

10 on Chapter 1

10 on Chapter 2



..... is the time for a small packet to travel from client to server and back.

RTT

HOL

RFC

GDPR

Chapter 1

In different channels transmitted in different frequency bands.

HFC

FDM

CMTS

DSL

Chapter 1

..... define the format, order of messages sent and received among network entities, and actions taken on message transmission.

Routers

Protocols

Switches

Servers

In transmission order of requested objects based on client-specified object priority. It pushes unrequested objects to a divides them into frames, and then schedules them.

HTTP1.1

HTTP1.2

HTTP2.1

HTTP2

Chapter 1

In end-end resources allocated to, reserved for call between source and destination.

queueing

TDM

packet-switching

circuit switching

Chapter 1

A packet switch receives a packet and determines the outbound link to which the packet should be forwarded. When the packet arrives, another packet is halfway done being transmitted on this outbound link and four other packets are waiting to be transmitted. Packets are transmitted in order of arrival. Suppose all packets are 1,500 bytes and the link rate is 2.5 Mbps. What is the queuing delay for the packet?

21.6 ms

19.2 ms

16.8ms

2.4 ms



..... attacks intercept DNS queries, returning bogus replies.

ICANN

DoS

Spoofing (DNS Spoofing)

DDoS



Chapter 1

In fiber attaches homes to ISP router. homes share access network to cable headend.

DSL

packet transmission delay

TDM

cable-based access



..... provides retrieval, deletion, and folders of stored messages on the Email server.

IMAP

ICANN

POP

SMTP



A small object may have to wait for transmission behind a large object. This is called _____ blocking.

ICANN

GDPR

HOL

FCFS



Chapter 1

..... is the rate (bits/time unit) at which bits are being sent from sender to receiver.

Throughput

Queueing delay

Transmission delay

Nodal processing



Consider sending over HTTP/2 a Web page that consists of one video clip, and five images. Suppose that the video clip is transported as 2000 frames, and each image has three frames. If all the video frames are sent first without interleaving, how many "frame times" are needed until all five images are sent?

2000

2015

2030

4030



Chapter 1

In use existing telephone line to central office. It has 24-52 Mbps dedicated downstream transmission rate and 3.5-16 Mbps dedicated upstream transmission rate.

DSL

TDM

DSLAM

CMTS



..... uploads new file (object) to server. It completely replaces a file at a specified URL with content in the entity body of the HTTP request message.

POST

HEAD

GET

PUT



HTTP response status code equals to when the requested object is moved to a new location specified later in the message.

400

305

301

505



The following are fields in RR format in DNS records, except

TTL

URL

Type

Value

Chapter 1

Users are generating data at a rate of 100 kbps when busy, but are busy generating data only with probability $p = 0.1$. Suppose that we have 1 Gbps link. What is N, the maximum number of users that can be supported simultaneously under circuit switching?

$$\begin{aligned} & 1\text{Gbps} / 100\text{Kbps} \\ & = 1 * 1000 * 1000 / 100\text{Kbps} \\ & = 1000000\text{Kbps} / 100\text{Kbps} \\ & = 10000 \end{aligned}$$

10000

100000

1000

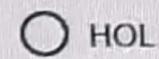
5000



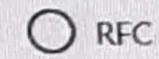
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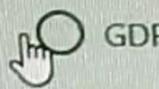
RTT



HOL



RFC



GDPR



Chapter 1

In , attackers make resources (server, bandwidth) unavailable to legitimate traffic by overwhelming resource with bogus traffic.

Wireshark

DoS

Spoofing

Sniffing



Chapter 1

..... is the premier standards development organization for the Internet.

FDM

HFC

RFC

IETF