THE INTERNET: HOW IT CHANGED THE WORLD

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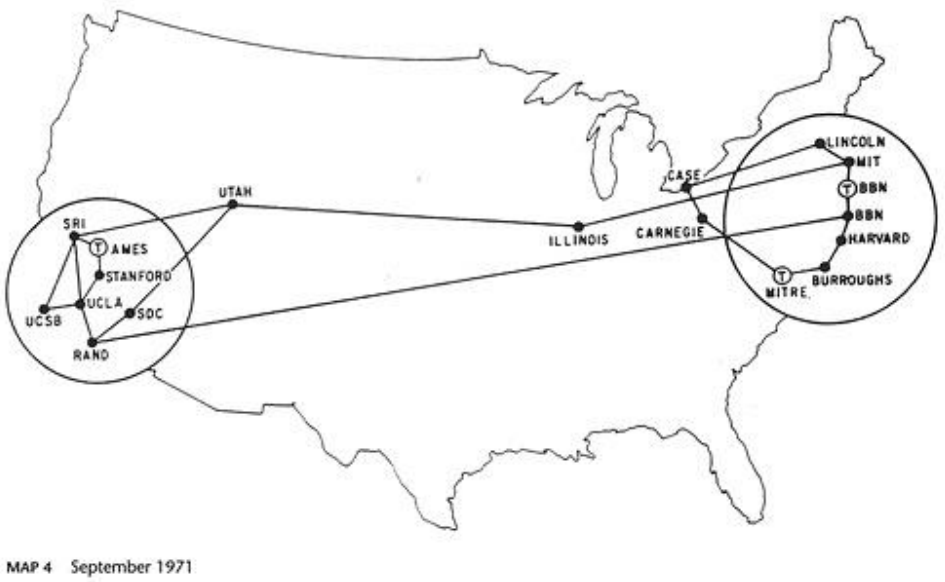
WHAT IS THE INTERNET?

INTERNET

- A global network that connects computers worldwide
- Allows people to share information instantly

WHAT DO YOU USE THE INTERNET FOR?

