

Connected HHI

Home Networking Overview

Presented by Joe Chappell - Connected HHI

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Presentation Flow

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NETWORK OVERVIEW
- WIRED AND WIRELESS (WIFI)
- 

MEASURING AND UNDERSTANDING
WIFI PERFORMANCE
- 

LATEST DEVELOPMENTS
- 

SECURITY CONSIDERATIONS
- 

Q&A
- 

*FULL PRESENTATION
AVAILABLE FOR
DOWNLOAD

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Basic Elements of Networks



GLOBAL INTERNET



Local Internet Providers

Hargray
Spectrum (Time-Warner)



Home Network

Modem
Router
Switches
Wired Connection (Ethernet)
Wireless Connection (WiFi)



Connected Devices

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Local Internet Providers

Provide our connection to the INTERNET and govern the **MAXIMUM** performance that we can expect.

Performance varies greatly dependent on


Physical location of our homes

Technology available in that location (Fiber, Cable, Telephone/DSL)

Plan that we choose (Gig, 30MBS, 5MBS)




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Local Internet - Hargray

-  Telephone / DSL transitioning to Fiber
-  Download speeds range from 5MBS to 1000 MBS (1 Gig)
-  Upload speeds range from 1MBS to 300MBS




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Local Internet - Spectrum (Formerly Time-Warner)

-  Cable (Coax) transitioning to Fiber
-  Download speeds range from 30MBS to 400MBS
-  Upload Speeds range from 5MBS to 30MBS


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Home Network Elements - Wired Connections

-  Wired connections utilize Ethernet cable (Cat 5, 5e, or 6) or Fiber (extremely rare in residential installations).
-  Many HHI homes have been pre-wired with Ethernet, although they may not be connected to anything.
-  Locations are fixed and only work with devices that have an ethernet jack.

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What is WiFi?



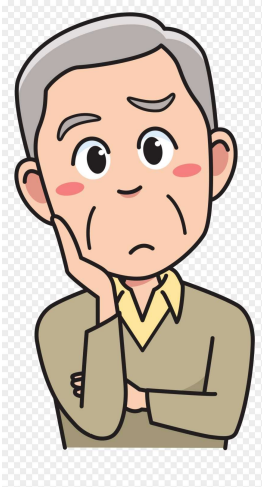
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Home Network Element - WiFi

-  WiFi is networking using radios instead of wires
-  WiFi has the same challenges as other radios in and near the home:
 - Interference from other radios and electronic devices
 - Physical barriers that impede signals
 - Weakening over distance
-  Not all WiFi devices are equal - power, antennas, processors, and versions (a,b, g.n. ac) determine speed and reach.

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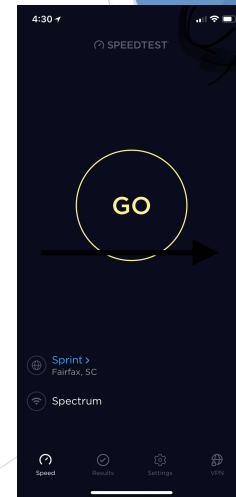
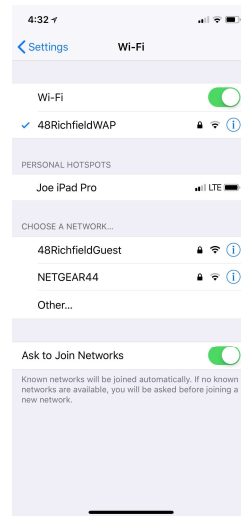
How fast is my WiFi?



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Measuring WiFi Speed

- ▶ **Speedtest.net**
- ▶ **Netspot and other Network Analyzers**
- ▶ **Okay as a relative indicator, but not an absolute measurement!**



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Ways to Improve WiFi Reach and Speed



