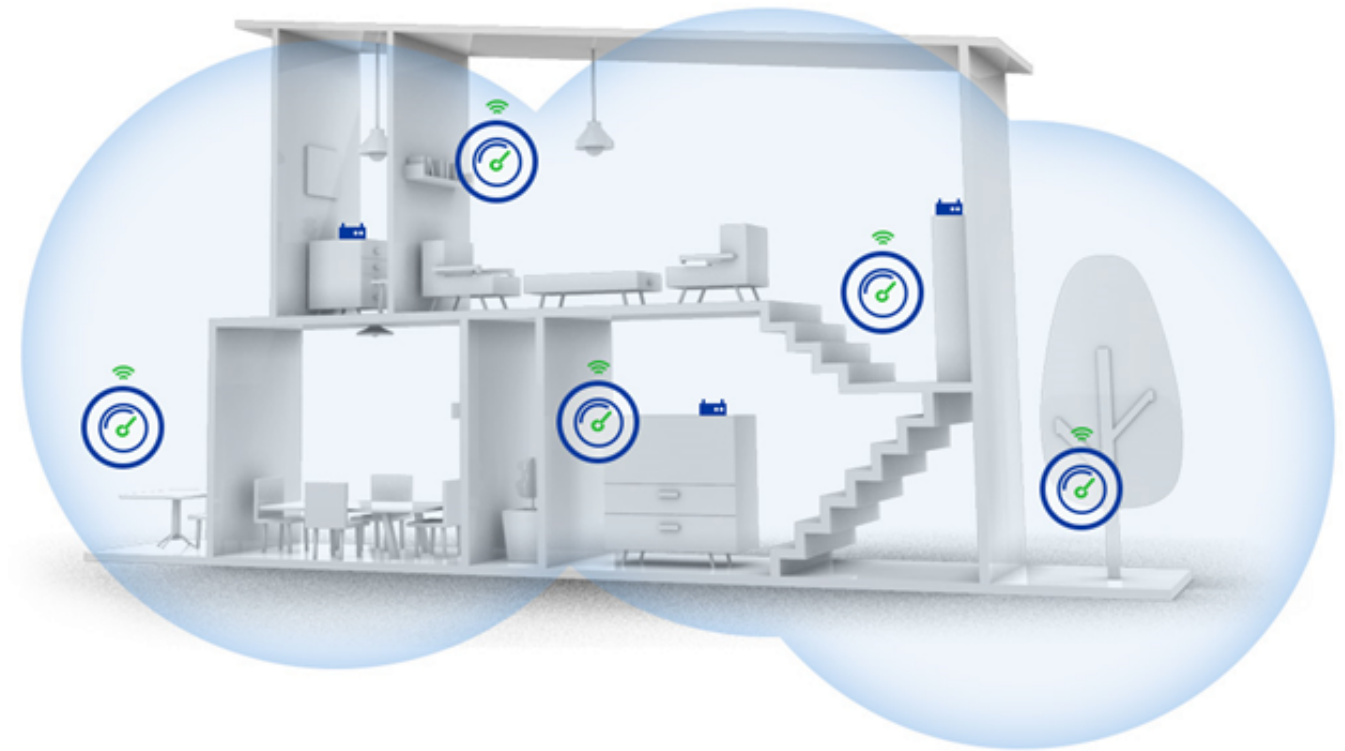


# What is a Mesh Network?



A **mesh network** is a network in which devices -- or nodes -- are linked together, branching off other devices or nodes. These networks are set up to efficiently route data between devices and clients. A mesh network will contain a group of devices that act as a single Wi-Fi network. This provides multiple sources of Wi-Fi around your house, instead of just a single router.

In a traditional Wi-Fi network, your phone or laptop is connected to a single router, and all communication passes through that single router. The farther you are from the router, the weaker the signal. However, for a mesh network, there will be multiple WiFi points in your house, so you will never be far from one. This will allow more stability and flexibility in your WiFi coverage.

## How Does it Work?



Mesh WiFi or Whole Home WiFi systems consists of a main router that connects directly to your modem, and a series of satellite modules, or nodes, placed around your house for full WiFi coverage. They are all part of a single wireless network and share the same SSID and password, unlike traditional WiFi routers.

Mesh networks use routing or flooding techniques to send messages. In routing, a message hops from node to node to get to its destination. The mesh network, on the other hand, have continuous connections and reconfigure itself if a path is broken, using self-healing algorithms. There will often be

more than one path between a source and a destination.

## Pros and Cons of a Mesh Network

### Pros

Mesh networks include the following benefits:

- **Increased stability** – In a mesh network, if one point goes down, communication is simply rerouted through another point.
- **Flexible coverage:** Additional points can be added to get better coverage in hard-to-cover areas like hallways and near walls for outdoor coverage.
- **Direct communication.** Nodes can message each other directly. There is no need for intervention from a central access point.

### Cons

Mesh networks come with some drawbacks. For example, these include:

- **Cost.** A single router and Wi-Fi range extenders can make for a more cost-efficient network. Individual nodes also won't cover the same range that a wireless router and range extender would. This means more nodes are needed in a mesh network.

- **Complexity.** Each node must send messages and act as a router. The more intricate a mesh network becomes, the more difficult it can be to manage or troubleshoot all the nodes.
- **Scalability.** Scaling the size of the network may be more difficult depending on the number of nodes needed.

You will need to consider how you are going to use your Wi-Fi and the cost in order to determine what fits for you. Traditional Wi-Fi is recommended for users on a smaller budget and in smaller spaces. However, if a larger area needs to be covered, and cost is not a factor, then a mesh network is worth considering.

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