

Intro to Networking

- MAC, IPv4, IPv6 addresses
- DHCP
- DNS
- NAT

- What is networking?



- What's bandwidth, throughput and latency?



- Who makes the rules for the internet?



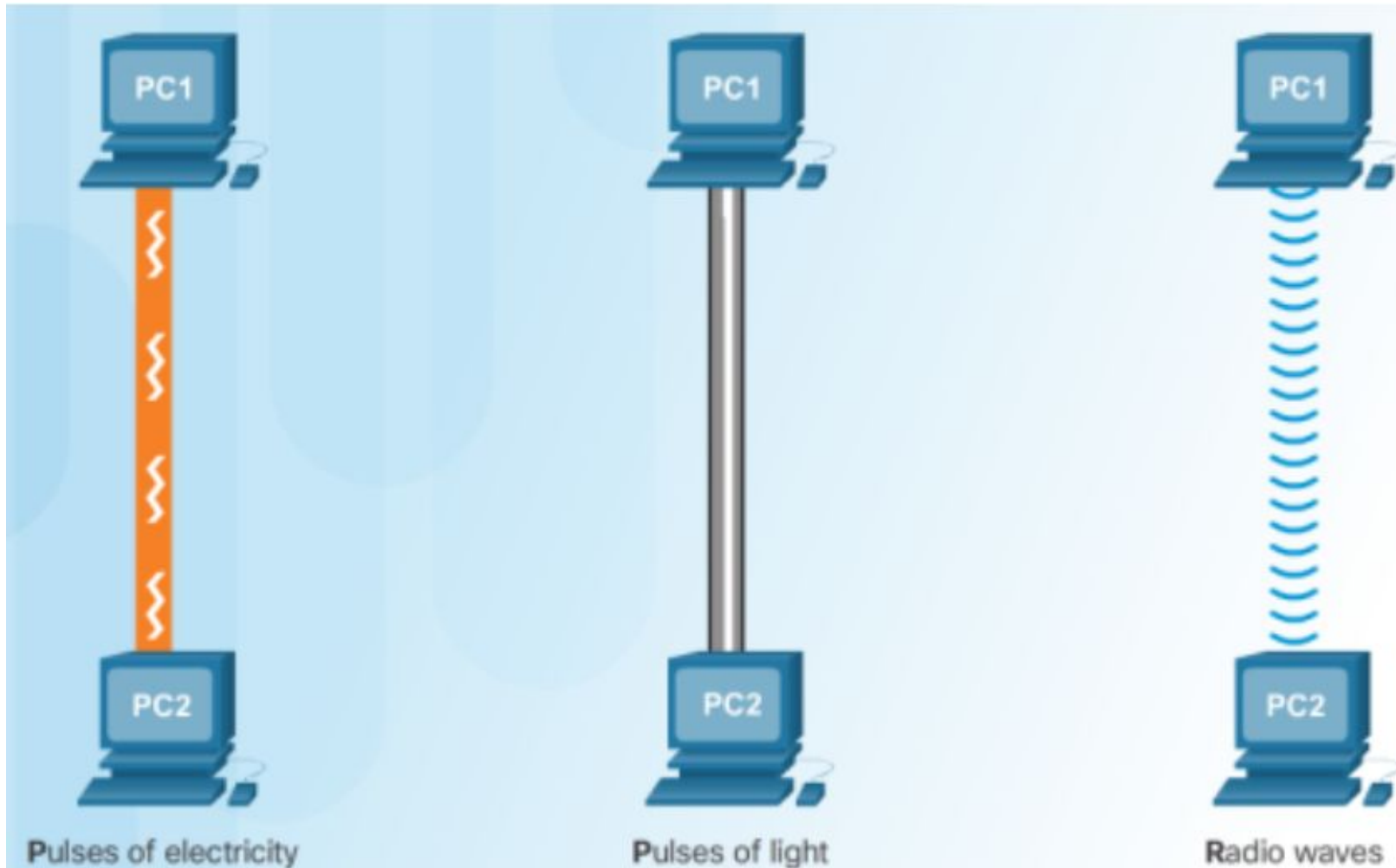
- A MAC address is also called a physical address. A mac address is a hard coded 48 bit address for your Network Interface Card (NIC) or network adapter.

