

## Conducting a Site Survey

This checklist was created to assist AirMagnet Survey users in conducting site surveys. However, many items apply to performing a site survey regardless of vendor solution.

### Phase 1: Preparation Checklist

- Do you know all the stakeholders?
- Are there specific business considerations and policies?
- Capacity
  - How many users require wireless service?
  - What applications will they use?
  - Will they transmit bandwidth-intensive files?
  - Where are they located in terms of geography?
  - Will they be using applications where they need to roam?
  - What are their throughput requirements?
- Is this a new wireless deployment or are you planning to make changes to an existing wireless network?
- If there are changes being made, is it because the business is expanding?
- Are you satisfied with the existing wireless deployment? Or are users complaining about coverage or performance issues with your existing wireless network?
- What wireless equipment is already installed? Who is the vendor? Where are they APs installed?
- Will this be an open (unencrypted) network or a highly secure one (WPA, WPA2)?
- Is wireless access needed for indoors, outdoors, or both?
- Where is coverage required? Is it only in certain areas like conference rooms, or is it for the entire facility? Do you need coverage in the parking lot?
- Are there building/floor blueprints available?
- Have you performed a visual inspection of the facility?
- Are there any known major non Wi-Fi interfering sources? Do you know their locations?
- Is this a multi-floor deployment?
- Where are the power and Ethernet drops throughout the facility? Are you open to installing new drops?
- What is the anticipated growth for the future in terms of users or technology?
- Are you implementing specialized application like voice or video over the Wi-Fi network? If not at this time, do you want to plan the network for seamless migration later?

### For 802.11n Networks

- Is this an 802.11n Greenfield network or do legacy 802.11a/b/g devices need to be supported?
- Will 802.11n devices be deployed in 2.4 GHz or 5 GHz band?
- What type of clients will be connecting to the network? Laptops? Phones? Handheld scanners?
- Will 802.11n APs be used for the Guest Network?
- Is there coverage overlap from your neighbor's APs? Do they have 11n or legacy 11a/b/g devices deployed?

## Phase 2: Performing Site Survey

- Have you loaded the floor plan maps and calibrated your floor map scale?
- Have you specified the correct "Signal Propagation Assessment" value?
- Are you performing the site survey at times when wireless is primarily used?
- Have you selected the correct channels that you plan to use?
- Have you planned your walking path?
- Have you performed passive surveys?: Collect signal data from all APs and stations in the area
- Have you performed active surveys?: Collect real-world performance metrics (data rate, retries, losses, etc.)
  - o Mandatory for 802.11n deployments
- Have you performed Iperf surveys?: Collect uplink/downlink performance statistics (critical for 802.11n networks)
- Have you performed a RF Spectrum survey?
  - o Non-WiFi devices operate in the same spectrum as Wi-Fi
  - o Best to collect RF data at the same time as a Wi-Fi Survey
- Have you performed a voice survey?
  - o Mandatory for deploying Voice over WLAN networks to validate phone call quality

## Phase 3: Analysis

- View Wi-Fi signal coverage at every location
- View real-world user performance metrics
  - o Data rates, retries, losses
  - o Uplink/downlink performance
- View roaming areas
- View areas that suffer from channel interference
- View areas that suffer from interference from non wi-fi devices
- Locate RF coverage and Capacity/performance 'dead spots'
- Know coverage/performance for "backup" APs
- If implementing 802.11n networks:
  - o Verify the 802.11n coverage maps
  - o Operating mode: Visualize operating modes of the APs
  - o Channel width: Visualize 20/40 MHz settings for the APs
  - o MCS coverage maps: Visualize the MCS rates for the APs
  - o Visualize uplink and downlink performance parameters
- If implementing voice over WLAN networks:
  - o Verify if your network is ready for voice based on the phone vendor's deployment guidelines
  - o Validate phone call quality, coverage and capacity maps at every location
  - o Are there areas where the phones roam
- Verify if coverage, capacity and performance design requirements are met for your deployment?

## Phase 4: Reporting and Sign-off

- Output survey report
- Have you saved the report for future reference for surveys and other deployment changes?

## Phase 5: Periodic Site Surveys

Recommended to survey environment every 3-4 months to account for changes in environment (or neighbors), interference sources, user behavior, obstacle changes, etc.

- Was this a periodic site survey?
- If yes, have you observed changes in the RF environment or the Wi-Fi network since the last survey?
- If no, when are you planning to conduct one?

The following resources are available for more information on performing site surveys:

Web-based training:

[AM-30: AirMagnet Survey Certified Professional](#) (3 hour online course)

View upcoming classroom training:

<http://www.airmagnet.com/support/training/>

Contact AirMagnet at [info@airmagnet.com](mailto:info@airmagnet.com)