



## Wireless “Out-Tasking” Services

*Our service practice improves service levels, reduces cost of operations/ownership, and enables access to scarce skills*

Solutions4networks has seen many companies struggling to deliver today’s complex and rapidly transitioning wireless network services – including Wireless Local Area Networks (WLANS). Maintaining current levels of technology expertise, including levels of experience with the integration of wireless technology in traditional autonomous systems and the overall understanding of wireless integration (including mesh) into system architecture are just a few of the challenges facing a company’s network teams.

During these times, the challenges companies face include:

- Dealing with reduced performance of access points that are doing basic level security.
- Determining malicious devices and programs that live on the border of the 5 GHz band that prohibits normal security metrics within standard AP's to detect which results in hidden and non-accessible security holes.
- Auditing – the wireless network is under the same audit responsibilities as your wired networks. Currently most standard wireless deployments using WPAv2 just are not good enough. WIPS is needed to meet full compliance. Overall ROI is lowered drastically because your clients and customers are connecting at inferior speeds consistently. With a few more dollars spent, we can make sure your clients communicate at maximum efficiency.
- Addressing the need to get more out of their employees – WLANS enable their employees to be connected everywhere in their enterprise all the time.
- Avoiding investment in permanent infrastructure - WLANS can easily be moved from location to location vs. desktop switches / cabling.
- Increasing and tightening security because of dismissed employees and competitive pressures – WLANS allow for easy deployment of 802.1X port based authentication and can execute both additions and deletions, rapidly.

For international deployments, a few of the complex issues include:

- Regulatory Domains: Depending on the Country Codes, it is possible to use the same regulatory domain for some countries.
- Channels are governed by the country with the least channels in the spectrum. Dynamic channel allocation may disable channels that aren't in the country deployed and for all other countries.

For organizations needing domestical and/or international expertise, solutions4networks has developed a portfolio of wireless services into a suite of “out-task” offerings. The out-tasking of wireless engineering for our client’s permits a choice and control of wireless expertise to apply when it is required and where it is most needed during projects and ongoing operations. Our suite of wireless service extends across the complete technology adoption cycle and is customizable to augment any client team. The suite of wireless services can also provide complete project offerings when project loads are at their peak.

Solutions4networks Out-Tasking Wireless Services provide clients with:

- Complete or point technology adoption services
- Combine services within the adoption cycle phases to include:
  - Wireless Technology Strategy
  - Wireless Network Design & Planning
  - Wireless Network Build
  - Wireless Network Operation
  - Wireless Network Performance & Optimization
- A team of the highest industry certified wireless, RF, and networking certifications

Solutions4networks Out-Tasking Wireless Services also provides clients with:

- Flexible sourcing options designed to customize your sourcing needs
- Expertise in the wireless infrastructures and the applications utilizing mobility technology
- A choice of service pricing structures that accommodates out-tasking services into any budget
- One of the largest regional wireless networking teams with unrivalled experience

Solutions4networks Out-Tasking Wireless Services includes the complete alignment of wireless technology adoption phases:

- Wireless Technology Strategy
- Wireless Network Design & Planning
- Wireless Network Build
- Wireless Network Operation
- Wireless Network Performance & Optimization
- Wireless Guest Access
- Wireless Point of Sale

Whether your team is strategically planning a mobile offering, improving wireless network performance in support of a virtual desktop initiative or establishing wireless service level agreements, our out-tasking offering allows a client to turn over a specific engineering and/or operations support function to our team of experts to provide focused wireless expertise, make available our advanced technical tools and apply our team's collective best practices.

Why solutions4networks? solutions4networks brings over 12 years of experience in helping organizations with their wireless network infrastructures (including numerous industry and manufacturer certifications). Solutions4networks' investment in talent and training provides a unique combination of local, regional and national resources, the expertise to support your wireless infrastructure around the clock, and a delivery model that is both comprehensive and adheres to governance standards and methodologies.

**Wireless Technology Strategy** is a suite of consultative services that includes tasks such as:

- Business Case Creation, Planning & Analysis – this service supports the development of business-oriented analysis of wireless technology in support of its adoption, expansion, or upgrade. Items like ROI's, TCO, CAPEX & OPEX studies and estimates, along with justifications and supporting audit and conformance standards documentation.
- Development of Technology Solutions – this service incorporates design and architecture at a strategic level as a stand-alone infrastructure or an integrated offering in support of specific wireless applications (i.e. RFID, process control, etc...)

**Wireless Network Design & Planning** is a group of tasks that follows the strategic decisions necessary for adopting wireless technology and the role of wireless as a systems component or element within existing enterprise networks. It includes specific tasks such as:

- RF Planning & Design – includes evaluation of existing wireless environments or those that will be implemented in support of strategic initiatives. These tasks are accomplished with through the application of our predictive tools and techniques.
- Network Design & Integration – creation of a detailed blue print of a clients wireless network along with necessary integration points in support of applications, end-user components (i.e. hand-held devices), and network & security environments.
- Internal Mobility & Wireless Services – these tasks integrate client services such as guest access and wireless access methods supporting mobile devices (i.e. iPads, iPhones, etc...). Our level of experience in integration provides a high level of integration expertise.

**Network Build** is the creation of the wireless environment from design blue prints that support our clients’ strategic wireless services. This is the realization phase of the technology’s adoption. This offering includes tasks such as:

- Site Implementation Survey – a thorough and detail process supplemented by our teams vast expertise and tenure of millions of surveyed square/cubic feet.
- Site Preparation & Construction (Build Out) – pertains to all the related physical elements of an installation in all environments that extend from office space to the rugged industrial environments.
- Program & Project Management –including any portion (or complete management of) the activities relating to the adoption or expansion of wireless technology. Whether a single initiative or an entire enterprise system structure with multiple tangible projects.

