Section Four: Trouble

There's Always Trouble. Always.

Trouble Comes In Many Forms

Trouble Types

- Interference Trouble - Is Your Science Oven Broken?

- Network Trouble - Are You Monitoring?

- Controller Trouble - Is Your Controller Up To Snuff?

- Other Trouble - What Else Should You Look For?
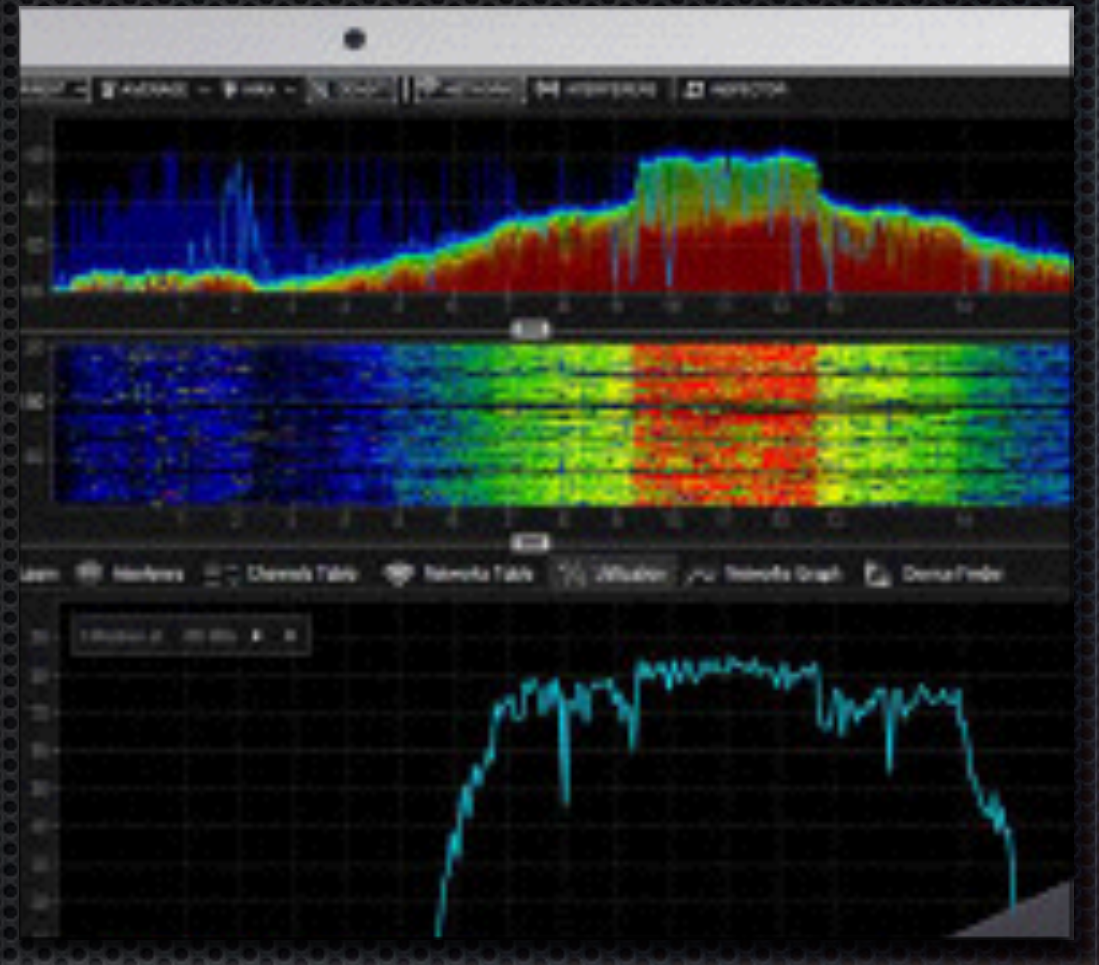
What Does Trouble Look Like?

Interference?

- Broad Spectrum Interference?

- Co-channel Interference?

- How can you tell?

Useful Tools

- RF Signal Analyzer (Wi-Spy)

