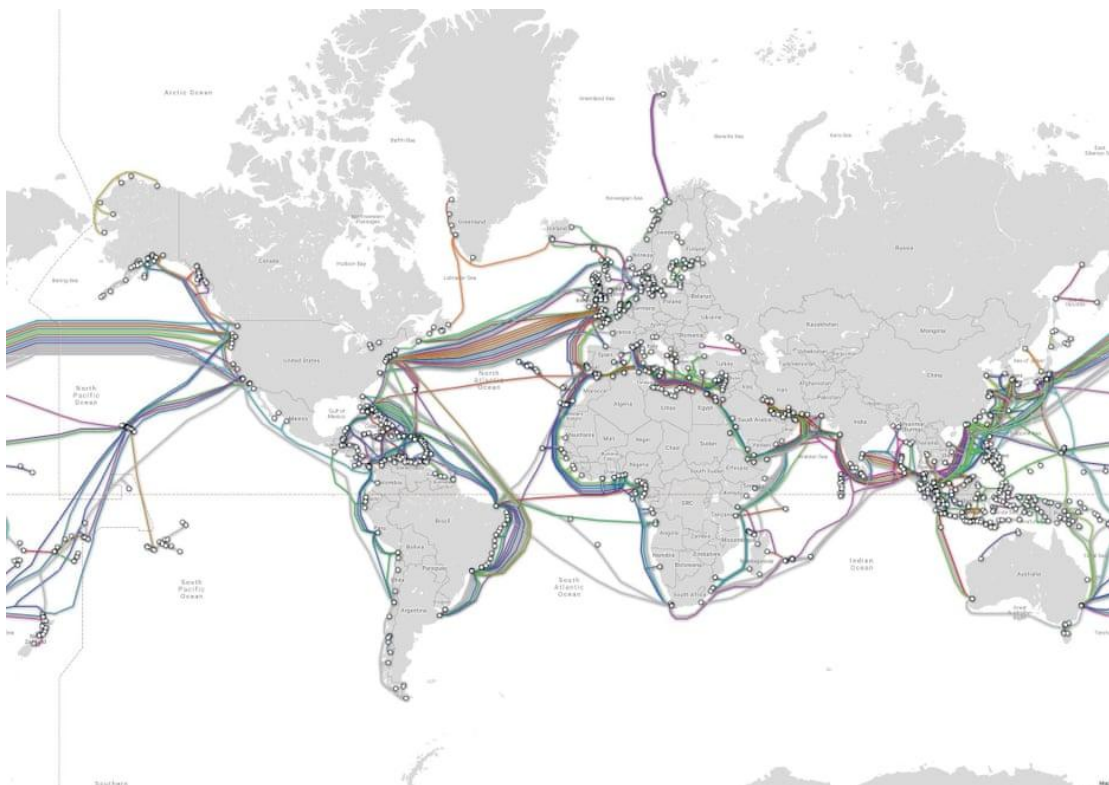


Section 1: Explain what the internet is

“The internet is a series of tubes,” but it’s a bit more complicated than that. The internet at its most basic state is nothing more than the global network of connected computers with an agreed upon framework of how computers should spread data with one another. By using servers, routers, masses of cables and computers, information can travel throughout the world. One of the biggest enablers for the internet’s current success is the vast underwater cable network expanding throughout the ocean. These cables can be as thick as a garden hose or as thin as a hair and can reach up to 12,000 miles long; spanning from California to Singapore. Once the data travels through the cables, users can then use web browsers to view the data. What we know as the internet today, was created January 1, 1983 and was originally started as ARPANET by the US military. At the time ARPANET was solely used for academic and research purposes. After the internet came to be, it was then widely distributed and quickly became the global powerhouse that we know and love today.



Section 2: How it works

We have the developers who create each website that you click/touch into and, we have our clients who make requests to make this all possible whenever a URL is typed in and the “enter” button is pressed, customer support etc. A

connection of computers that can send and receive data, creating a web of interactions that ordinary people can access and understand

Reference: <https://turbofuture.com/internet/how-does-internet-work-how-internet-works>

In short, the internet is a wire.

When two computers are connected to this wire, they are able to communicate and share information.

A server is a more complex type of computer that is connected directly to the internet.

Webpages are the files on the server's hard drive.

Every server has its own unique protocol address, called an IP Address. This is basically like your social security number, but here it's a unique identification code specific to your computer.

For readability IP Addresses are also give names like Google.com or Facebook.com.

The computers we use at home are not servers, because they are not connected DIRECTLY to the internet they are known as clients. Our clients, personal computers, are connected INDIRECTLY to the internet thru an internet service provider.

For example, If I want to visit Curlmix.com, I will need to be logged in to my Comcast account, my Internet Service Provider, to be able to visit that website.

If I wanted to send an email to my boss. I would login to my service provider, to make the request to visit Gmail.com once I click send, Gmail will send my email. My boss would login to their service provider to retrieve my email and respond.

When we send webpage email and photos, the information is compartmentalized into smaller pieces called packets. Packets are reassembled into their original order when they reach the destination kind of like a puzzle.

IP addresses and routers help make sure the packets are distributed to the proper location. IP Addresses and routers protect and properly distribute your information making sure your requests and information are distributed correctly.

Where 2 or more pieces of the internet connect, there's a router. and these direct the information packets to the proper destination.

Reference: https://www.youtube.com/watch?v=7_LPdttKXPc 02/18/2009

How the Internet Works - Aaron Titus

Section 3: How can we be safe on the internet

1. Limit the amount of personal info that's posted online; don't post something that strangers can have access to.
2. Practice safe browsing - Be mindful what links etc you click on. Even in a professional environment you can be subjected to phishing attempts through email etc.
3. Use a VPN - A VPN can provide a secure connection between your device and the internet.
4. Choose strong passwords - a strong password consists of 15 characters with a mix of letters, numbers and special characters. Use 2FA when possible.
5. Keep your antivirus programs and OS system up to date
6. Make sure the website you're visiting has the (https) to verify it is secure before entering payment / personal information.
7. Some common forms of cyber attacks to gain access to personal information:
 1. Phishing
 2. Man-in-the-middle attack (MITM)
 3. Distributed Denial-of-Service (DDoS) attack
 4. SQL injection
 5. Zero-day exploit
 6. Eavesdropping attack
 7. Brute Force Attack

8. IoT Based Attacks
9. Malware

Sources:

Sample, Ian. "What Is the Internet? 13 Key Questions Answered." *What Is the Internet? 13 Key Questions Answered*, The Guardian, 18 Oct. 2018, www.theguardian.com/technology/2018/oct/22/what-is-the-internet-13-key-questions-answered.

University System of Georgia. "A Brief History of the Internet." *Usg.Edu*, University System of Georgia, www.usg.edu/galileo/skills/unit07/internet07_02.phtml. Accessed 10 Aug. 2021.

<https://www.lepide.com/blog/the-15-most-common-types-of-cyber-attacks/>