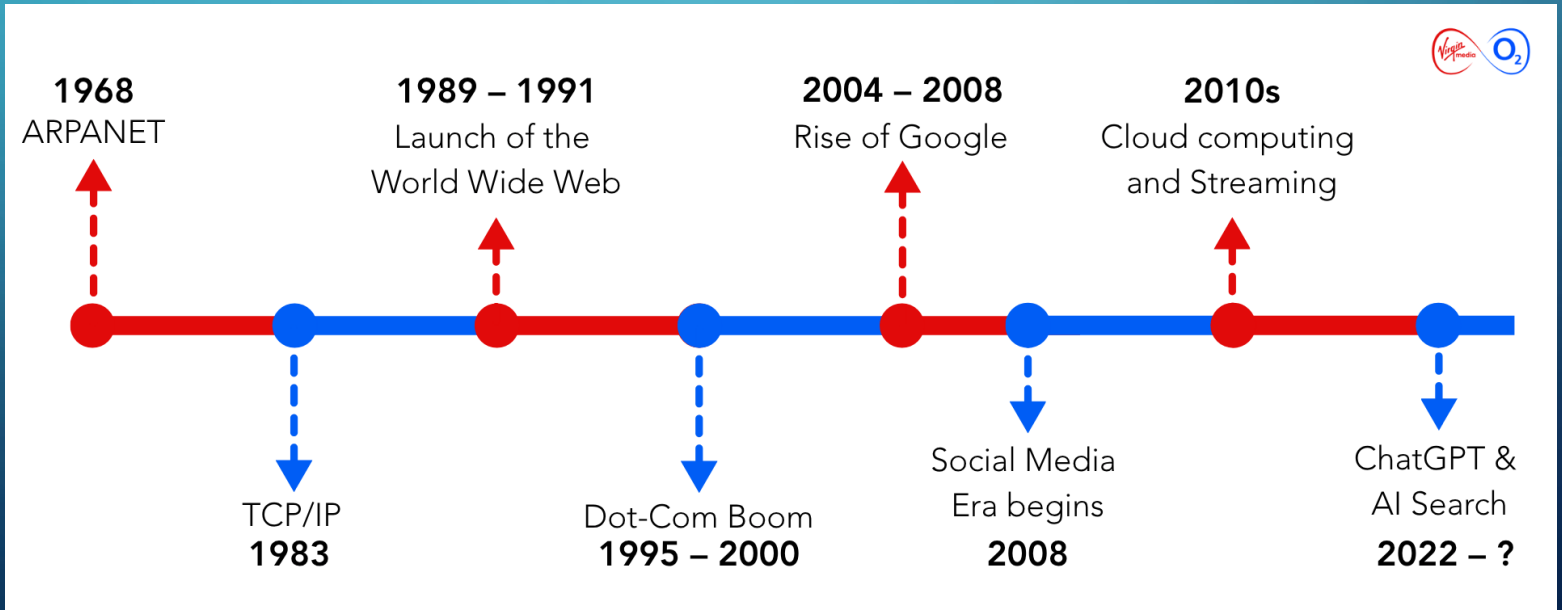


MAP 4 September 1971

INTERNET HISTORY

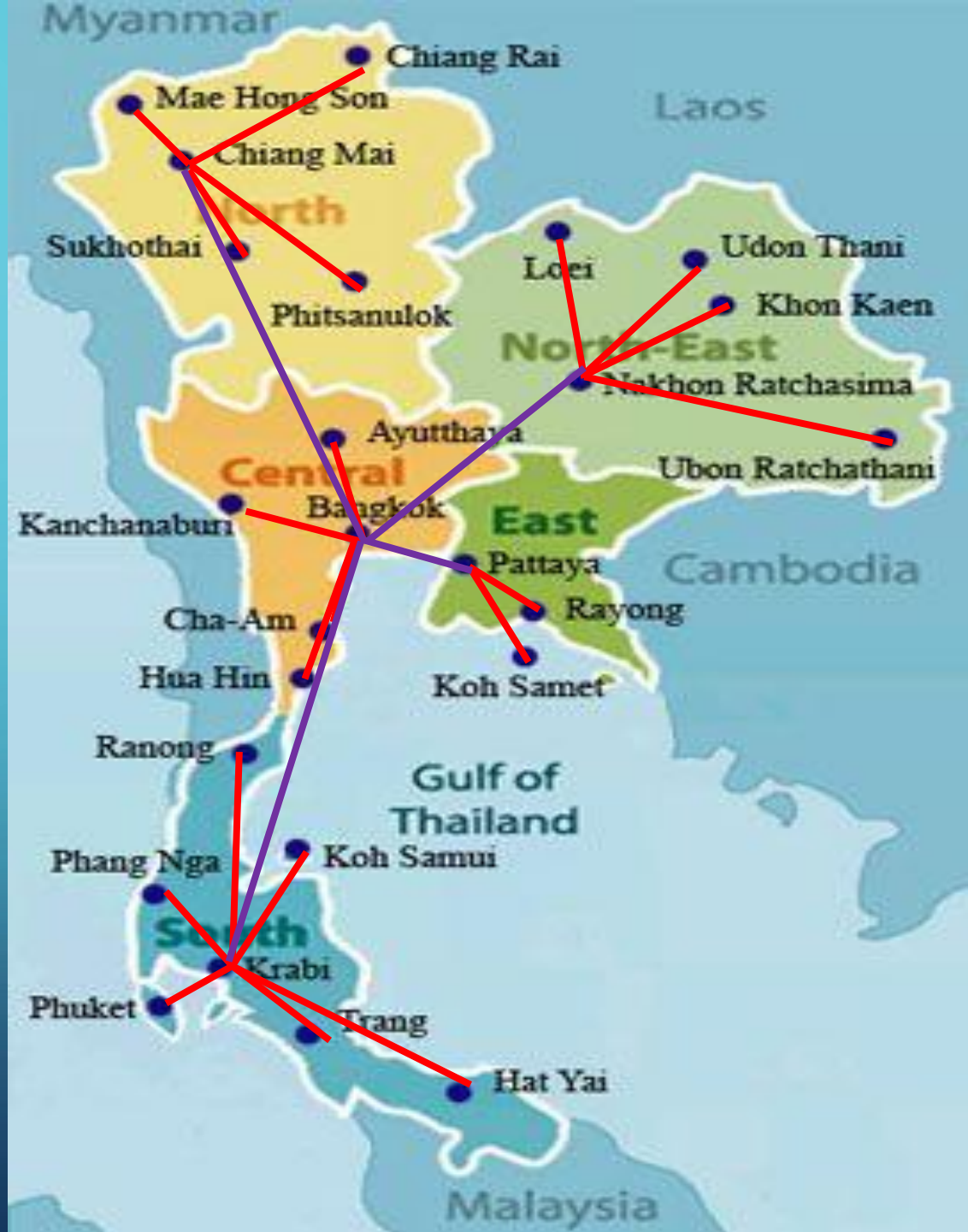
- Made by Advanced Research Projects Agency (ARPA) of the U.S. government in 1969 and it was known as **ARPANet**

