Welcome Cyber#1

Reader: reader.codaisseur.com

Slack: codaisseur-school.slack.com

Discord: https://discord.gg/qyehPh

Today's schedule

19:00 - 20:00 ☐ Youtube streaming

20:00 - 20:15 ☐ Break

 $20:15 - 20:45 \square$ Arp spoofing

20:45 - 21:00 ☐ Break

21:00 - 21:30 □ Homework

Homework...

Uploading was hard...

AWS CloudFront youtube-ui.l.google.com: AWS EC2 MCI Communication Services

74.125.110.x

44.236.152.8x

13.227.209.x/47

93.184.220.2x

X: to make IP-addresses private

172.217.0.0/16
172.217.17.10
172.217.17.46
172.217.17.46
172.217.17.78
172.217.17.142
172.217.17.46
172.217.17.99
172.217.17.110
172.217.17.110
172.217.17.206

172.217.20.110 172.217.20.110 172.217.20.110 172.217.20.110 172.217.20.78 172.217.20.70
172.217.20.78 172.217.20.78

172.217.168.206	172.217.168.238
172.217.168.206	172.217.168.238
172.217.168.206	172.217.168.238
172.217.168.206	172.217.168.238
172.217.168.206	172.217.168.238
	172.217.168.238

2a00:1450:400e:806::200e

2a00:1450:400e:80b::200e

2a00:1450:400e:809::200e

2a00:1450:400e:80a::200e

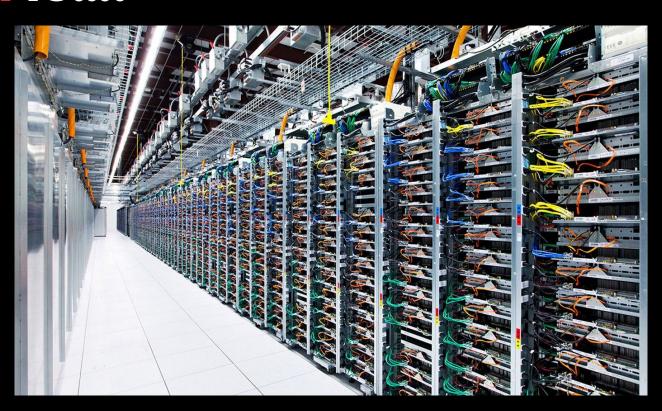
2a00:1450:400e:80e::200e

Youtube uses....

CDN

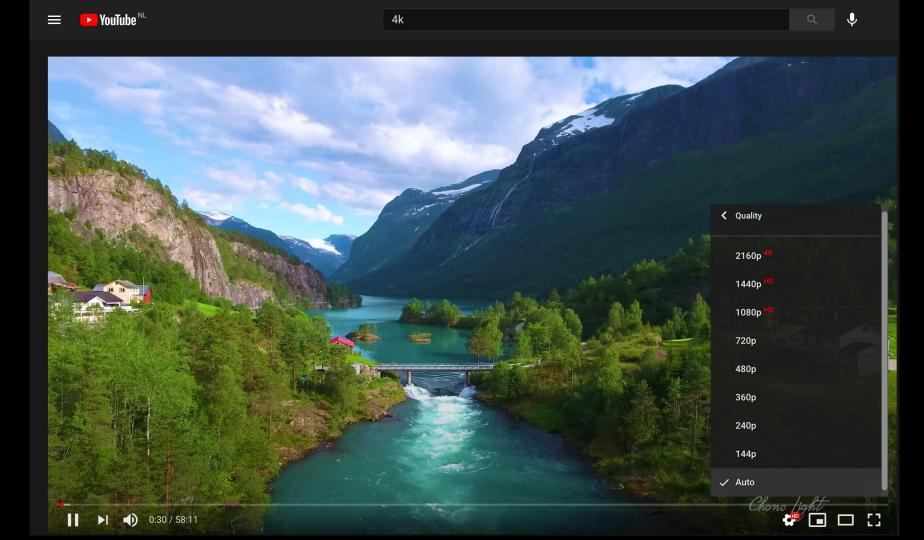
Content Delivery Network

CDN is....



CDN solves....





Youtube packets....

96	4175
99	4182
540	4555
798	51249
1968	13393
2751	78143
4080	39411

Filesize....

Photo (5MP) 1.5 MB

Video 4K(2160p) 320 MB (one minute) Video HD(720p) 35 MB (one minute)

How big is a packet....

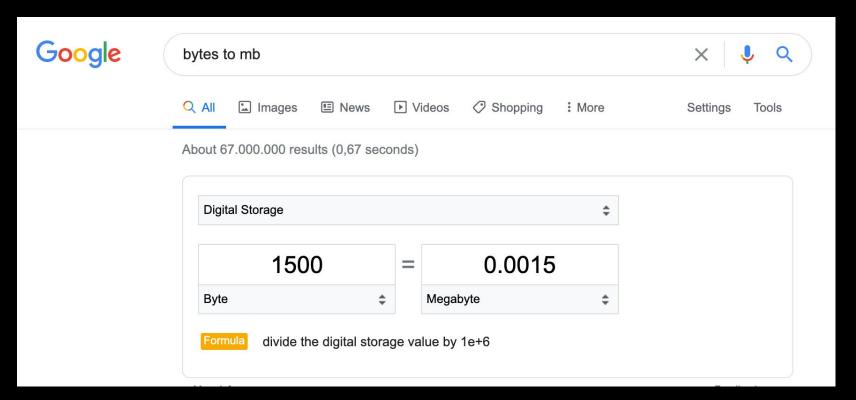
How big is a packet....

MTU

(Maximum transmission unit)

Wired: 1500 (bytes) Wireless: 2,312 (bytes)

Bits and Bytes....



Bits and Bytes....

Video HD(720p) 35 MB (one minute)

20 seconds 11 MB

1,1e+7 bytes (11 MB)

7333 full packets (1500 bytes)

What protocols are used in the communication between you and youtube?

What is a protocol?

Youtube protocols....

```
(Missing HTTP)
TCP
TLS
TLSv1.2
TLSv1.3
HTTP
DNS
OCSP
IPV6
```

Youtube protocols....

```
(Missing HTTP)
TCP
TLS
TLSv1.2
TLSv1.3
HTTP
DNS
OCSP
```

Youtube protocols....

```
TCP (Transmission Control Protocol)
TLS (Transport Layer Security)
TLSv1.2
TLSv1.3
HTTP (Hypertext Transfer Protocol)
DNS (Domain Name System)
OCSP (Online Certificate Status Protocol)
```

NERD MODE = ON

10 Minute Break

ARP spoofing

15 Minute Break

Homework

The End