WHAT'S THE DEAL

# WITH Wi-Fi?

**Wi-Fi** (pronounced wye fye) is a technology that allows computers, smartphones, tablets, TVs, and other Internet enabled devices to connect to the Internet and communicate with each other wirelessly.

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## So, just what is Wi-Fi?

Wi-Fi stands for wireless fidelity. Okay, that doesn't help much; let's try this again. Wi-Fi is the technology that allows a device called a Wi-Fi router to transform a corded Internet connection into a wireless signal. Without this router, every device would need a cord to connect to the Internet.

Wi-Fi doesn't replace your Internet connection; it merely enhances it. Perhaps it's easiest to think of Wi-Fi in terms of water. Water comes to your house through a pipe, just like Internet comes to your house through a cable. The Wi-Fi router is to the Internet what a sprinkler is to the water pipe. Wi-Fi is merely a different, more convenient way of distributing your Internet access.

## Wi-Fi always works perfectly, right?

Unfortunately, that's not the case. Because of the very nature of wireless, it is susceptible to interference from everyday household appliances like microwaves or cordless phones or even other Wi-Fi routers. However, newer Wi-Fi routers do a better job at overcoming interference than early models once did.

## What kind of Wi-Fi router do I need?

We get this question a lot. We recommend a commercial grade Wi-Fi router called a Gigacenter. Our experience has been that this router is more robust than other comparable priced routers. This means that it has a stronger signal allowing for a faster speed (throughput) and a wider coverage area (range).

A router not capable of delivering sufficient throughput is a bottleneck for your entire network. Going back to our water example, an insufficient router would be like using a drinking straw to provide water to your house!

### Technical Specifications

802.11ac/b/g/n
2.4GHz and 5GHz radios
WEP, WPA, WPA2 security modes


## How Does Wi-Fi Work?

An Internet connection travels via a fiber optic connection from the nearest central office to your home or business. The connection terminates at your location through an ONT. In case you are wondering, ONT stands for optical network terminal.

Then, a device called a Wi-Fi router connects to the ONT. This device is what allows your computers or other devices to connect to the Internet wirelessly. The router transforms the Internet signal into a radio signal that is transmitted wirelessly. The router should be as close to the center of the building as possible, on the main floor, for optimum performance.

Without a Wi-Fi router, devices would need a physical cable connection to the ONT or modem in order to access the Internet.

## Wi-Fi FACTS

**#1**
Wi-Fi uses radio frequencies (2.4GHz and 5GHz) similar to cordless phones.

**#2**
Wi-Fi has a limited range. This means the further you are from the Wi-Fi router, the slower the speeds will be.

**#3**
The number of devices you have connected makes a difference. Wi-Fi has limited radio frequency spectrum ("bandwidth"). Too many devices trying to use it at once can cause a traffic jam, leading to slower speeds!

**#4**
The further you are away from the wireless router, the slower the speed. High-end routers use antenna technology to get around this limitation.

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