- Main idea of the Internet was to create a network that will allow users of different Computer research departments communicate with each other
- The message could be sent in more than one direction, which means that the network could function even if the parts of it were destroyed



BEFORE INTERNET

- Smaller cities are connected regionally to the main city in that region
- Those main cities are connected to the capital city of the country
- If one of the main cities stops working, the rest of the network also stops working



AFTER INTERNET

- All cities are connected with each other so in case if one part of the network stops working, the rest will still work

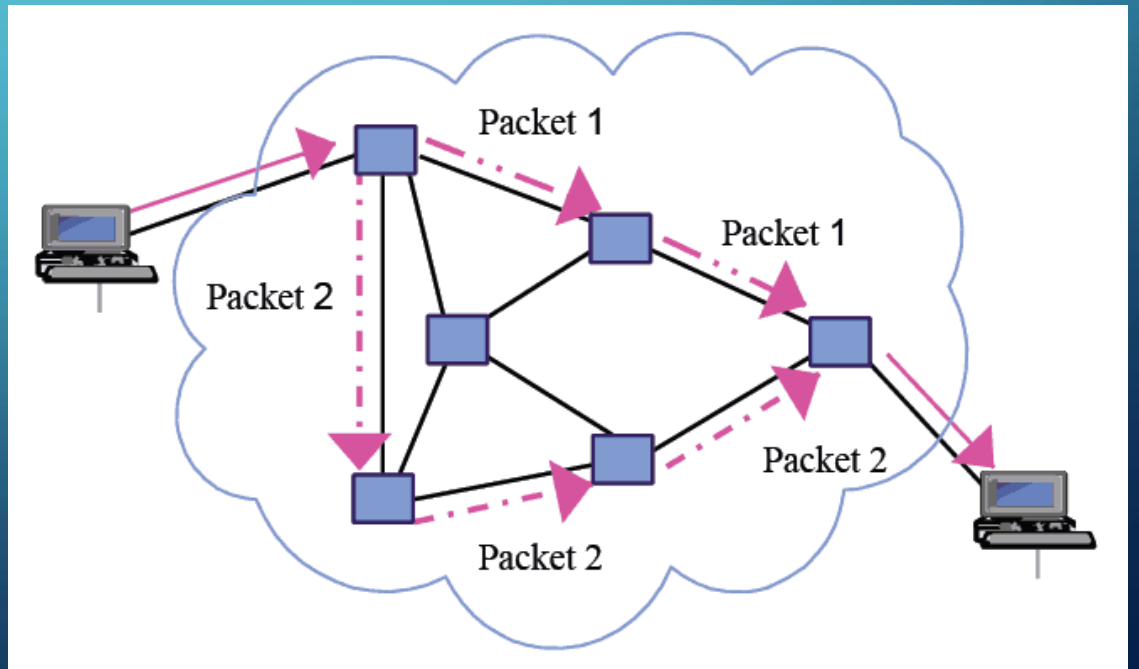
HOW DOES THE INTERNET WORK?

