In-Stat/MDR
LAN Research Panel Findings
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"WLAN Starts To Go Mainstream"

In April of 2002, In-Stat/MDR will publish the fourth installment of the LAN Research Panel Service in a report entitled "WLANs," which surveys members of In-Stat/MDR's panel of networking decision-makers at companies and organizations of various sizes and in a multitude of vertical industries. "WLANs" details and analyzes technology and market trends for wireless local area networking.

Although spread spectrum radio frequency modulation technology — the basis of wireless local area networking — has been available for over fifty years, it has only been within the last decade that the use of WLAN in the private sector has started to become mainstream. Acceptance has been slow, however, and WLAN is still considered to be in the early stages of growth. Factors that until recently slowed the rate of WLAN adoption included the lack of open standards for spread spectrum frequency modulation, proprietary hardware systems that were also expensive and bulky, slow transmission speeds, and difficult installation procedures. In short, customers really had to need or want mobility in their operations to justify the added expense, increased complication, and lower performance of WLANs, in contrast to traditional wired networks.

This situation has now begun to change, and two years ago WLAN shipments started to increase dramatically. Among the leading causes for the increased interest include the standards-setting efforts of the IEEE 802.11 task forces. Within 802.11 the 802.11b task force created a standard for DSSS-modulated 11Mbps, the 802.11a task force created a 54Mbps standard for the 5MHz band based on OFDM, and most recently the 802.11g task force has created a 54Mbps standard based on the same 2.4GHz frequency band as 802.11b. Additionally, the Wireless Ethernet Compatibility Alliance (WECA) has formed as an WLAN industry group to promote product interoperability and market awareness of WLAN through WECA's "Wi-Fi" 802.11b interoperability certification program.

WLANs provide several key benefits:

- Worker mobility, which is particularly relevant for certain vertical industries, such as healthcare and logistics, where workers need to be mobile in order to perform their duties.

- Relatively simple installation in SOHO environments, where installing new wiring may be undesirable.

- Reduced costs from moves, adds and changes of employees.

- Ability to provide fixed connections between buildings where the installation of new wires is either impractical or impossible.

However, WLAN does have certain drawbacks:

- Typically slower speeds than most wired networks, which are migrating to 100Mbps Fast Ethernet to the desktop.

- Security concerns arising from the inadequacies of WEP.

Hardly any of the panelists were in companies that used WLAN exclusively, and most companies and organizations represented in the panel still use only wired networking. However, slightly over 30% of panelists indicated that some WLAN was in use in their networks. WLAN is still heavily influenced by vertical industry usage: industries such as education, healthcare and hospitality typically see much greater adoption of WLAN, and this was reflected in our panel results.

The economic downturn of the last few years has had a decided impact on the timing of WLAN equipment purchases. While the first year of the downturn did not seem to be able to slow the growing tide of momentum for WLAN, the panel results show that the second year of the downturn has finally caused companies and organizations in the panel to factor in an extended timeframe for their planned adoption of WLAN. Most companies in the panel, and especially in the Enterprise segment, who plan to implement WLAN, plan to do so from 12-24 months from now. This is inline with companies generally pushing capex spending out to the period of time when an economic recovery is forecasted.

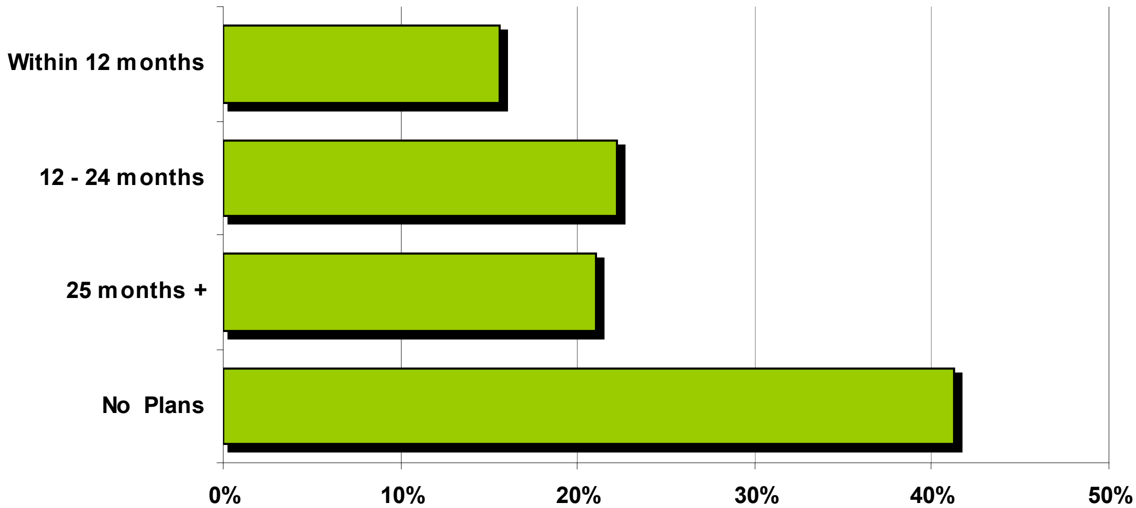
Likewise, most organizations represented in the panel plan to spend less than $50,000 to implement their WLAN systems. This is representative not only of current tight budgetary constraints, but also of an increasing downward trend in price points, as “low-end” vendors such as Linksys and BuffaloTech enter the market and volume production gears up. In-Stat/MDR expects further price decreases as IC component integration increases and more silicon and equipment vendors enter the market.