Mac Address:

CableMat_06:e1:24

70:88:6b:86:e1:24

- Three types of network media



- IPv4 is a protocol for a 32 bit size address:
 - 10.0.0.0 - 10.255.255.255 - private class A
 - 172.16.0.0 - 172.31.255.255 - private class B
 - 192.168.0.0 - 192.168.255.255 - private class C
 - 224.0.0.0 - 239.255.255.255 - multicast
 - 240.0.0.0 - 255.255.255.255 - reserved
- Reserved IPv4 addresses
 - 0.0.0.0 - Default
 - 127.0.0.0 - 127.255.255.254 - loopback
 - 169.254.0.0 - 169.254.255.255 - link local

- Subnet mask
 - 255.255.255.0 or /24
- Default Gateway: Gateway address to another network
- DNS address: The address to the DNS server

- 8 bit binary table:

128	64	32	16	8	4	2	1

Number:

Answer:

- IPv6 is a protocol for a 128 bit address:
 - 2001:0db8:3c4d:0015:0000:0000:1a2f:1a2b/64
 - fe80:0000:0000:0000:0000:0000:23a1:b152/10
 - fe80:0010:1000:0000:0001:0000:23a1:b152

2001:0db8:3c4d - site prefix

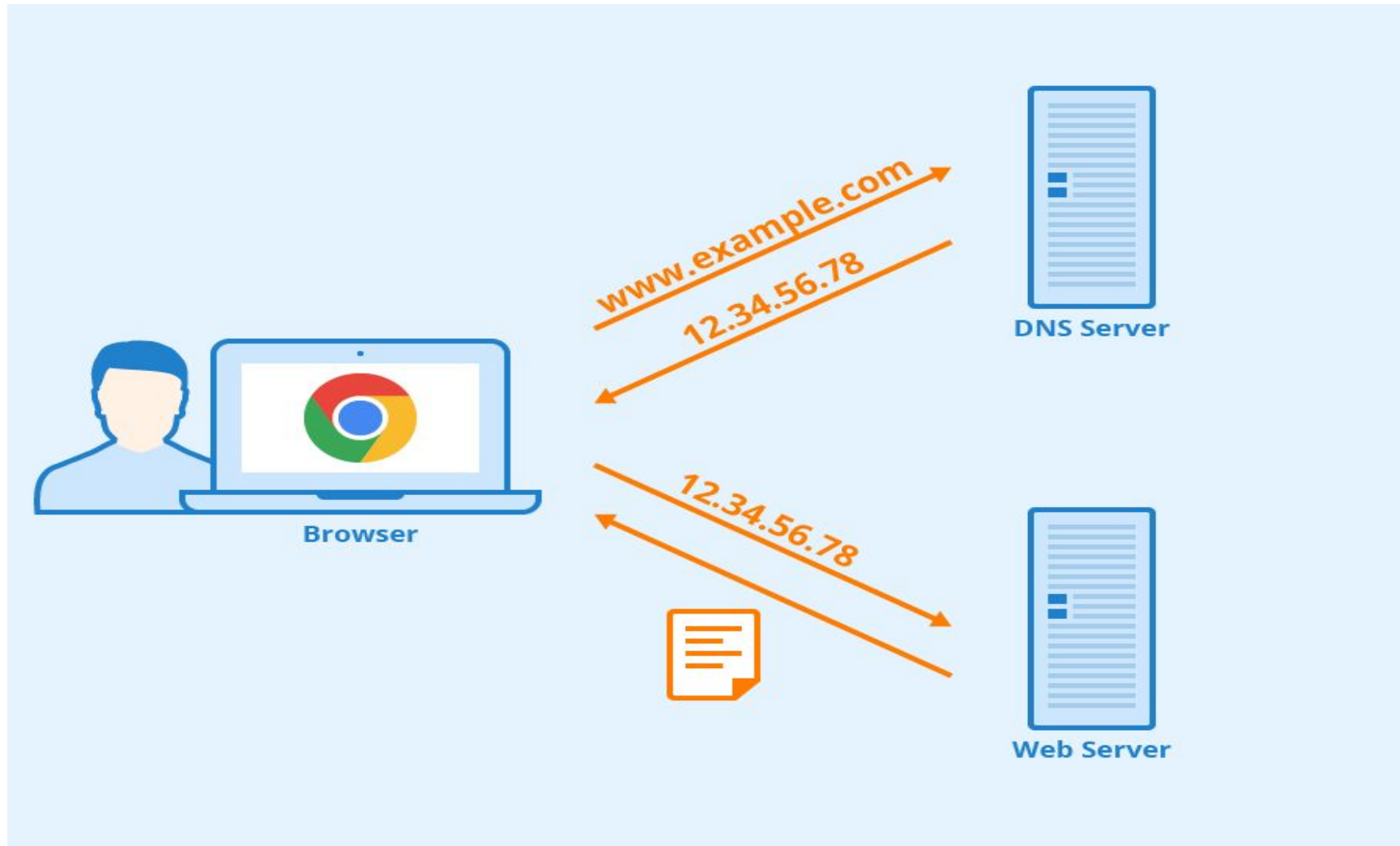
0015 - subnet

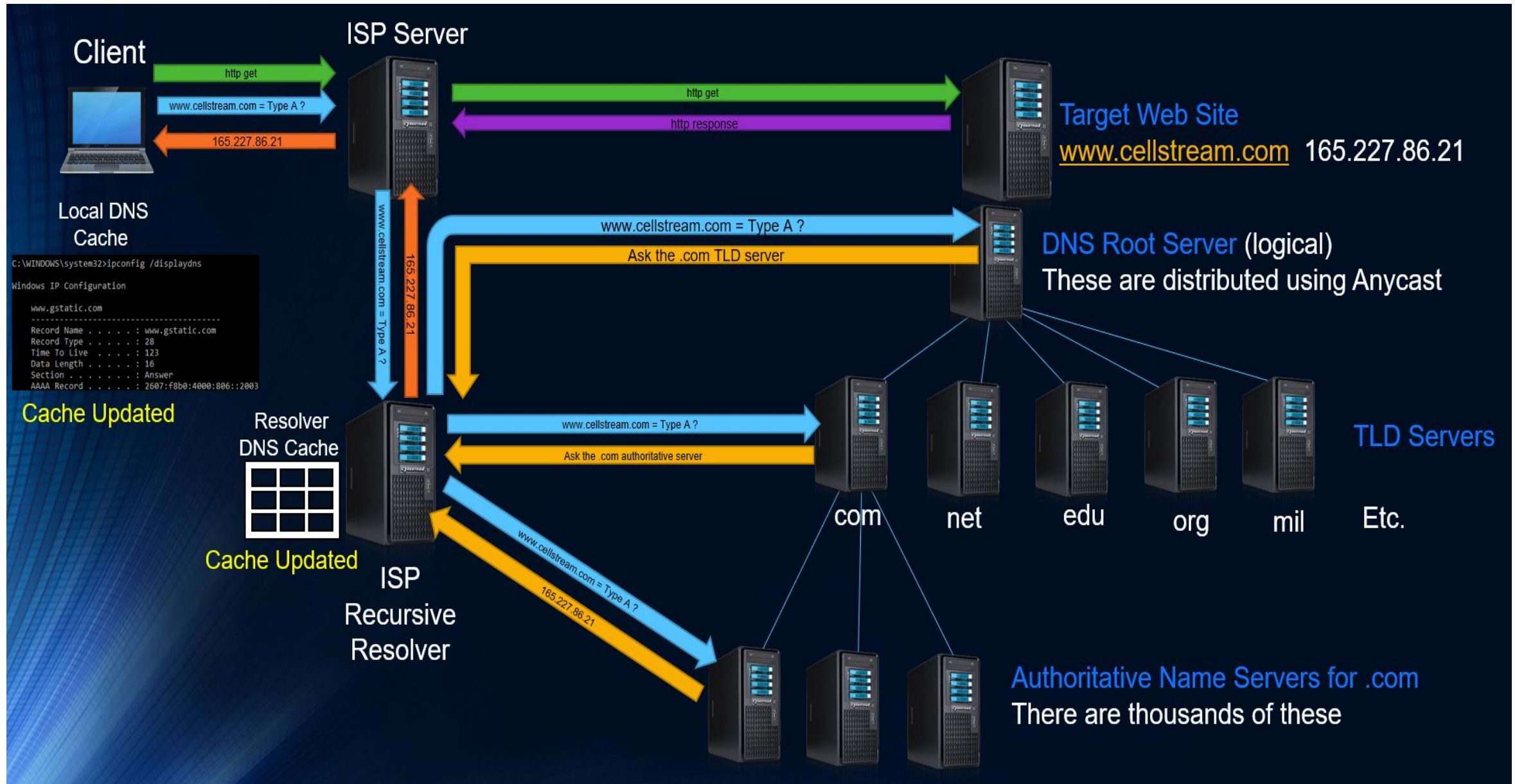
::1a2f:1a2b - interface ID

Other IPv6:

- ::/0 - default
- ::1/128 - loopback

- Domain name system





- Dynamic Host Configuration Protocol



- Network Address Translation