QUALITY OF
EQUIPMENT

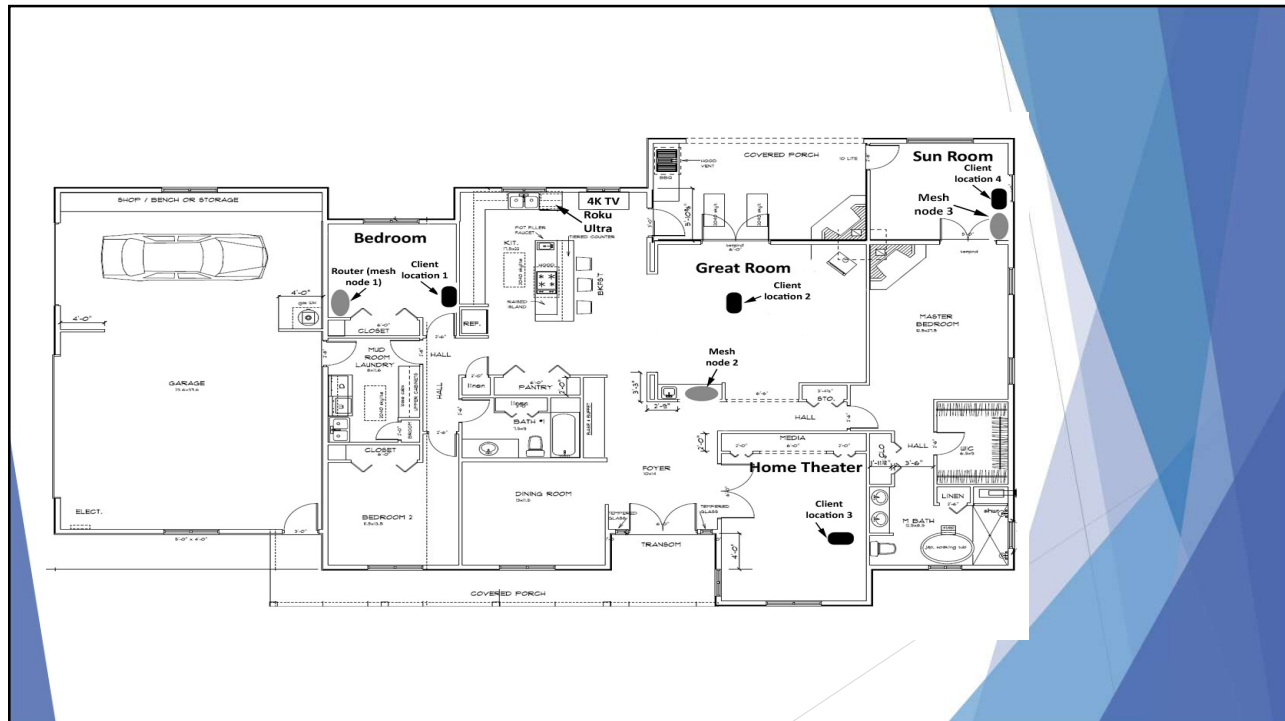


LOCATION OF
EQUIPMENT



SPEED OF YOUR
INTERNET SERVICE

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When Will You Need Multiple WiFi Access Points



Large homes and homes that “sprawl”



If your internet connection is in the corner of your home



If you have architectural features that reduce or interfere with WiFi radio signals