HOW DOES THE INTERNET WORK?

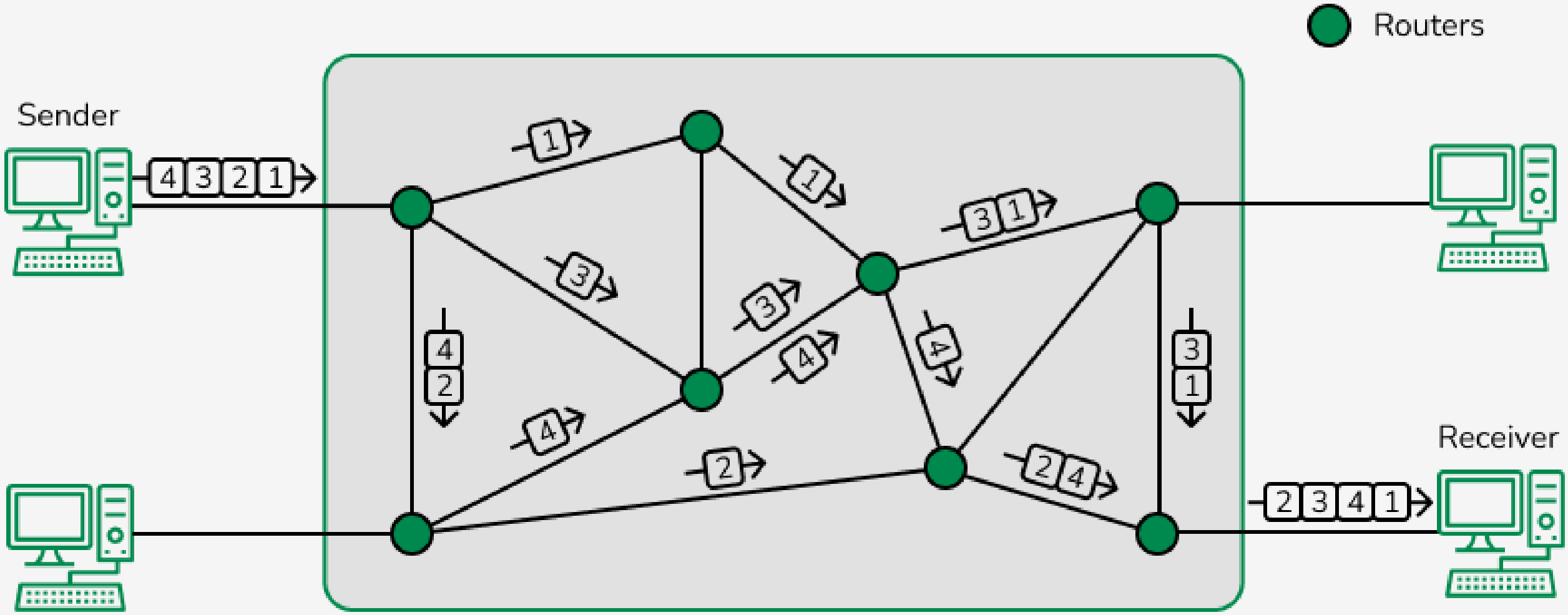
- It sends data between devices
- You send a message
- It is broken into small pieces (packets)
- Packets travel through different routes
- Reassembled at destination

TRANSFERRING DATA

- The process of transferring information from one device to another device is called **packet switching**
- Each computer connected to the Internet is assigned a unique **IP address** that allows the device to be recognized



Packet Switching



HOW DOES THE INTERNET WORK?

