How the Internet Works, Put Simply

Devices and Connections: The internet is a vast network of interconnected devices, including computers, smartphones, servers, routers, and more. Each device is connected to the internet through various means, such as Wi-Fi, Ethernet cables, or cellular networks.

Data Transmission: When you send or receive information on the internet, it is broken down into small packets of data. These packets contain the information you want to transmit, such as text, images, or videos.

IP Addresses: Every device connected to the internet is assigned a unique identifier called an IP (Internet Protocol) address. It acts like a digital address that allows devices to send and receive data to and from other devices on the internet.

Routing: When you send a request, such as opening a website or sending an email, the data packets travel across the internet through a process called routing. Routers, which are specialized devices, help direct these packets from one device to another, often through multiple networks and pathways.

Protocols: To ensure that data is transmitted and received correctly, the internet relies on a set of rules and protocols. The most common protocol used is the TCP/IP (Transmission Control Protocol/Internet Protocol), which helps in the reliable transmission of data over the internet.

Servers and Websites: When you access a website, your device sends a request to a specific server that hosts that website. The server receives the request, processes it, and sends back the requested information as data packets. Your device then reassembles these packets to display the website on your screen.

Internet Service Providers (ISPs): Internet Service Providers are companies that provide access to the internet. They connect their customers' devices to the internet infrastructure through various means, such as broadband cables, fiber optics, or wireless connections. ISPs manage the flow of data between their customers and the wider internet.

DNS and Domain Names: The Domain Name System (DNS) is like a phonebook of the internet. It translates human-friendly domain names (e.g., www.example.com) into IP addresses that computers can understand. When you enter a website's domain name in your browser, the DNS helps your device find the corresponding IP address to establish a connection.

Encryption and Security: To protect data as it travels across the internet, encryption technologies are used. Encryption ensures that data is scrambled and can only be deciphered by the intended recipient. Secure connections (HTTPS) are commonly used for sensitive information like passwords, financial transactions, or personal data.

Global Network: The internet is a global network that connects devices and networks worldwide. It allows people to communicate, share information, access online services, and engage in various online activities.