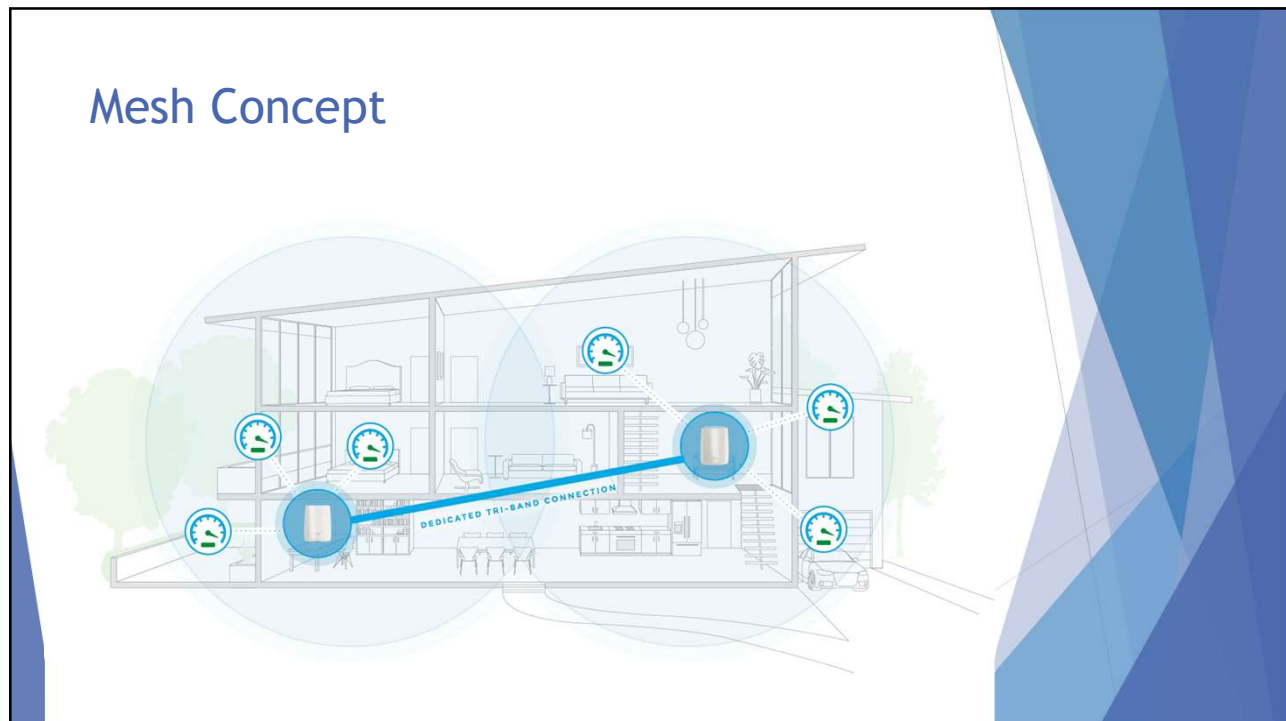
If you want to reach zones not currently served - pool, bonus room, master suite, garage.

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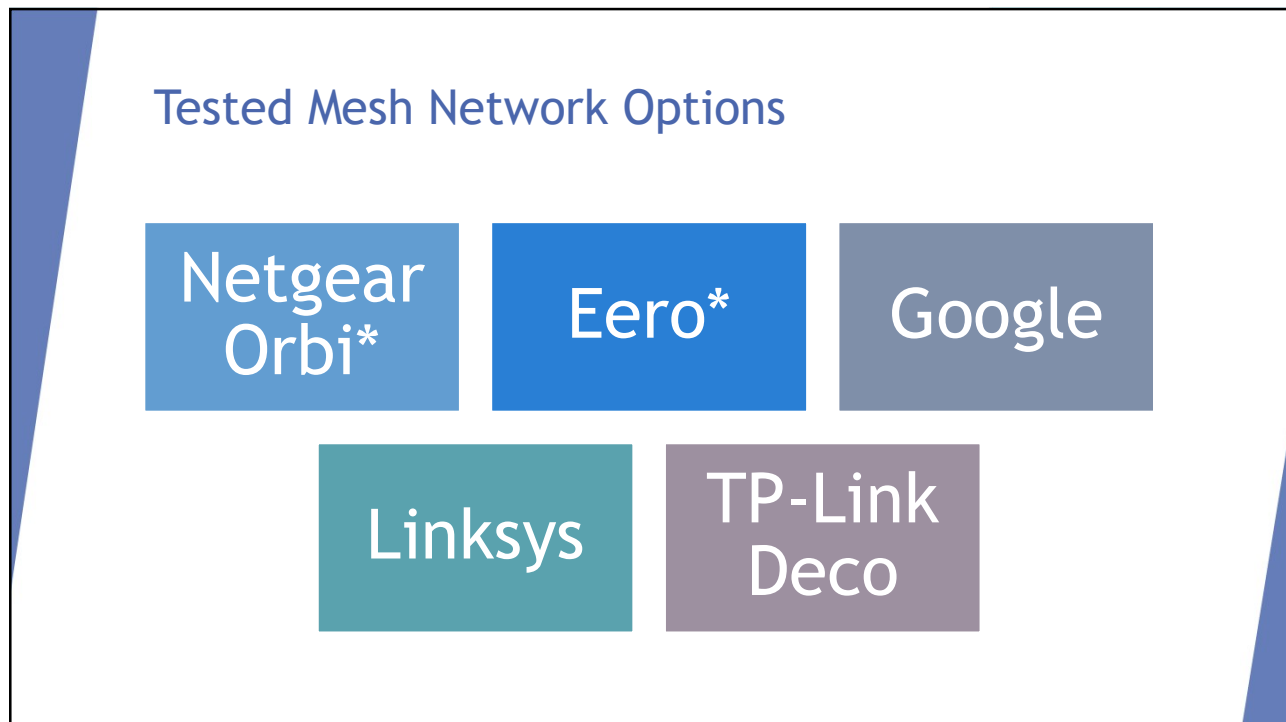
Mesh WiFi Networks

