

GOIN' DOWN THE INTERNET STREET



Helping you understand how the Internet works, one packet at a time!

What's in a Packet?

Header: The front of the packet contains key info like sender and receiver IP addresses.

Payload: The actual data or message being delivered.

How Packets Move

Ethernet: Wired connection through cables.

Wi-Fi: Wireless local connection.

Fiber: Super high-speed optical cable.

Cellular: Mobile data (4G/5G).

How Packets Travel



Router: A device that looks at Pete's address and decides where to send him next.

Home Router: The first router in your house or office.

ISP Router: Router at your internet service provider.

Backbone Router: A router on the high-speed core of the Internet.

Internet Address

IP Address (Internet Protocol): Identifies the device's location on the network so packets know where to go and return.

MAC Address (Media Access Control): A unique ID is assigned to each device's network card, used within local networks.

Server Name (Domain Name): A human-friendly name that maps to an IP address using DNS.



How Routing Works

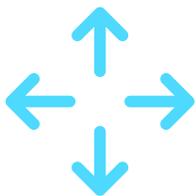
Final Destination (IP Address): The long-distance address of where Pete is ultimately going (e.g., a website or remote computer).

Next Stop (MAC Address): The immediate neighbor Pete hands off to on the local network.

Routing Table: A list each router uses to decide where to send Pete next based on his IP.

Hop: A single jump Pete makes from one router to another.

Default Gateway: The first router Pete goes through to leave the local network.



Pete's Routing Journey

1. Laptop says, "Send this to `www.websiteworld.com`".
2. DNS tells Pete: "That's `198.51.100.7!`".
3. Pete sets his IP destination and heads to the Default Gateway.
4. Routers along the way check their routing tables and forward Pete to the best next hop.
5. On local networks, Pete uses MAC addresses to get to the right machine.
6. Pete reaches his final destination—and helps the response find its way back!