Among the group of panelist who plan to implement WLAN, the largest single percentage of panelists said their organizations will implement 802.11b. Surprisingly, overall slightly more panelists said their organizations would implement 802.11g than 802.11a. 802.11g has power usage advantages over 802.11a due to operating in the 2.4GHz band rather than the 5GHz band, as well as the advantage of being backward compatible with existing 802.11b systems. This would imply that panelists are currently taking a conservative approach and opting for new systems that will protect their current WLAN infrastructure systems. However, In-Stat/MDR believes that 802.11a will be dominant in Europe, displacing HiperLAN/2, once 802.11h is implemented and certain transmit power control and frequency selection features are added to 802.11a products. Additionally, 802.11a has the distinct advantage of a “clean” band at 5GHz, while 802.11g operates in the already crowded 2.4GHz band. And in fact, looking solely at the Enterprise segment of the panel, more large panel organizations will be implementing combo 802.11b/a devices and 802.11a devices than will choose 802.11g.

Basic corporate network access — both from within the LAN and remotely — were cited as key applications that would be used with WLAN. Heavy usage in vertical industries was also indicated by the high percentages of panelists who also selected bar code scanning, field service and shipping/receiving as key applications. As expected, laptops and PDAs were chosen by large percentages of the panelists as devices likely to be attached to the WLAN. However, desktops were also a key client device, second only after laptops.

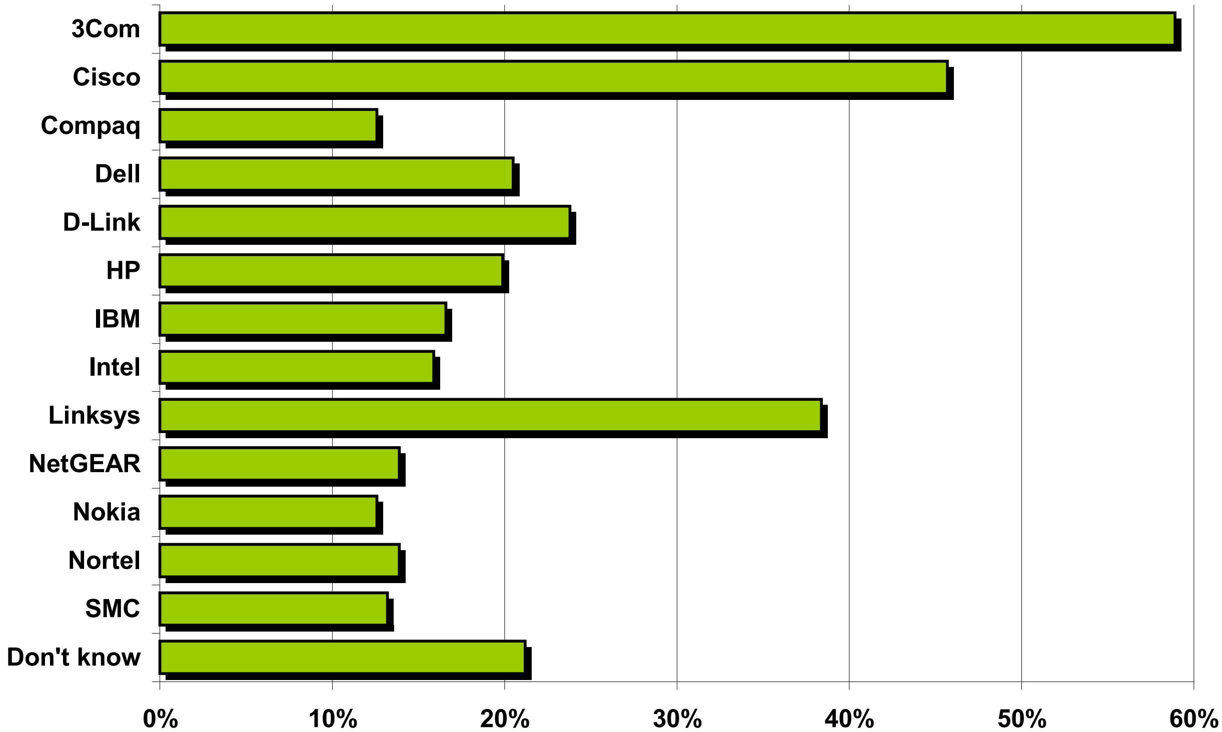
3Com, Cisco and Linksys are the three top vendors who would be selected for the purchase of WLAN equipment by companies and organizations represented in the panel. 3Com and Cisco are both “high-end” vendors selling feature-rich and relatively expensive equipment. 3Com’s high selection rating among the panel is somewhat surprising, since 3Com’s overall market share is actually fairly low. Linksys, along with other new vendors such as BuffaloTech and D-Link, sell more inexpensive gear and are starting to gain traction and take market share away from traditional high-end vendors such as Cisco.

To the best of your knowledge, does your company plan to implement wireless LAN technology in the future? (n = 257)



Source: In-Stat/MDR, 3/02

Which, if any, of the following vendors are being considered as suppliers of your company's wireless LAN? (m = 151; multiples accepted)



Source: Cahners In-Stat/MDR, 2/02