

m-trilogix – Overview of Wireless LAN Services and Set-Up

Establishing a WLAN infrastructure can be an efficient and productive step for many firms. In most instances a wireless infrastructure is cost effective costing less than a wired infrastructure. Nevertheless a Wireless system poses its own unique problems, namely; reliable throughput, hardware choices, a certain variety of software application development and security. The system layout and design, the products, the type of software and the type of information transfer and volume are critical and must be done properly up front.

Services to set up a Wireless System:

- Analysis
- Design
- Modeling
- Hardware Selection
- Software Application development
- Maintenance
- Security

WLANs can be integrated with 2.5 G and 3 G Networks.

802.11 provides common standards that drive down hardware costs.

Integration with Legacy systems are simplified using Open Software Standards.

What Wireless Means to IT

Wireless technology gives IT another medium in which to extend its influence and increase its value to the business. It allows IT to reach a wider audience inside and outside the corporation, bring automation and efficiency to a new range of processes, and deliver data wherever needed. IT can use wireless technology to build new applications or extend existing ones. From a career perspective, wireless technology offers challenging projects and interesting assignments at all levels of the organization.

Wireless technology brings to IT organizations a series of design, development, deployment, and support challenges. New servers and middleware applications are needed to connect wireless networks and devices with critical corporate data. Application architects and designers will have to work within the constraints imposed by device sizes and network data exchange rates while meeting the expectations of users looking for portability with just as much functionality. Security takes on a new meaning in an environment where signals can be intercepted in the air and devices are easily lost or stolen. And new processes are needed to support and manage myriad devices that can be anywhere, literally.

In the long term, wireless technology may have as much impact on IT infrastructures, processes, and application development methods as the arrival of the Internet and Web applications. Fortunately, unlike the radical upheaval occasioned by the Internet, the impact will be much more evolutionary. Many wireless applications will begin as extensions or adjuncts of existing Web applications. The true explosion in wireless applications will occur over the next few years as standards converge, bandwidths expand, and better development tools arrive. In the meantime, IT organizations can gain experience by focusing on the high-payback applications the current generation of technology enables. This experience will allow IT organizations to build the skills, strategies, infrastructures, processes, and internal standards needed to support larger-scale wireless efforts.



The biggest benefit of wireless solutions is the ability to reshape business processes for greater effectiveness.

Start With Business Processes

A wireless solution can improve patient care by providing an emergency room physician with instant access to laboratory test results, enable more efficient routing of deliveries, or allow a service worker to print and present an invoice at the end of a service call. Implementing each of these solutions requires a different set of wireless devices, networks, and application architectures. An architecture that works perfectly for one solution may be hopelessly limited for another. Given the magnitude of capabilities, options, and limitations in wireless components, there will never be a one-size-fits-all wireless solution that can be applied to any business requirement.

The right way to pursue a wireless effort is business process first. The needs of a business process identify data requirements and drive the wireless application design, which in turn drives the selection of the appropriate device and network options. The resulting wireless architecture then has its own implications for security, support processes, development tools, and service contracts with network and software providers.

Setting up the System:

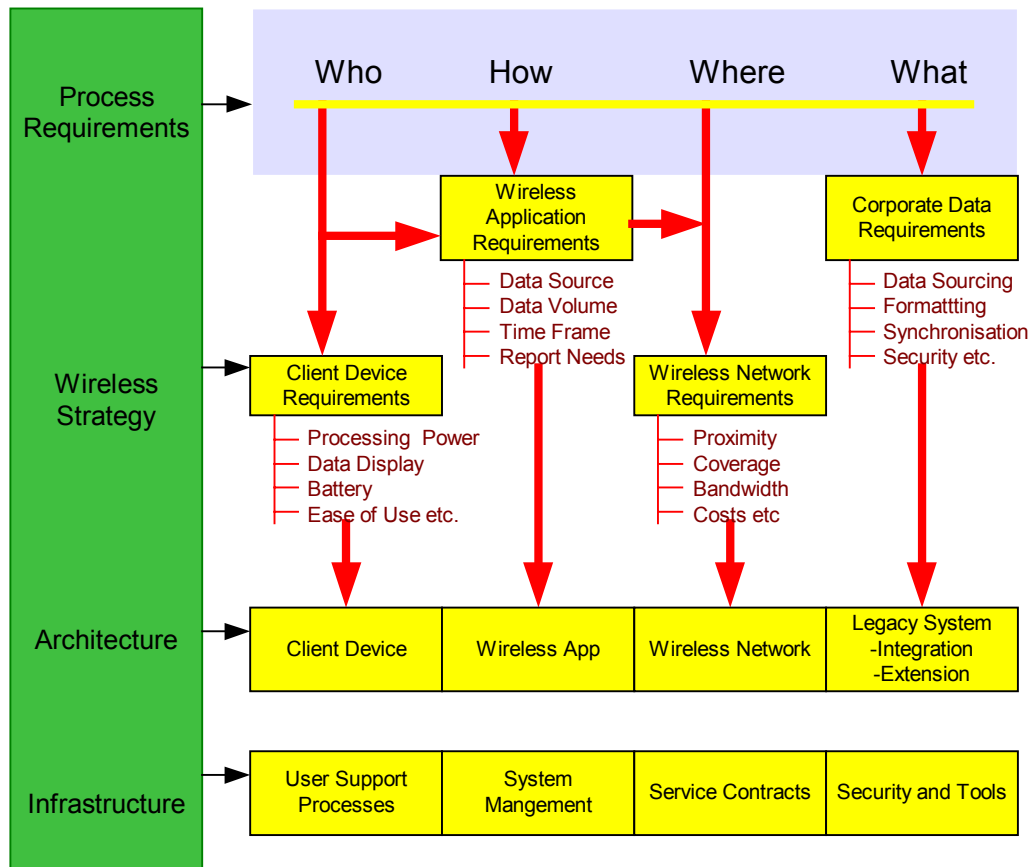
Survey your building carefully, particularly existing structures such as old schools or mills with dense concrete walls and floors and cast-iron stairways. The more mass there is, the tougher it is for the signals to be transmitted and received.

Consider the building as a whole when you're planning the placement of access points. A common error is to first outfit a boardroom with wireless access, for demonstration purposes. Later, when a company starts to equip the rest of the building, the placement of the conference room access points might not be the most efficient - yet it's taking up its own wireless channel, and there are only three non-overlapping channels in wireless. Using one wireless channel for a relatively small place, like a conference room, might create a channel conflict.

Look at access point attributes carefully. Choosing access points that support electrical power over Ethernet can provide greater flexibility down the road since they don't require access to a 110-volt outlet. Additionally, plenum-rated access points provide you the option of placing them within ceiling structures; access points without a plenum rating cannot be placed in the ceiling for safety code reasons.

Think about the applications to be run over your wireless LAN. Voice applications require a greater density of access points than data applications. For example data can tolerate the edges of coverage just barely touching each other, so that you might have a brief dead spot in between, however, voice requires more overlap.

Wireless Decision Process



The decision to build a wireless system should be based on quantifiable return on investment criteria that are 'hard'. Revenue increases, cost decreases or increased client penetration and better support can be identified as hard benefits that add to a firm's bottom line. Be aware of such vague promises as 'productivity increases', 'reduction in paper', or 'improved processes'. These are euphemisms for consultants that are too lazy or inexperienced to properly manage and monitor wireless projects to ensure a real bottom line impact.

Key aspects of building a wireless system:

- End User modeling and expectations
- Device cost and screen size
- Internet batching vs. Real Time Wireless
- Type of Application (Data Entry vs. Data Capture)
- Legacy system integration
- Security
- Open Standards usage

Firms should build a proper design model that captures the business requirements. Code and data stores should not be proprietary. Standards for both hardware and software are mandatory.



Standard technologies we use:

- WLAN
- 802.11
- 802.11a
- 802.11b
- WEP, SSID, Radius, EAP
- Encryption
- HiperLAN/2
- Bluetooth
- WCDMA
- 3GPP
- CDMA 2000
- GSM/EDGE
- Hardware PDA's, Access Points and Gateways (multiple vendors)

Services from m-trilogix

- Training
- Custom model generation
- Methodology consulting
- On-site support
- Design services
- Ensure a Secure Architecture

Assisting and managing network optimization:

- Network Set up
- Network Management
- Full Optimization
- Testing and Commissioning

Hardware Installation:

- RF Planning and Design
- Traffic Engineering
- Network Architecture
- Transmission Engineering (Microwave and Signaling)
- Access Engineering
- Switch Engineering
- Security

m-trilogix will help establish set up and monitor your WLAN. We also employ our MIRM (Metrics Investment Return Methodology) to help build and deploy and software (see <http://www.m-trilogix.com/solutions/mirm.asp>)

If you have any questions please call 416-259-3343 or email us at info@m-trilogix.com

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