

## May, 2017: Making WiFi Mesh

Yeah, so I thought I'd be clever with the title. Maybe not so clever, but WiFi Mesh is a real thing! If you have trouble with WiFi at home, WiFi Mesh may be the answer to distributing wireless internet around your home.

### **The classic problem with wireless internet: It's hard to get a good signal everywhere in the house/office.**

In the bad old days (last year) there were various products that claimed to distribute wireless signals throughout your home. They all sounded good, but failed to deliver. First, there were the super-duper coil antennas, and the "Slinky" antenna. There were supposed to boost the wireless signal by using a bigger antenna. Didn't work.

Next the promise came via "wireless repeaters" which also were a dud: wireless repeaters only worked where there was a good strong signal to begin with – which is not the situation someone who needs a wireless repeater finds themselves in. There also was "powerline" networking which used your home's AC wiring to send the internet to the far reaches of your home via copper wire. That sort of worked, except in homes that had security systems, dimmer switches, microwaves, or lots of metal or ceramics in, or on, the walls.

The best option to get internet in every room of your home has been to run Ethernet cables. But that typically involves drilling through walls, tearing up walls and making a giant mess, and after the mess has been made, it still won't help with Tablets because they are only wireless. Well, not anymore.

### **Enter "Wireless Mesh" networking...**

This is the answer... the newest generation of wireless products is coming out now. Using the lessons learned from the past, plus some clever innovations, Wireless Mesh networking is finally fulfilling the promises made long ago. Wireless Mesh uses multiple WiFi access point modules spread around your home to simultaneously broadcast the same WiFi signal to each other, and to all your wireless devices.

One innovation enabled by mesh products is NU-MIMO, a method of streaming multiple signals from multiple antennas at once. Another innovation is something called "beam forming" that can detect your wireless devices and "steer" a stronger beam towards that device. Finally, better research into radio wave propagation has revealed that you can "bounce" signals off walls and literally go around corners... Cool!

### **Some examples of Wireless Mesh products for home use are:**

[Linksys Velop](#), [Ubiquiti Amplify](#), [GoogleWiFi Mesh](#), and [EERO Mesh](#). Each of these is sold as a "kit" of three access points that you distribute around your home. One unit plugs into your existing Router, and automatically links up with the other two units and begins the game of "hot potato" with the wireless signal. If you have a very large home, you simply add more mesh points and they integrate into the existing system.

Each kit allows you to manage the wifi signals via an app that runs on your smartphone, tablet, or computer. Easy setup, easy management, and the closest thing to guaranteed good signals evenly distributed around your home that is currently available. Yes, they are expensive, but worth it - highly recommended!

-John Becker