**Comprehensive Passive WIRELESS SURVEY**

Network Planning => Analysis => Visualization => Troubleshooting => Optimization.

Software Tools:

NetSpot: Heat Mapping & Signal Strength Analysis

WiFiman by Ubiquiti: Network Scanning, Speed Test and Device Discovery

WiFi Analyzer: Measures Signal Strength & Identifies Interference

*Survey Preparation & Execution*

-Import/Create a Scaled Floor Plan

-Use the Continuous Survey Mode

*Data Collection*

-Walk the Entire Site (max 6ft gaps btw paths) / Measure Areas at Regular Intervals

-Generate Record Signal Strength, Interference and other Relevant Data / Heat Maps

-Standard Parameters to Collect Data:

1. Measured Primary + Secondary RSSI + Per AP Coverage- 2.4/5.0 GHz
2. Co-Channel Interference
3. Rouge APs at location + Rouge AP Data Matrix + Rouge Channel Width 2.4/5.0 GHz
4. Any Microwave or other thing leaking at 2.4 GHz
5. Overlapping Channels
6. Bluetooth Devices working at 2.4 GHz that could cause channel interference.
7. Fixed Frequency Devices

Include the following in your AP Data Matrix:

1. Transmit Power per AP
2. SSID/BSSID Per AP
3. Convey 5g Signal Strength and Carrier using Phone
4. Locate existing MPLS circuit Dmark
5. Confirm connection to current router
6. Check rack space availability
7. Test 4G coverage near data rack

*Analysis & Reporting*

-Analyze the Collected Data

-Generate a Comprehensive Report including all Specified Parameters

-Use the Network Simulator to Visualize potential improvements

-Use Real-Time Spectrum Analysis to Detect Non-WiFi interference

-Use Security Features to Identify and Locate Rogue APs

**Wi-Fi Survey Planning Tools**

\*Used to perform wireless site surveys, visualize and analyze Wi-Fi networks to properly plan and design a reliable network.

Hamina TamoGraph NetSpot Wifi Analyzer

**Network Troubleshooting Tools**

Software: Wifiman ping - tracerouter - puTTy - Tcpdump - tftpd64

Nslookup

Hardware: wLAN Pi USB-C to Serial Cable DB9-to-RJ45 Console Cable

Klein Voltage Tester Link Sprinter VFL a Hub

Ethernet Coupler