

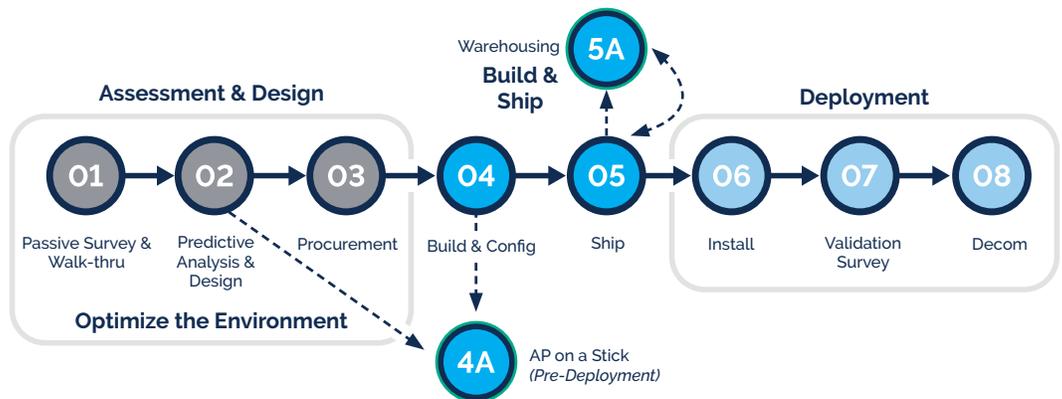
Wireless Transformation

Providing wireless access for customers and employees has become as ubiquitous as the devices connecting to it, while the demand for faster speeds and lower latency is driving IT to rapidly transform to meet business demands. Park Place's Wireless Transformation service leads organizations through our Assessment & Design, Build & Ship and Deployment process, on a global scale, giving you a single vendor solution. Our platform neutral approach means we aren't tied to a specific manufacturer solution, we are aligned to your goals and budget. And our approach is flexible, allowing you to leverage only the service components that you need, which helps to manage costs.

ASSESSMENT & DESIGN	BUILD & SHIP	DEPLOYMENT
<p>This is the upfront survey and analysis work to determine the current state of your wireless network that enables us to develop an optimization roadmap. We follow the same approach for a wireless refresh or a new site implementation.</p>	<p>Once the design/architecture is finalized and the hardware is purchased, our global logistics team provides secure staging areas to store hardware where our network Subject Matter Experts (SME) can build and pre-configure devices with your project requirements. Next, we ship directly to the installation site. In most cases, Park Place Technologies can supply the wireless hardware as well.</p>	<p>Leveraging our hundreds of global field engineers, installing wireless hardware is one of our core capabilities. Part of our deployment process is to conduct a post-validation survey to confirm design specs.</p>

MODULAR APPROACH

If a complete wireless transformation isn't your immediate need, our Wireless Services can address a number of project needs, such as: new office/warehouse deployments, WLAN security assessments, user connectivity and WLAN performance issue identification and resolution and wireless optimization.



Wireless Transformation Overview: Services Offered

Passive/Validation

A Passive Survey (also called Validation Survey) is used to evaluate existing wireless coverage and performance and is the most common form of wireless surveys. During a Passive Survey, the survey client silently listens to all Wi-Fi traffic on channels within the 2.4GHz and 5GHz bands.

The following are measured:

- Wi-Fi signal strengths
- Noise levels
- Signal-to-Noise Ratio (SNR)
- Co-channel interference
- Channel overlap
- Rogue devices

The information gathered during a passive survey helps visualize the Radio Frequency (RF) environment. This imagery is key to understanding how to proceed with optimization of your wireless network. When performed as validation survey, it confirms the WLAN is performing as designed (predictive model).

AP-on-a-Stick

This type of survey determines the RF signal propagation characteristics of pre-determined Access Points (AP). Although more time consuming, it is one of the most accurate surveys available.

A wireless engineer physically places an AP at a specified location within the office, warehouse or facility and captures the performance. The process is repeated until coverage and/or project quality is met.

The following are goals of AP-on-a-Stick (APoS) surveys:

- Determine the optimal locations for AP placement
- Verify coverage in all required areas at the desired minimum signal strength and SNR
- Ensure that adequate coverage overlap exists for client roaming
- Validate actual AP performance

This survey records the actual RF behavior in a facility, resulting in a more accurate WLAN design, by tailoring the outputs to the physical properties of the environment.

Predictive/Planner

A Predictive (also called Planner Survey) Survey models the RF environment using simulation tools. It is essential that the correct environmental information is entered into the modelling tool, including facility construction types, heights and barriers like walls and large objects.

Predictive surveys are used to optimize AP placements and plan for proper channel allocation to avoid channel overlapping, interference and roaming.

The following variables can be simulated within the survey tool Park Place Technologies uses to allow for more accurate results:

- Most widely used AP models and antennas
- Band and channel settings
- Power settings, height, angle
- Attenuation zones and wall types
- Areas where coverage is saturated

A Predictive Survey is typically coupled with a Passive Survey. This combination allows Park Place Technologies to assess WLAN performance issues and develop a strategy to optimize the environment, for either a complete refresh or to enhance an existing deployment.

RF Spectrum Analysis

A RF Spectrum Analysis provides real-time detection and identification of several non-WLAN sources (non 802.11 traffic) that interfere and lower the performance of WLAN networks. Using specialized antenna and associated software, the Spectrum Analysis detects, identifies and helps locate individual sources of RF interference, including non-WLAN devices and many more. Several views of the data are available to determine the cause and source of RF interference.

These include:

- Real Time Fast Fourier Transform (FFT) providing a view of the RF signal levels
- Spectrum Density providing a long-term view into the network enabling the identification of infrequent transmissions
- Spectrogram graph provides a scrolling history of the RF environment and allows a visual understanding of the spectrum over time to see intermittent spikes or bursts of RF energy that may be causing WLAN network problems
- Interference Power – this graph displays the average power readings of interfering devices on the selected channel or channels