

How to Build the Speedy Home Wi-Fi Network of Your Dreams

Even if you're paying for decent internet, there's always that one corner of the house where Netflix stutters and buffers. Solving this problem and getting the absolute best speeds throughout your home can't be done with standard hardware. It requires building a custom network.

I came to this realization last year when I upgraded to a 1.5Gbps fiber connection. Fed up with the dead spots, I went down a rabbit hole in pursuit of the fastest, most reliable network I could build. The best solution I found was Ubiquiti's UniFi devices — business-grade network hardware that can be used at home.

[...] Ubiquiti offers an end-to-end ecosystem that's much more user friendly.

With my home network makeover, I'm now able to get a solid 700Mbps-plus of wireless internet speeds, reliably, without any dead zones, [...] My custom network is reliable, and I can make infinite Wi-Fi networks—a separate network for guests, for instance—and control them remotely.

Building a network like this isn't for the faint of heart. It takes a bit of learning and a willingness to spend some money on hardware. It also requires a shift in thinking: You're building a network made up of multiple pieces, rather than plugging in a single device. But if you're willing to make the investment in better Wi-Fi, have a technical mind, and are up for a challenge, it's simple enough to learn.

UniFi devices work a little differently than traditional home networks. Each device in the network is a distinct piece that operates independently.

The Controller: This is the software that acts as the network's centralized brain and allows you to control and set up multiple individual network devices from a single interface. In a UniFi network, the controller is responsible for the settings of each device, which aren't able to do much independently.

UniFi gateway: This is the device your internet connection comes into — likely from a router provided by your ISP. It provides firewall protection and insights into your network[...] like which websites are being used the most and the quality of the Wi-Fi signal for each computer on your network.

Switches: You'll plug hardwired devices into these ports to extend your network.

Access points: These hubs beam the actual wireless network to devices like your laptop or phone.

introduced in 2019, is an all-in-one device called the Dream Machine, which combines the controller, gateway, and access point.

To allow all of your devices to communicate with one another, you'll need a piece of hardware with a bunch of ports, called a switch. Your Wi-Fi hubs, or access points, will plug into this device in order to connect to the network. Because the hubs include a technology called Power over Ethernet (PoE), which sends enough electricity over the network cable to power up the device on the other end, they don't need to be plugged into a power socket.

the entire reason to invest in a system like this is to cover your home with Wi-Fi, and you'll need two or more access points to get the most out of UniFi.

The UniFi Dream Machine simplified getting started. Once I plugged it in and typed in a URL, I found myself on an easy-to-use setup wizard. From there, I added the other hardware, piece by piece.

Now I have control over every minute detail of my home network. A "Wi-Fi experience" score, for example, shows how a device is experiencing connectivity, with lower scores indicating a dead patch or difficulty connecting. I can create infinite separate Wi-Fi networks, which I've done to create a guest network and to separate internet of things devices from those on my main network to ensure smart appliances aren't able to snoop into my other devices without my knowledge.

The best feature by far is the ability to control multiple UniFi networks remotely. This is useful for quickly fixing something at home while I'm traveling, for example.