- Heat Mappers

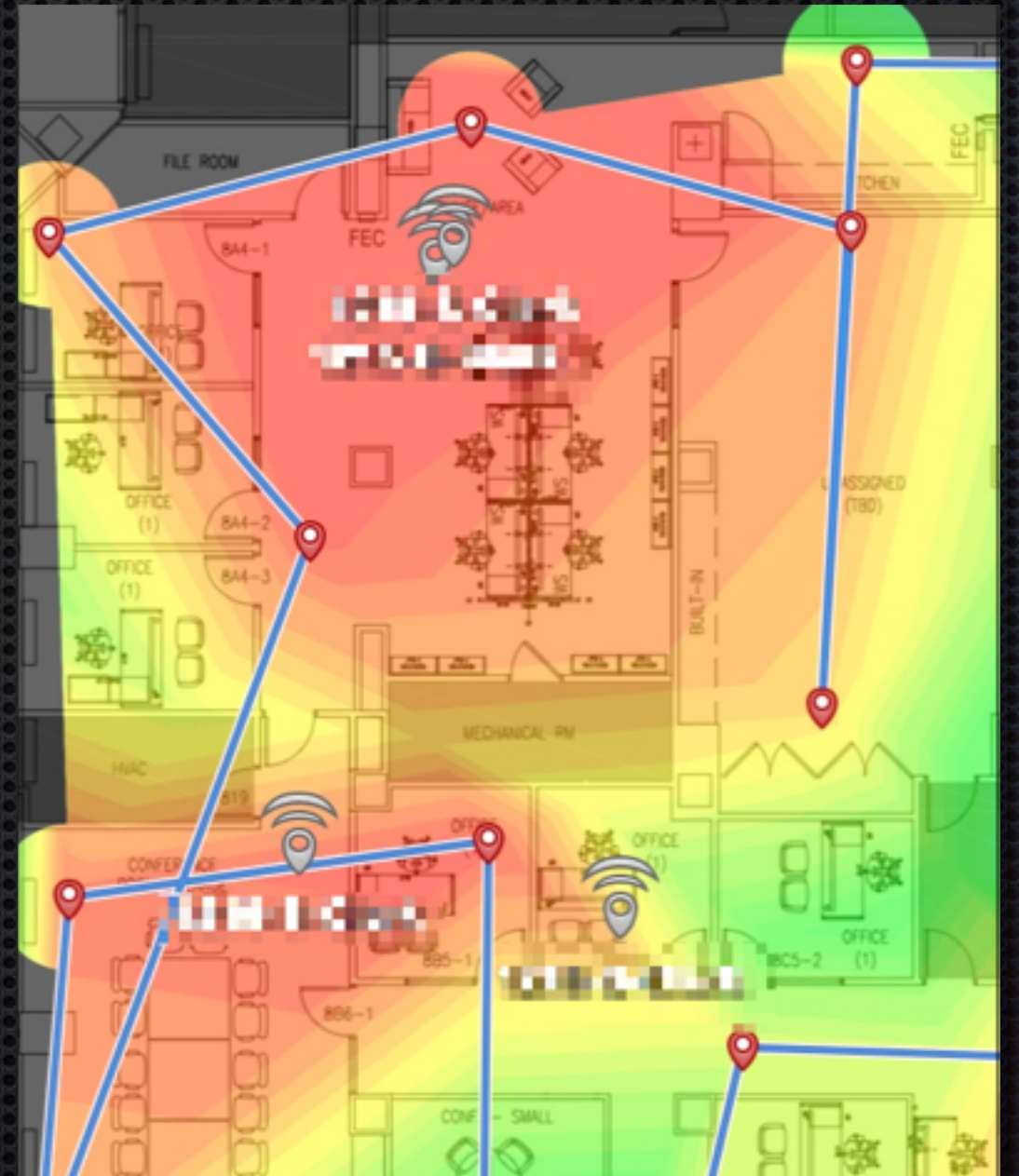- http://www.metageek.com

- http://www.netspotapp.com

RF Analysis

Match the Pattern,
Find the Source.

Heat Mapper

Find Your Problems,
Track the Changes.

Map Your Network.

A Brief Aside About CoreWLAN

Demo: NetSpot Visualization

Network

* Throughput Problems

* Protocol Problems

* Latency Problems

* Other Problems

Split-Half Testing for Wi-Fi

- Check Your IP Stack (Are you in the "right" place?)

- Check Traffic to the Access Point (Interference Check)

- Check Traffic to the Switch (AP Overload Check)

- Check Traffic to the Router (Network Overload Check)

IP Stack Problems

- DHCP out of leases?

- VLAN Assignments correct?

- No Route To Host?

- IPv4/IPv6?

Controller/Access Point
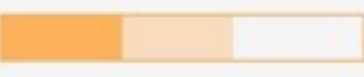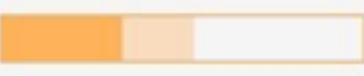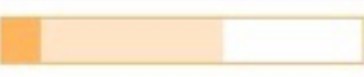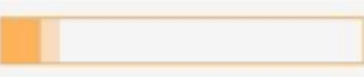
- AP Mis-Assignment