- The Internet has two major components
  - Hardware
  - Network protocols

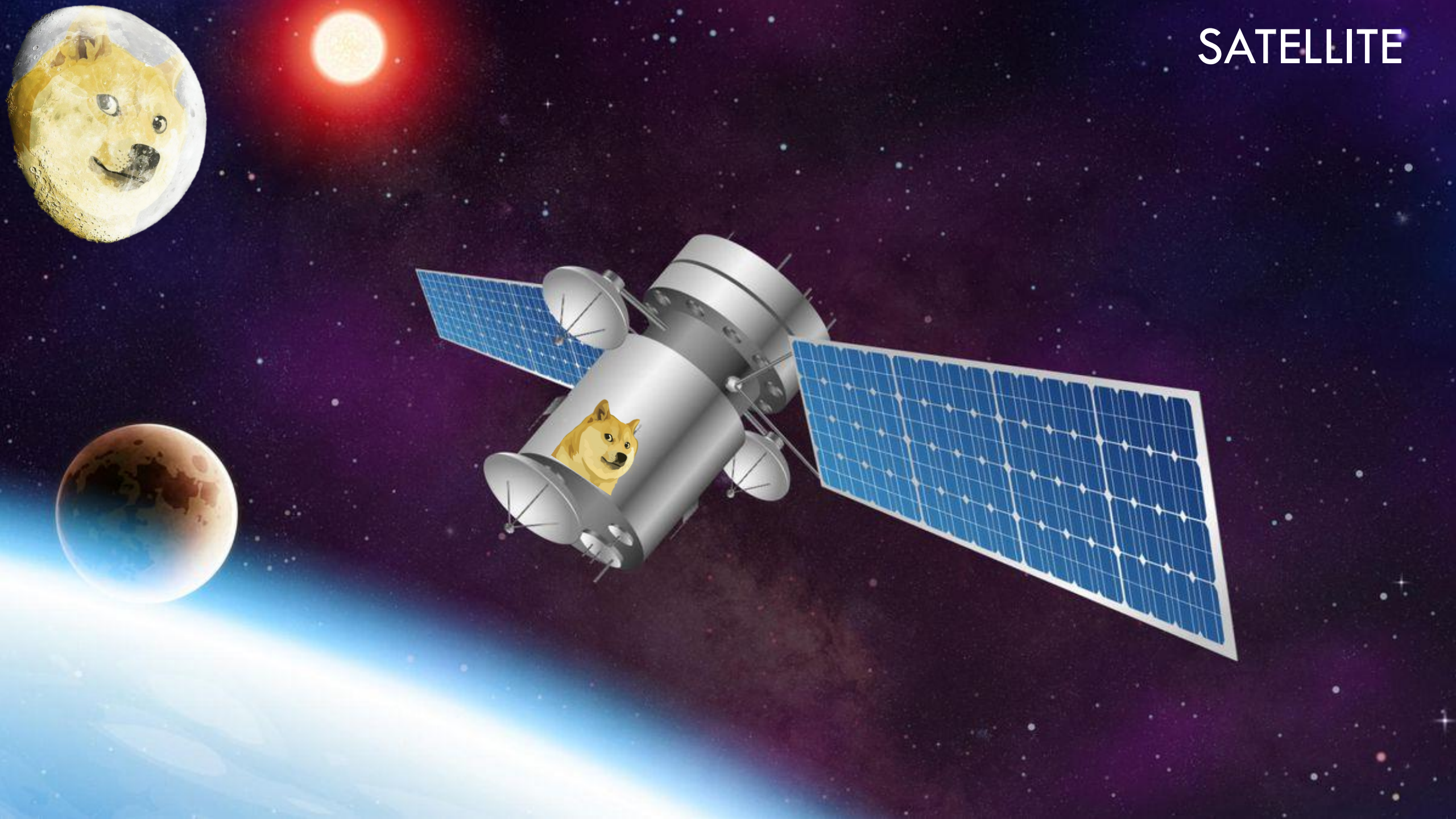
HOW DOES THE INTERNET WORK?

Physical	Technical
Hardware: - Cables - Routers - Servers	Network protocols: - Transmission Control Protocol/Internet Protocol (TCP/IP)

WHAT IS HARDWARE?

