

## Small Networks - should they be wireless (WLAN) or wired? Part 1

As small businesses and homes seem to have increasing numbers of computers small peer to peer networks (vs. server networks) are becoming more popular. A LAN is a Local Area Network. It links computers to each other to share files, printers, instant messages, and internet connections - in the case of servers applications.

### The Pros and Cons at a Glance:

	Wireless	Wired
Security		Best
Cost	No clear winner	
Maintenance	Low	Low
Set-up		Best
Expansion	Best	
Troubleshooting		Best
"Noise Tolerance"		Best
Laptop use	Best	
Uptime		Best
Speed		Best

### No Simple Answer

Looking at the chart it may appear that a wired network is the clear winner but that isn't true. It really depends on your needs. Let's take a look at the individual factors.

When it comes to security a wired LAN is by far the best. To compromise the system, one has to have physical contact with it. This is not true with a wireless system.

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All one needs is proximity to the LAN - and a laptop with a wireless network card. Wireless LAN components come with security functions that are disabled by default. If you choose to install a wireless LAN you should enable all the security features available.

Costs for installing a LAN vary greatly. As a general rule, wireless equipment is more expensive than wired. However, there is no wiring costs involved in a wireless system. So if the distance is short and the route to the individual computers is relatively clear, then a wired system would be the low cost winner. But if the computers are on different floors or the building does not have suspended ceilings then a wireless system would be the low cost winner.

Both wired and wireless LANs should be low maintenance. Sometimes a wireless access point or card (NIC) will have to be reset. In a wired LAN a connection can come loose or contacts can become dirty but this is rare.

Setting up a wired LAN is relatively simple particularly with Windows XP®. All you need is a hub or switch (assuming you have more than two computers), wired connections, NICs (network interface cards). Windows 2000 Professional® and higher have a "New Connection Wizard" to help you setup a new network.

The major difference between wired and wireless LANs is that security MUST be setup on a wireless LAN. This includes WEP (wireless encryption protocol), SSID (service set identifier) which is the name of the LAN. Another consideration is signal strength. The location of the computer and/or access point may need to be adjusted to maximize signal strength. You may need an "aftermarket" antenna or a repeater for your installation though most do not need these.

With expansion, like security, there is a clear-cut winner - wire-

less. In a wireless LAN you just add another computer with a NIC and configure the NIC - it is fast and simple. With a wired LAN you need to run the wire (assuming you did not wire extra locations in the original installation and make sure you have an unused port on your hub or switch.



In the next issue we will continue to discuss the other factors in choosing a LAN.



You may interested to know what they call a LAN in Australia - a LAN down under (ugh) ... just had to do it.



If you have questions on this topic or would like assistance in designing and installing a LAN for your business or home, please call or email us at 303-679-1440 or [bob@rsblum.com](mailto:bob@rsblum.com) for immediate assistance.

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