- Channel Problems

- Physical Interference

- Transient Interference

Use Your Controller

It's a tool designed to help you manage your clients and access points

Wireless Scanning

See who else is broadcasting, without big bucks
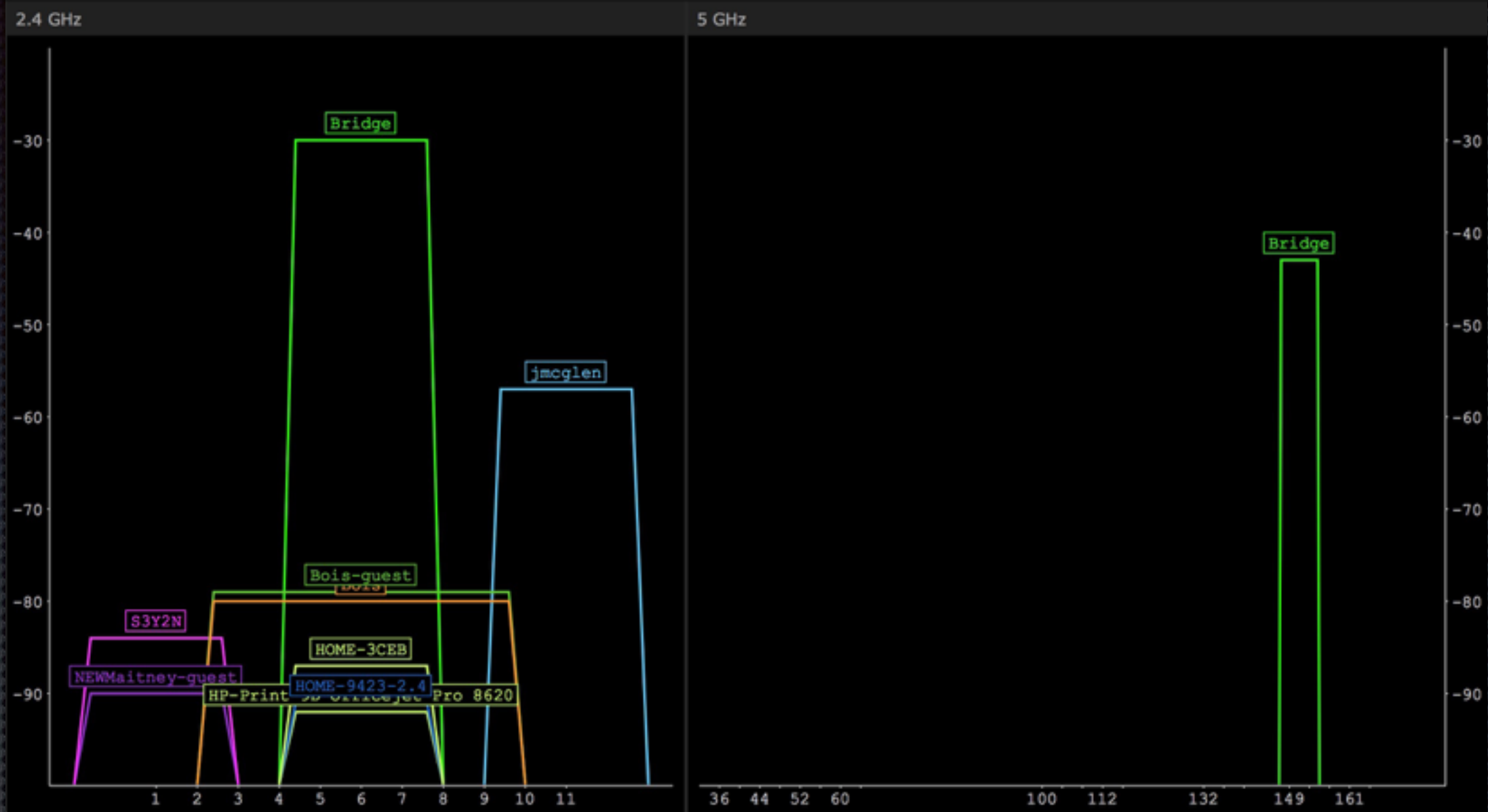
Visual Representations Matter
See the networks you're up against.

AP Position Matters

AP Position Guidelines

- They vary by antenna type and provider, so read your manuals and think about the physics

- Up is better

- Unobstructed is better

- Closer to your people is better

- Omnis aren't *always* omni.

Demo: Materials Attenuation

Demo: Distance-based Attentuation

Demo: Co-Channel Interference

Demo: Contention & Cooperation

Vendor Open Forum

Resources

- Capacity Planner: http://www.revolutionwifi.net/capacity-planner/?rq=capacity%20planner

- Density Design Guide: http://www.aerohive.com/330000/docs/help/english/documentation/Aerohive_High-Density_Wi-Fi-Design-Config-Guide_330073-02.pdf

- WLAN Pros: http://www.wlanpros.com/

Resources

- Tom's Hardware: http://www.tomshardware.com/picturestory/571-wi-fi-beamforming-networking.html

- Tom's Hardware: http://www.tomshardware.com/reviews/wi-fi-performance,2985.html

- Wi-Fi Stress Report: http://wlanpros2.project.ihelphosting.com/WiFiStressTestReport

- CWNA Guide to Wi-Fi: http://www.amazon.com/CWNA-Guide-Wireless-LANs-Ciampa/dp/1133132170

Resources

* Apple iOS Deployment Guide: https://manuals.info.apple.com/MANUALS/1000/MA1685/en_US/ios_deployment_reference.pdf

* Apple Mac OS X Deployment Guide: http://training.apple.com/pdf/tg_osx_tech_deploy_reference.pdf