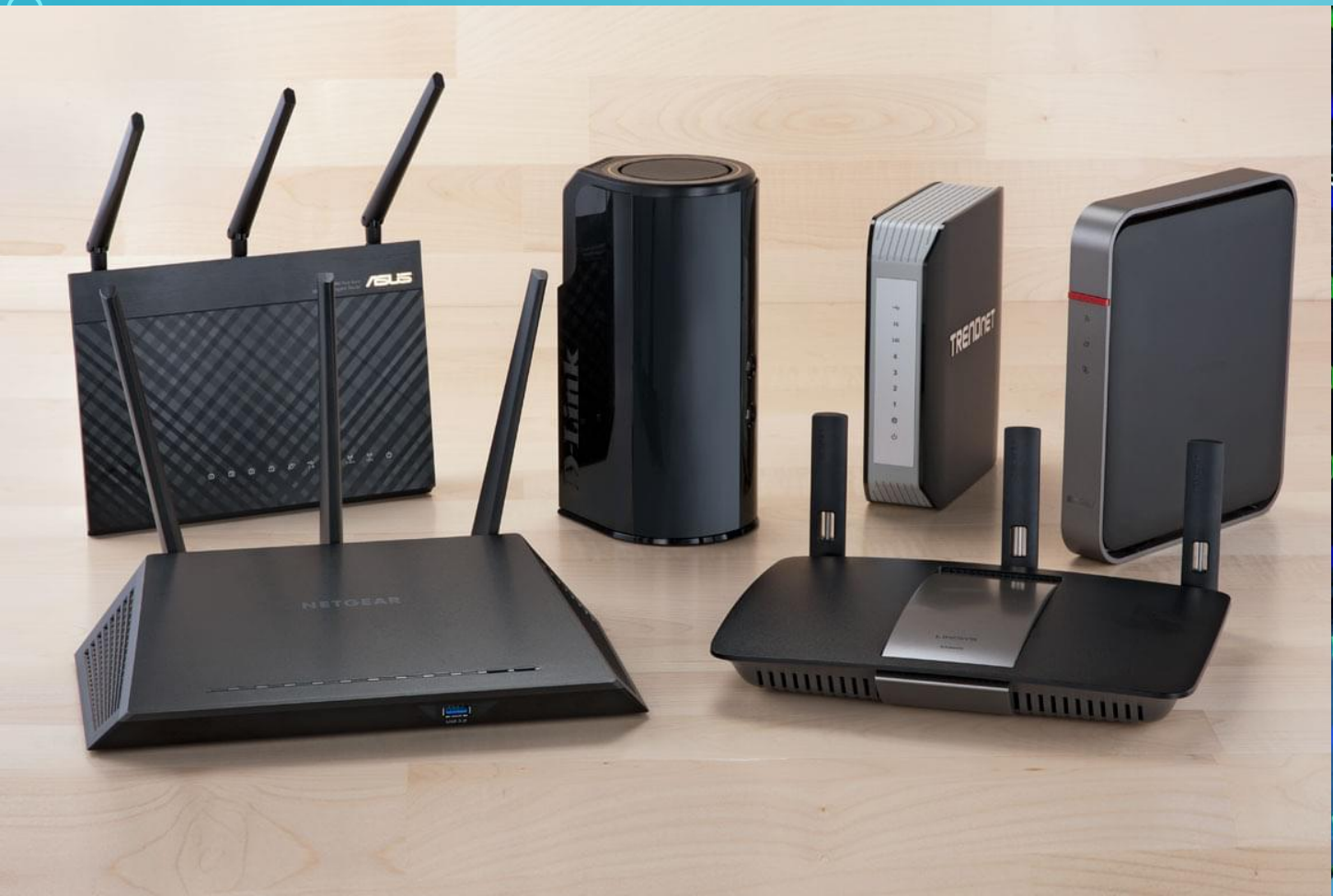
HARDWARE

- It includes everything from the computer to smartphones that is used to access the Internet
  - Devices → phone, computer
  - Network → routers, towers
  - Global → satellites


