

Chapter 2: Planning Your Wireless Network

The Repeater's Functions

Simply put, the Wireless-G Range Expander can increase the coverage area of an ESS.

Network Topology

A wireless local area network (WLAN) is exactly like a regular local area network (LAN), except that each computer in the WLAN uses a wireless device to connect to the network. Computers in a WLAN share the same frequency channel and SSID, which is an identification name for wireless devices.

Ad-Hoc versus Infrastructure Mode

Unlike wired networks, wireless networks have two different modes in which they may be set up: infrastructure and ad-hoc. An infrastructure configuration is a WLAN and wired LAN communicating to each other through an access point. An ad-hoc configuration is wireless-equipped computers communicating directly with each other. Choosing between these two modes depends on whether or not the wireless network needs to share data or peripherals with a wired network or not. If the computers on the wireless network need to be accessed by a wired network or need to share a peripheral, such as a printer, with the wired network computers, the wireless network should be set up in infrastructure mode.

The basis of infrastructure mode centers around an access point, which serves as the main point of communications in a wireless network. Access points transmit data to PCs equipped with wireless network cards, which can roam within a certain radial range of the access point. Multiple access points can be arranged to work in succession to extend the roaming range. If the wireless network is relatively small and needs to share resources only with the other computers on the wireless network, then the ad-hoc mode can be used. Ad-hoc mode allows computers equipped with wireless transmitters and receivers to communicate directly with each other, eliminating the need for an access point. The drawback of this mode is that, in Ad-Hoc mode, wireless-equipped computers are not able to communicate with computers on a wired network. And, of course, communication between the wireless-equipped computers is limited by the distance and interference directly between them.

