

The WLAN Revolution

Finding the right wireless solution for your company **By Kevin Eckel**

Is there a wireless LAN (WLAN) solution right for your company? Very often, the answer is yes.

However, there are a number of factors to consider before jumping into a wireless solution. These concerns include network security levels, bandwidth requirements and environmental factors. Choosing the right WLAN means finding the right component combination.

First, consider security. In the past, most WLAN had no security or utilized ineffective security systems. For example, on some systems, each network user was given the same authentication key to access the network. This made life easy for hackers — the keys were widely distributed and easy to steal.

The new WLAN systems generate individual keys for each user only after network authentication. These keys are temporary and last only until the user logs off the network. This makes life pretty hard for the hacker — keys are constantly changing and expiring.

But do you need the extra security? If you're a coffee shop offering customers the ability to jump on the Web while sipping a latte, using a system without heavy security may be fine. The cost of administering extra security may outweigh any benefits.

However if you are a bank, you should require authentication through a RADIUS server to a backend database with temporal keys. This system may be more complicated to administer, but it will help ensure your customers' personal information remains safely out of the reach of hackers.

Another consideration when choosing a WLAN is bandwidth. There are three bands available: A, B and G bands. The A band allows a 54mbps data rate and 8 nonoverlapping channels. If you have a large group of people in a small office doing data-intensive work, such as CAD workers, this may be a good choice for you.

The B band is an older band and should not be considered unless you already have B band equipment, as it only supports up to 11mbps on three channels.



G band gives you a 54mbps data rate; however, it only allows for three overlapping channels. But the G band's range is greater than the A band's. Another selling point for the G band is its compatibility with the older B band. If you currently use a B band WLAN, switching to G band is the cheapest, easiest upgrade. This band will satisfy most companies' WLAN needs.

After you've decided on the WLAN bandwidth and security level that's right for you, a site survey should help you understand where you will and won't have coverage. Many common office objects, such as microwave ovens, X-ray machines, fire doors and metal filing cabinets, can disrupt your WLAN, so you may have to rearrange or work around these objects. Be sure to express any concerns about coverage limits at the time of the site survey.

If you are concerned that a neighboring

office might receive your signal, be sure to let the site survey engineer know. Lower-gain antennas, reduced transmitter output and attenuators can be used to control the limits of your WLAN. Your solution should be customized for your organization's environment.

In short, there is a WLAN solution that is right for you. However, you must be choosy — all WLAN solutions are not created equal. Consider your security requirements and bandwidth needs, and enjoy the freedom of being wireless.



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