SATELLITE

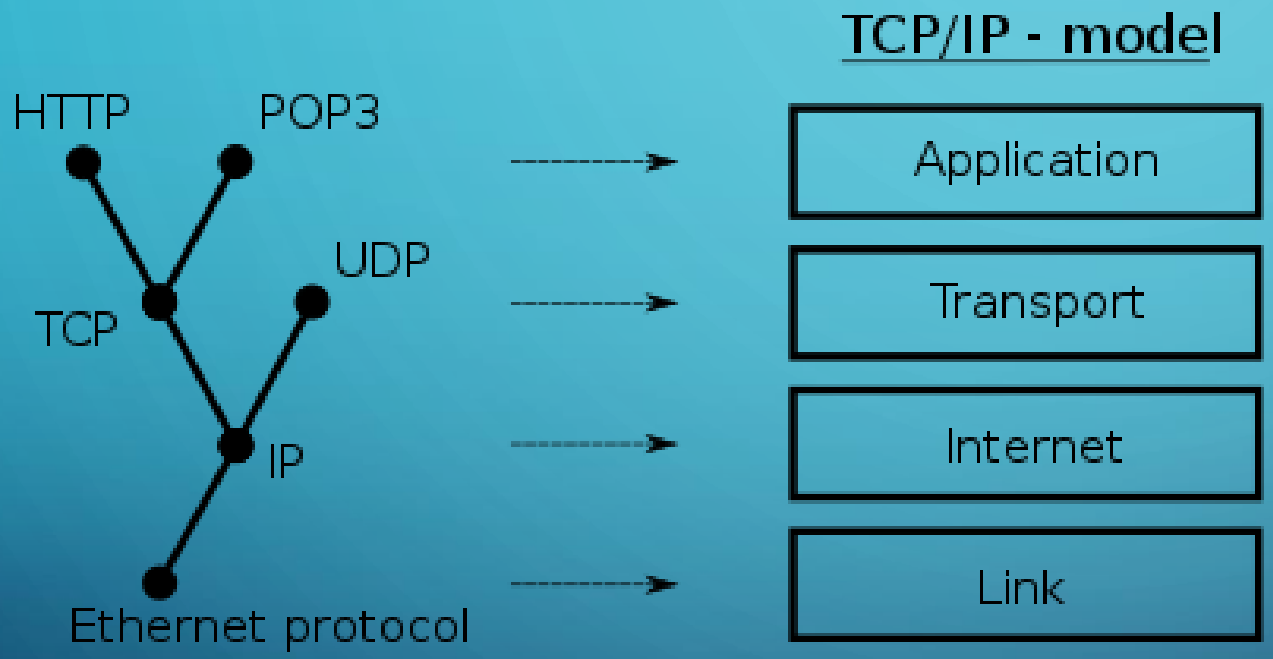
RADIO AND CELLPHONE TOWERS

ROUTERS AND SERVERS



WHAT ARE NETWORK PROTOCOLS?

PROTOCOLS



- The protocols are set of rules for communication
- Without these rules, machines would not be able to communicate

USES OF THE INTERNET

- In general, the Internet can be used to communicate across large or small distances, share information from any place in the world and access information or answers to almost any question in moments

USES OF THE INTERNET

- Some specific examples of how the Internet is used include:
  - Communication 💬
  - Education 🎓
  - Entertainment 🎮
  - Shopping 🛒

WHICH DO YOU USE THE MOST?