- One Wired Connection
- One or more wireless Satellites
- Single Network Name (SSID)
- Network manages your WiFi connection as you move from zone to zone.
- Capable of very high speeds
- Easy to Configure and Install
- Now available from Hargray for a monthly fee!

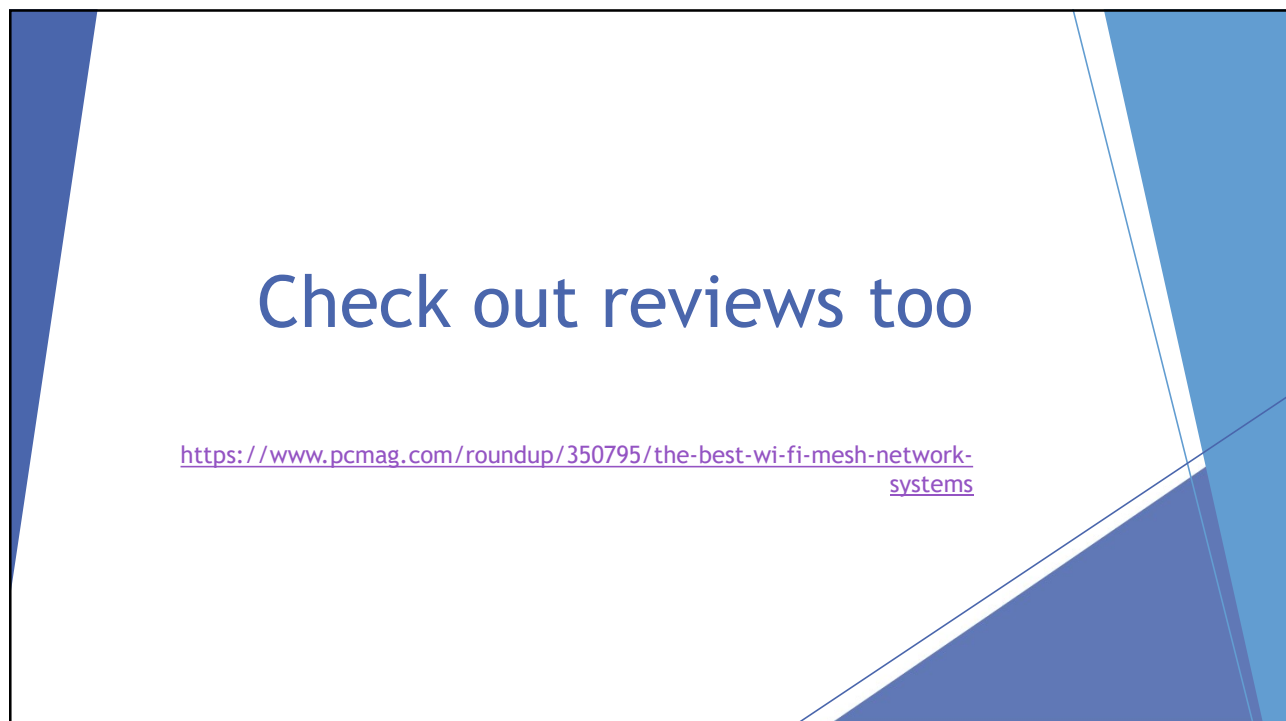
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How Secure is my WiFi?



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WiFi Security Considerations

Use

Use Password Protection - For WiFi and Equipment
 •Don't keep default passwords
 •Follow password hygiene - nothing easy to guess

Create

Create a Guest Network
 •Limit access to Internet only - no local network access

Case

Best Case - Isolate all appliances to Guest or separate network

Keep

Keep all software and firmware updated

Make

Make sure Router Firewall is on and current

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Q&A

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