**Network Operations** is a group of tasks that can be either a shorter-term engagement or a more long-term agreement where support services are offered for multiple years and complete out-tasking of service and support. The tasks include services such as:

- Wireless Network Operations – complete ownership and responsibility of day-to-day wireless operations will reside with solutions4networks’ team of engineers. Our expertise is integrated into a client’s existing support model and organization.
- Service Quality Analysis – this task evaluates existing service levels and evaluates the enterprise wireless environment based upon industry standards for performance optimization and the establishment of service levels to be used by our clients.
- Wireless Network Security – implementing tested techniques that determine the effectiveness of our clients’ security posture relative to their wireless environment.
- Network Administration – these tasks include all elements of client’s moves, adds, and changes to their wireless environment as well as additional access points, upgrading activities, infrastructure changes, etc...

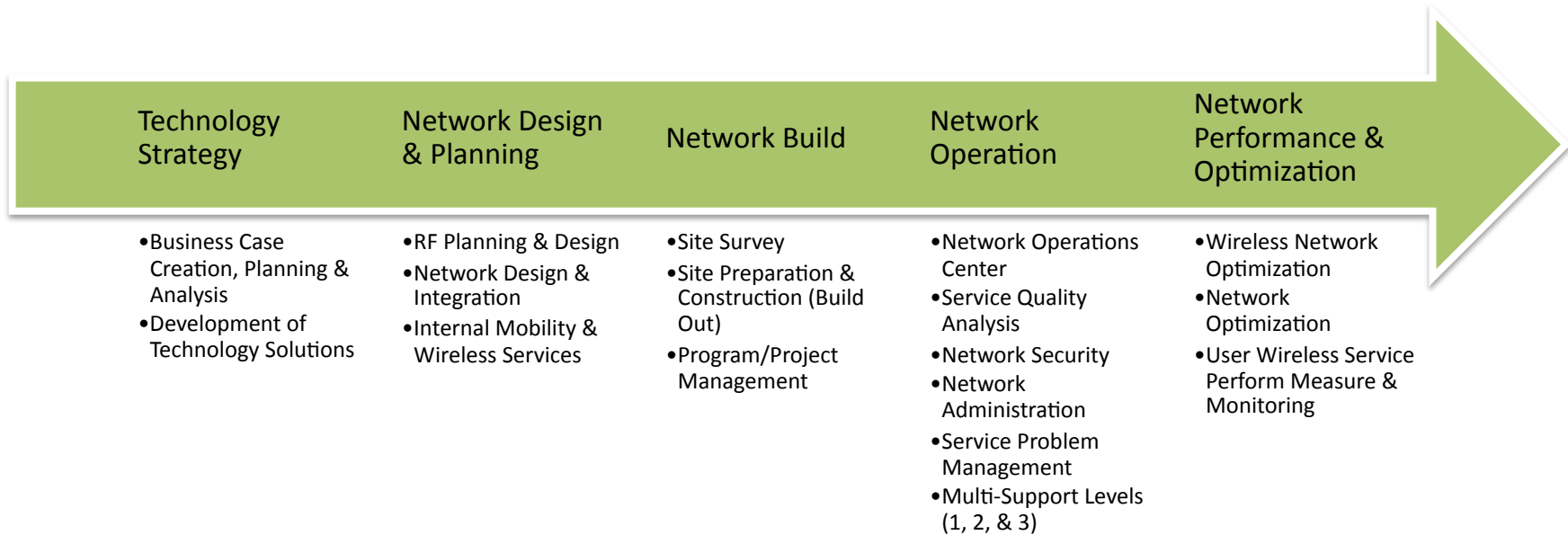
- **Service Problem Management** –trouble shooting tasks and root cause analysis activities reinforcing operational support. This is another collection of service tasks that can be the responsibility of a solutions4networks team for either a shorter or long-term engagement to handle a period of unstable wireless operations.
- **Multi-Support Levels (1,2, & 3)** – these service areas include all levels of technical support for out-tasking or shorter engagement, from the initial end-user contact of a trouble ticket to a higher echelon of expertise needed to resolve complex issues. This service is both defined by the clients support model and integrated into the their support organization.

**Network Performance & Optimization** is a collection of point services focused on the operational and functional performance of a clients' enterprise wireless network. They include specific performance requirements defined by application or device usage. These tasks are:

- **Wireless Network Optimization** - a detailed and thorough analysis that encompasses all applications and devices utilizing the wireless infrastructure. The purpose is to measure a client's environment regarding industry and best practice levels of performance. Delivered as a point solution for an overall evaluation or in support of: expansions, integration of services, applications, and devices.
- **Network Optimization** - focuses solely on the integration points of the wireless infrastructure that extends into the wired enterprise network, authentication and management systems, and security elements currently applied to the wireless network.
- **User Wireless Service Performance Measurement & Monitoring** - utilizes many available wireless management tools designed to assist clients in the proactive support of their wireless environments. This tasks assesses and develops requirements, evaluates potential products, makes recommendations, and implements the final solution(s). In addition, this task provides the integration of the tool set into our client's operational support model in the form of implementation and training.

**Guest Wireless and Wireless Point-of-Sale Networks** have a unique set of characteristics that need addressing including hotspots especially from a security perspective, as well as, upgrades and deployment from a centralized platform.

## Wireless Technology Adoption Cycle



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