

WI-FI: WHAT IT IS, WHY YOU NEED IT, AND HOW TO MAKE IT BETTER.

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WiFi used to be considered a nice convenience in the home—now it's an absolute necessity.

The number of connected devices will reach about 50 billion in the next five years, according to Dave Evans, former chief futurist at Cisco. In addition to your personal computer and iPad, many home devices already are and will continue to be connected, including thermostats, lights, door locks, ovens, coffee makers, motorized shades, and home entertainment systems. Some people may think there's little reason to have a home with so many connected devices, but most product manufacturers are headed in that direction, so it's good to be prepared.

WiFi is typically built into a router, which most homes already have. The device that many people call the router is actually two devices in one box, if it's a modem-router combo (also called a "gateway"). The router itself has multiple connections, or ports, that allow the wired connection of several devices, but it also includes wireless capability (the WiFi radio). The second part of the modem-router combo is the modem, which communicates with your Internet Service Provider, or ISP, and provides access to the Internet.

Wireless networking is also known as WiFi, which is the industry name for wireless local area network communication technology compatible with IEEE (the Institute of Electrical and Electronics Engineers) 802.11 wireless network standards.

Basically, WiFi is a radio signal. But unlike the big radio towers blasting high-powered signals to thousands and thousands of cars, homes, and businesses, the WiFi signal only travels short distances. The WiFi signal from your router generally travels about 150 feet (about 46 meters). However, since the signal is weak, it is affected by physical structures in the home such as walls, metal ductwork, steel I-beams, and stonework. This means the WiFi in your home may work great in one room but be spotty in another.

I like to compare the WiFi signal from a router to the light from a lightbulb. The farther you get from a lightbulb, the dimmer the light becomes, and if there

are walls blocking the pathway, no light gets through. (WiFi signals can travel through walls, but they get weaker.)

There are ways to improve the WiFi signal throughout your home. You can add a wireless access point (WAP), which is typically hardwired to the router and serves as an extended antenna. In addition, there are weatherproof WAPs that are mounted outside and extend your WiFi signal to outdoor patios or pool areas. WAPs and high-quality routers are typically installed by custom home electronic integrators and audio-video and home technology specialists.

In large homes, several WAPs can be installed to spread coverage throughout the home. Coverage of large areas can be tricky because the system needs to be designed properly to provide maximum coverage. The best solution for large area coverage is to hire a home technology expert to correctly design the WiFi system.

Demands on your home's WiFi will increase as more and more products become connected. A few years ago, a typical home may have had a laptop or two. Today the average home has eight to 10 devices on the network—and that number will continue to grow.

Many homes have tablets, printers, video games, laptops, and Blu-ray players that are all competing for the WiFi signal. If we add smart home devices such as Alexa or Google Home, plus WiFi-connected door locks, lighting controls, thermostats, and motorized window shades, the burden on the WiFi system becomes substantial.





WiFi not up to par? Are you falling into the “buffer” zone far too often, with video interruptions that are cramping your style? Ask your dealer if they offer Packedge networking—built purposefully for the connected home.

