



WLAN : Securing New Heights *Adopting VoIP to wireless networks is enhancing seamless collaboration and responsiveness while reducing costs for businesses*

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Wireless technologies are a promising prospect for various public applications. WLAN adoption is still relatively new to India but is growing at a rapid pace. It is only now that enterprises and other segments are being forced to rethink their wireless strategy. They realize that having seamless integration between fixed and wireless deployment gives greater flexibility and increases productivity.

There are ample opportunities for wireless as the market is flourishing and benefits of pervasive wireless networks are being seen. The adoption of mobility solutions based on the wireless platform by industry segments like hospitality, manufacturing, retail, real estate, etc, is also leading to more adoption and proliferation of WLAN. And this adoption of WLAN technology by enterprises is radically transforming business operations, networks, data centers and bringing centralized IT control.

Key Trends

Gone are the days when WLAN islands were deployed by early adopters, especially in the retail and logistic verticals, to run specific mobility applications. The most important emerging trend here is the advent of all wireless enterprises. The trend is toward adoption of enterprise mobility technologies and applications to increase business efficiency and deliver an enhanced level of customer experience.

Wireless LAN is becoming the preferred medium of network access. A wireless network uses wireless mesh technology at the network distribution and access layer, considerably saving wiring and maintenance costs. Coupled with resiliency and security mechanism, it is becoming a big trend, especially for green field deployment.



Wireless security is an important aspect as wireless networks expand. Data frauds and denial of service attacks are becoming a major threat. Therefore the need to safeguard critical data is no longer a choice but an imperative. Enterprises are seeking ironclad security in wireless networks to safeguard their business critical data from theft and intrusion.

With 802.1 and WPA2 encryption WLAN provides high level of security. There has been substantial amount of innovation and integration of wireless intrusion detection and prevention capabilities into the WLAN solution.

Hottest Technology

There is an increasing trend where by adding VoIP technology to wireless networks (VoWLAN), businesses are improving collaboration and responsiveness and discovering new ways to reduce cost. The collaboration between RFID and wireless is leading to new mobility applications and solutions for industry segments like manufacturing, retail and healthcare.

Last year the industry adopted the 802.1x secure authentication framework. This system enables users to authenticate and encrypt data traffic on the wireless medium. But security requirements go beyond just secure authentication. Monitoring the air and analyzing RF environment for any abnormal events like hacking attacks are critical elements that complete the security portfolio.

Another emerging technology in this segment is IEEE 802.11n. This solution will operate in the 2.4 and 5 GHz radio band, offering backward compatibility with pre-existing 802.11a/b/g deployments. Wireless solutions based on the 802.11n standard employ several techniques to improve the throughput, reliability and predictability of wireless LANs. The three primary innovations are MIMO (Multiple Input Multiple Output) technology, packet aggregations and channel bonding. Together these techniques allow 802.11n solutions to achieve an approximate five-fold performance increase over the current 802.11a/b/g.

Experts panel

Paramjit Singh Puri, business development manager, advanced technologies, Cisco Systems, India & Saarc
Rama Subramanian, head, systems engineering, Juniper Networks, India
Jayesh H Kotak, VP, product management, D-Link India
Lakshminarayan Bhat, sr product manager, Motorola Enterprise Mobility Division
Subhashini Prabhakar, chief technology manager, DAX networks



Ashok Saraf, product marketing manager, wireless, Extreme Networks

Wireless transmission Draft N with 2x3 and 3x3 radio transmission design is much talked about for WLAN. It can achieve wireless speeds of up to 300 Mbps and 450 Mbps, making it faster than Cat Ethernet. On the other side, unified wireless system with self healing, load balancing, centralized RF management, and rogue AP detection and control is the next stage for enterprise wireless networks.

Besides integrated firewall, there is simultaneous support of multiple SSID per access point to support different user groups. URL filtering for parental control in home users, integrated IPSEC VPN for corporate VPN, and future proof IPv6 readiness are some other popular technologies in the Indian WLAN market.

Tips for CIOs

- Draft 2.0: Ensure greater coverage with minimum access points. This will ensure lower cost of installations
- Security: WAP2 with 802.1x users authentication for a secure network
- Centralized management: To ensure policy and configuration control as well as RF management for a large number of access points
- Load balancing and self healing wireless networks: To ensure sufficient bandwidth to each client as well as ensure connectivity in case some access points fail
- Evaluate: the cost and benefit that will be achieved with the deployment of WLAN
- Use the latest technologies: as far as possible and not use obsolete technologies

What they Want

In today's economy and volatile market conditions the demands from CIOs include the alignment of IT with business. CIOs are looking to empower their workforce with insight, collaboration and awareness. To meet customers' demands at lower cost is the CIO's demand today. Most CIOs are looking to deploy centralized unified access solution and network management.

24x7 intrusion detection and prevention, real time wireless RF environment monitoring, and automated alerts are key for CIOs. They are looking to amortize the cost of wireless infrastructure across a number of mobility applications including data, voice and video.

Higher security levels, including client and access point level, open standards technology, so that compatibility issues are resolved, complete coverage with minimum access points, and voice over Wi-Fi LAN are some major demands from CIOs.

The single overriding concern for a CIO should be to address security needs. They must adopt a 'no compromise' security policy. Enterprise will need to safeguard their business-critical intellectual property as well as safeguard customers data.

New Look WLAN

- The relatively new WLAN is growing at a rapid pace
- Enterprises are seeking ironclad security
- With 802.11 and WPA2 encryption, WLAN provides a very high level of security
- Enterprises add VoIP technology to wireless networks (VoWLAN)
- Collaboration between RFID and wireless leading to new mobility applications
- Wireless transmission Draft N with 2x3 and 3x3 radio transmission design is the hottest topic

Emerging Verticals

Wireless adoption in large enterprises, campus-wide deployments in educational institutions and even small and mid-size businesses are witnessing increased traction. The adoption of mobility solutions based on the wireless platform by verticals like hospitality, manufacturing, retail, real estate, government, etc, is also leading to increasing adoption of wireless. Service providers are offering managed services which enterprises are taking to in order to cut costs. This would help enterprises concentrate on their core competency.

Traditionally retail, warehousing, manufacturing, transport and logistic were early adopters but today education and healthcare verticals are also considering deployment of WLAN as a preferred medium for network access.

2009 will be a challenging year for the industry and the expectation is of 'more for less'. CIOs and network administrators are looking at means to extend every rupee spent on network infrastructure. Developing of wireless cities would be an area of focus this year too. The industry will continue to explore new opportunities and applications to improve business and enhance productivity through a mobile workforce.

Organizations which have dominated the scene will have to prove the worthiness of the premium they demand for the products. The key is to provide suitable solutions which will address the current requirements as well as result in significant cost savings.

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