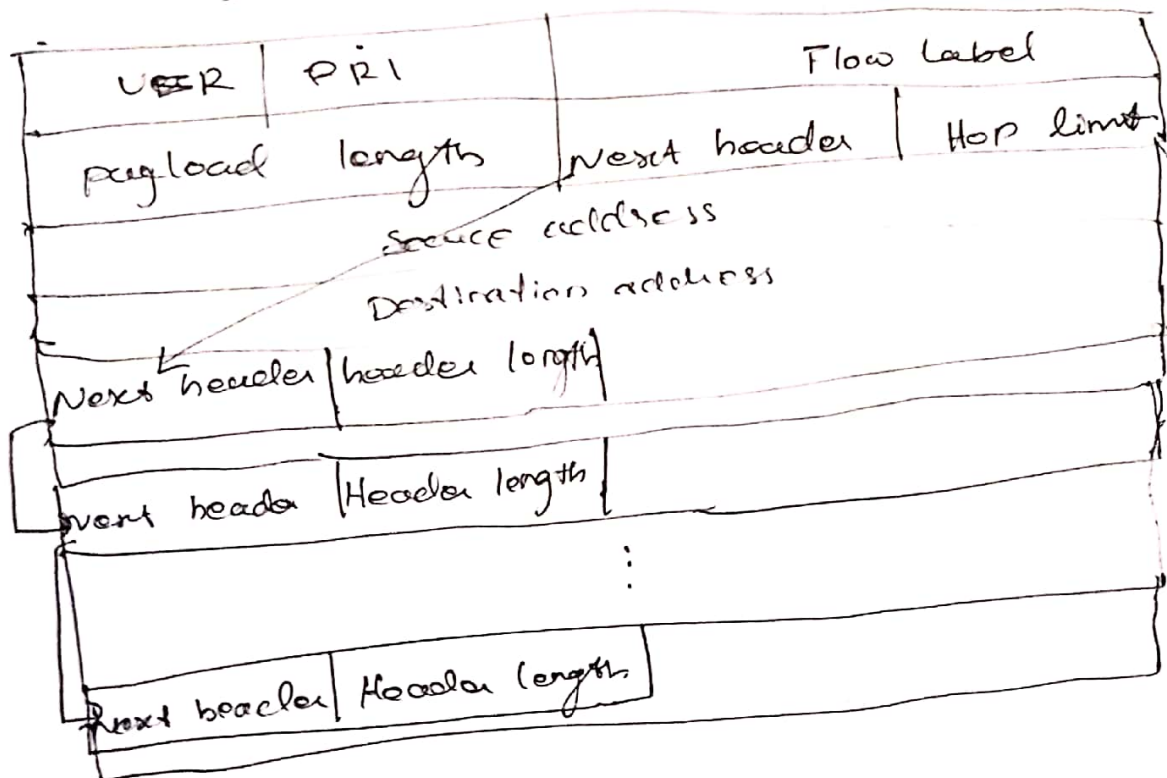
It allows large burst to be sent faster rate after their constant rate.

It saves token to send large bursts.

## ④ IPv4 Datagram format



## IPv6 Datagram



IPv4	IPv6
32 bit	128 bit
numeric	alphanumeric
(6) separated	(8) separated
12 header fields	8 header fields

Aneesh Jore

AJC17CS027

25

5) ICMP is one of the main protocols of the internet protocol suite. It is used by n/w devices like routers to send error message. Indicating ICMP can be used to relay query message. It is the mechanism used by hosts and gateways to send notification of data path problems back to the sender. ICMP sends query and error reporting messages.



Anceesh Joge

AJC17CS027

25

⑤

⑦

a)  $200.17.21.128/27$

Range =  $200.17.21.128$  to  $200.17.21.159$

b)  $100.17.21.128/27$

Range =  $100.17.21.128$  to  $100.17.21.159$

c)  $17.34.16.0/23$

Range =  $17.34.16.0$  to  $17.34.17.255$

d)  $123.56.77.32/29$

Range =  $123.56.77.32$  to  $123.56.77.39$

8)

Aneesh Jose  
86 CSE A  
AJC17CS 027  
25

a) 114.34.12.8

binary notation.

01110010 00100010 00000010 00001000

b) 127.24.6.8

00111111 00001100 00000110 00001000

c) 212.34.54.15

11110010 00010010 00110110 00001111

d) 232.34.2.1  $\Rightarrow$  11101000 00100010 00000010 00000001