

# Ready to VOW

VoWLAN, the next big technology, requires a voice enabled wireless device—most commonly a PDA or a Wi-Fi handset

The year 2009 witnessed an overall decrease in the IT spendings. Enterprises have put on hold their decisions for technology uptake. However, the WLAN market during 2009 was quite stable, and many organizations did a rethink about their future growth strategy and looked at the new cost efficient wireless options. The enterprise WLAN market increased by more than 15% over the previous year. The enterprise WLAN revenues have been on a rising route during Q3, courtesy of a stronger demand in 802.11n based access points. At the same time, leveraged demand drove an increase in the size of WLAN deployments.

## Making a Buzz

WLAN is becoming the preferred medium of network access, and more and more enterprises are considering the use of secure WLAN as a preferred access method to connect desktops, laptops, printers and all kinds of end devices. An all wireless network uses wireless MESH technology at the network distribution and access layers, thereby providing considerable savings on wiring and the cost of maintenance coupled with the resiliency and security mechanism. It is becoming a big trend especially for the green field deployments.

There has been a substantial amount of innovation and integration of wireless intrusion detection and prevention capabilities in the WLAN solution. With 802.1 and WPA2 encryption, WLAN provides a high level of security. Purpose built sensors for wireless intrusion detection and

prevention work in conjunction with a dedicated wireless IP appliance.

Another emerging technology in this segment is IEEE 802.11n. This solution will operate in the 2.4 and 5 GHz radio band, offering a backward compatibility with the pre-existing 802.11 a/b/g deployments. The three primary innovations are MIMO (multiple input and multiple output) technology, packet aggregations and channel bonding. To-

wired phones to be available on the VoWLAN devices.

## Concerns of CIOs

Wireless LAN, while replete with the convenience and advantages, has its share of concerns as well. Issues such as security, quality of service, range reliability and speed are often raised by enterprises.

However, most network analysis vendors offer WLAN troubleshooting tools or functionalities as part of their product line. Wireless LANs present a host of issues for network managers. Many enterprises offer security features like 128 bit WEP and WPA that can scramble for encrypt network traffic so that their content cannot be easily deciphered by snoopers. Likewise, wireless routers and access points incorporate access control features such as MAC address filtering that deny network requests from unwanted clients. There are other security mechanisms that may be built into the corporate wireless network systems.

This includes 24x7 intrusion detection and prevention, real-time wireless RF environment monitoring and automated alerts, amortizing the cost of wireless infrastructure across a number of mobility applications including data. Voice and video, a single vendor management platform that can manage the entire spectrum of mobility, right from wireless network elements to hand-helds are some of the other major concerns raised by enterprises.

## Green In Demand

Cost effective IT solutions that embrace environmental responsibility are in de-



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gether these techniques allow 802.11n solutions to achieve a five-fold performance enhancement over the current 802.11a/b/g.

VoWLAN is the next big technology in the pipeline. It requires a voice enabled wireless device, most commonly a PDA or a Wi-Fi handset, which looks and operates like a cellphone, but sends voice as a discrete data packet rather than an analog voice stream. The VoWLAN system allows all regular functions and messaging applications available on

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## WLAN is becoming the preferred medium of network access, and enterprises are considering it to connect desktops, laptops, and all kinds of end devices

mand as organizations start to reduce their carbon footprint. Solutions that are quick to implement, require little or no capital investment, are environmentally beneficial and deliver an immediate and quantifiable financial return are highly valued. Organizations are looking for solutions that deliver measurable savings for the wireless networks and support their green initiatives.

Intelligent control measures can help in creating a culture of sustainable business. These measures and tools improve operational efficiencies and reduce the energy consumption of wireless networks. By implementing these measures, an enterprise can gain momentum for its green IT initiatives.

### TOP DEVELOPMENTS

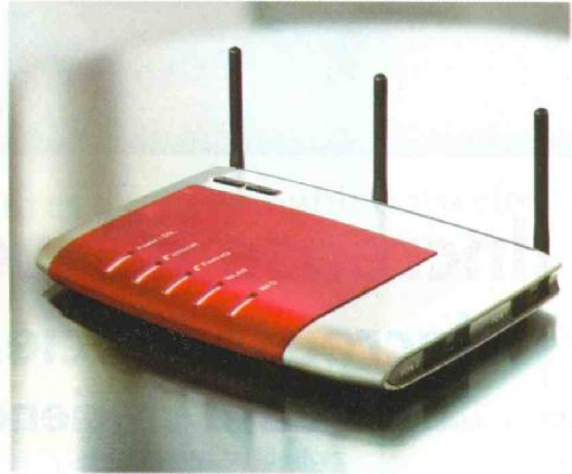
- Standardization of 802.11n and the high bandwidth and high speed networks holding immense possibilities for users

- Evolution of security standards towards a mandatory regime to ensure the protection of customer data

- Availability of WLAN switches that enable interoperability across

WWAN, WLAN and emerging technologies such as WiMax

- Fixed mobility convergence, and the availability of user end devices as well as switches as strong enablers



Realizing the needs, players in this space are coming out with green solutions to fulfill the growing demands of enterprises. For the wireless networks, Cisco offers adaptive power management capabilities that are built into the Cisco unified wireless network through its management platform wireless control system. This solution allows the organization to shrink its carbon footprint

immediately by reducing the energy usage and operational expenses.

Motorola has designed integrated sensors and access points in a single device. The wideband radio is purpose-built for sensors, and eliminates the need for two devices to provide the same level of secure WLAN. This not only saves costs, but also saves energy and cabling costs.

### TIPS FOR NETWORK MANAGERS

- There is no shortcut for proper pre-deployment RF survey, planning and validation

- Insist on purpose built RF modeling tools to predict the behavior of RF networks at the site even before deployments

- Leverage the next generation WLAN controller based architecture for easy plug-n-play deployment and easy management

- Ensure multiple levels of security

- Integrated sensors and access point to lower TCO

- The legacy clients to be segregated on 2.4 GHz, and 802.11n clients can use the 5 GHz band for an optimum performance

- Maximizing the network performance and minimizing network downtime



- Keeping device setting 'in step' throughout the wireless network despite the ever-changing requirements

- Evaluate carefully the TCO of a solution before making a decision. Also ensure that it is scalable and modular in design for growth and delivers high performance

### Challenges

The greatest challenge in wireless project implementation is the line of the sight. Generally, radio signals require a clear path between antennas. The first condition for the LOS link is that the two antennas can be connected with an imaginary straight string. No object should block this line. Achieving this with a short link is fairly easy. Moreover, in order to cover large distances, a great height is needed. So, tower erection increases the implementation costs.

The second challenge is wireless management. As enterprises move to capitalize on the benefits of wireless networking, the need for cost effective WLAN management tools becomes acute.

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