From Dialing Up to Tuning In

How Wi-Fi Innovation Delivers Better Connected Experiences

An unsung hero in the internet's story is the Wi-Fi router, the essential device that connects our gadgets to the internet and each other. As network speeds increase, our internet habits evolve and expand across dozens of connected devices. This generates a demand for routers that boast innovative, intelligent features and not those that simply focus on speed. Today, we continue to innovate to meet the demands of the modern network, developing the advanced router features needed to satisfy data-hungry Wi-Fi demands across all of devices.

Dial-Up Kicks Off, Broadband Accelerates

1992–1998
Dial-up/ Broadband**
28Kbps-256Kbps

The number of internet users reaches 16 million in 1995 and climbs to 57 million by 1998.

Dial-up internet connections debut in homes, but they're glacially slow and frequently cut out. Broadband makes those connections faster and more stable, so websites can start hosting audio and images, paving the way for e-commerce.

We're forwarding email chains, buying books on Amazon (no music until 1998), and finding used couches on Craigslist and baseball cards on eBay.

Wireless Internet Emerges

1999–2002
802.11b / Wi-Fi
11Mbps

Between 1997 and 2000, the percentage of American households with internet access increases from 18% to 41%.

The first Wi-Fi routers emerge, delivering wireless networks to homes, businesses, and public areas. Demand soars for laptops and, consequently, so does data consumption.

We're no longer tethered to a desk or confined to one room. Wi-Fi galvanizes laptop usage.

2003–2008
802.11g / 802.11a / Wi-Fi
54Mbps

Between 2005 and 2006, single track downloads increase 89% to 795 million.

Higher network speeds usher in the age of music streaming and broadband gaming to a relatively limited number of devices.

Over the next few years, we begin downloading and listening to music over the internet on services like Napster and Pandora. We're also playing video games with our friends on Xbox Live.

Mobile and Online Media Revolution

2009–2011
802.11n / Wi-Fi
150Mbps–450Mbps

By 2010, more than 25% of home internet use happens on a mobile device.

New Wi-Fi technologies — like MIMO — make routers faster and extend their reach, but they're still only serving one device at a time. In the meantime, millions of new smartphones and tablets hit the market, flooding Wi-Fi networks with data-intensive app downloads, photo-sharing, and mobile media.

We're watching "David After the Dentist" on our laptop *and* playing Words with Friends on our smartphone.

2012–2013
802.11ac / Wi-Fi
1Gbps

100 million Americans watch online video every day, a 43% increase since 2010.

Gigabit wireless lays the groundwork for breakneck internet speeds and online streaming, but home network gear still lacks the ability to maintain these speeds on multiple devices simultaneously.

Our laptops, tablets, and Xbox 360s are simultaneously connected to the internet, but our online games and streams are buffering when we use more than a few devices at once.

IoT and the Modern Technology Evolution

2014 and beyond
802.11ac Wave-2 w/ MU-MIMO
1Gbps and up

In 2015, more data was consumed on Wi-Fi than mobile for the first time.

Dozens of devices, with different bandwidth and range demands, share the same networks. To handle the increased demands, hundreds of products use Wave-2 11ac technology from Qualcomm Technologies. It includes multi-user MIMO and other game-changing features that help Wi-Fi networks serve multiple devices at the same time while delivering better, faster connections to everyone on a crowded network.

Our smart fridge is communicating with our Amazon Echo, without compromising our 1080p Netflix stream. And when our wearables demand their hourly syncs, they get them without interruption.

* Routers must be able to achieve the maximum speed to be certified as 802.11ac, for example, but they don't always reach these speeds because of factors such as distance, the number of devices on a network, and interference.
** Offered commercially

Sources:
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