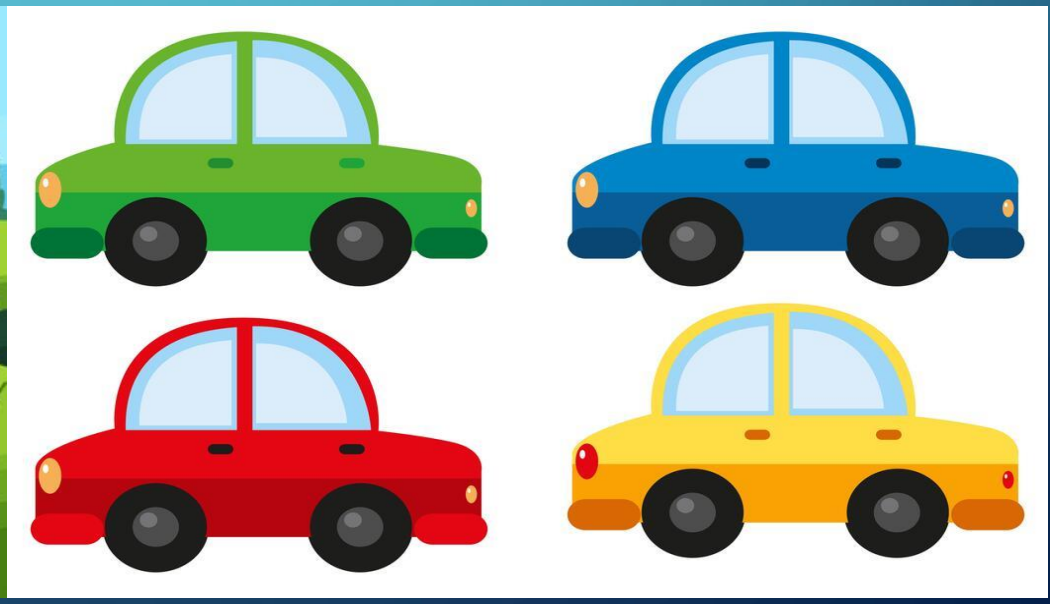
WHAT IS THE DIFFERENCE BETWEEN THE WORLD WIDE WEB AND THE INTERNET?

DIFFERENCE BETWEEN THE WORLD WIDE WEB AND THE INTERNET

- The key difference between the World Wide Web (WWW or Web) and the Internet is that the Internet is a global connection of networks while the Web is a collection of information that can be accessed using the Internet.
- In other words, the Internet is the infrastructure, and the Web is a service on top

DIFFERENCE BETWEEN THE WORLD WIDE WEB AND THE INTERNET

INTERNET	WEB
Network	Information
Infrastructure	Website



INTERNET OR WEB?

DIFFERENCE BETWEEN THE WORLD WIDE WEB AND THE INTERNET

- The Web provides access to billions of pages of information
- Web browsing is done through a **Web browser**, the most popular of which are Google Chrome, Firefox, Opera, Safari and Internet Explorer.

SECURITY AND THE INTERNET

- A lot of information is collected on the internet, both public and private. This can put users at risk of data breaches and other security problems.
- Hackers can enter systems and steal important information, such as login details and bank or credit card data.

SECURITY AND THE INTERNET

- Some steps that can be taken to protect online privacy include:
  - Installing antivirus and antimalware programs
  - Creating difficult passwords that are impossible to guess
  - Using a virtual private network (VPN) or, at least, a private browsing mode, such as Google Chrome's Incognito window
  - Only use HTTPS

SECURITY AND THE INTERNET

- Some steps that can be taken to protect online privacy include:
  - Making all social media accounts private
  - Turning off the device's GPS
  - Logging out of accounts instead of just closing the tab or window
  - Using caution with spam email and never open or download content from unknown sources
  - Using caution when accessing public Wi-Fi or hotspots

ANY QUESTIONS?


Review

1. WHICH OF THESE IS PACKET SWITCHING

A	Rules for communication
B	Unique device number
C	Data sent in small pieces

2. WHICH OF THESE IS PROTOCOL

A	Rules for communication
B	Unique device number
C	Data sent in small pieces

3. WHICH OF THESE IS IP ADDRESS

A	Rules for communication
B	Unique device number
C	Data sent in small pieces

4. WHAT IS THE INTERNET?

A	A website
B	A network of computers
C	A game

5. WHAT DOES TCP/IP DO?

A	Stores data
B	Controls rules
C	Makes websites

6. WHAT DO YOU USE THE INTERNET FOR MOST?

7. HOW CAN YOU STAY SAFE ONLINE?

THE END