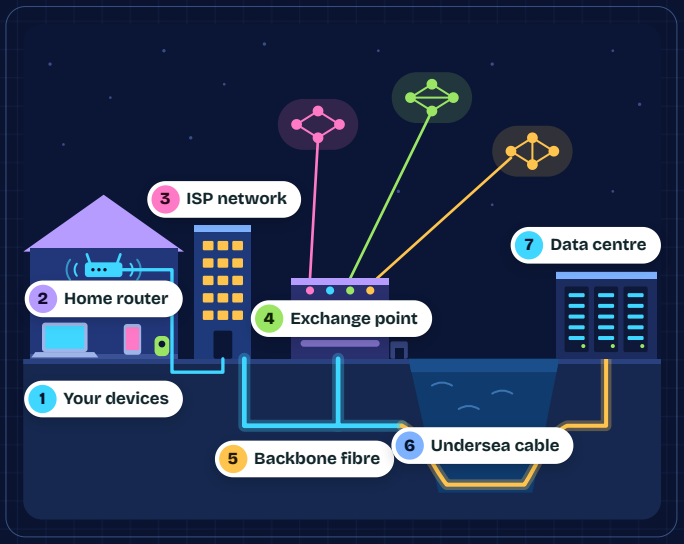
HOW THE INTERNET WORKS · PART 1 OF 9 · AGES 11–16

How the Internet Works

The internet is a network of networks. Follow data from your phone to a server on another continent.



1 Your devices

Phones, laptops, consoles and smart speakers connect to a home network by Wi-Fi radio or by cable. Away from home, phones use a mobile network instead.

2 Home router

Links your home network to the outside world and lets every device share one connection. Its built-in modem sends data along the line to your provider.

3 ISP network

Your internet service provider runs its own network of routers and cables, and connects it to other networks so you can reach any website.

4 Exchange point

At an internet exchange point (IXP), many networks plug into shared switches and swap traffic directly, keeping local data local, fast and cheap.

5 Backbone fibre

High-capacity fibre-optic cables, mostly underground, link cities and countries. They carry data as pulses of light through hair-thin glass strands.

6 Undersea cable

Cables laid on the sea floor carry almost all data between continents. Near the coast they are buried under the seabed for protection.

7 Data centre

Servers in data centres store websites, videos and apps and send them out on request. 'The cloud' means servers in buildings like these.

No one is in charge

The internet has no central control room. Each network is run by its own owner, and they all follow shared, open protocols. If one cable or data centre fails, data can usually take another route.

NEXT IN THE SERIES

2. What Happens When You Open a Website?

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