



## GLOSSARY

- 802.11** The IEEE standard that specifies carrier sense media access control and physical layer specifications for 1- and 2-megabit-per-second (Mbps) wireless LANs.
- 802.11a** The IEEE standard that governs the deployment of 5-GHz OFDM systems. It specifies the implementation of the physical layer for wireless UNII bands and provides four channels per 100 MHz of bandwidth.
- 802.11b** The IEEE standard that specifies carrier sense media access control and physical layer specifications for 5.5- and 11-Mbps wireless LANs.

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### A

- Access Point** A wireless LAN data transceiver that uses radio waves to connect a wired network with wireless stations.
- Ad Hoc Network** A wireless network composed of stations without Access Points.
- Alphanumeric** A set of characters that contains both letters and numbers.
- Associated** A station is configured properly to allow it to wirelessly communicate with an Access Point.

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### B

- Bandwidth** Specifies the amount of the frequency spectrum that is usable for data transfer. It identifies the maximum data rate that a signal can attain on the medium.
- Beacon** A wireless LAN packet that signals the availability and presence of the wireless device. Beacon packets are sent by access points and base stations; however, client radio cards send beacons when operating in computer to computer (Ad Hoc) mode.
- BOOTP** Boot Protocol. A protocol used for the static assignment of IP addresses to devices on the network.
- BPSK** A modulation technique used by IEEE 802.11-compliant wireless LANs for transmission at 1 Mbps.

<b>Broadcast key rotation</b>	A security feature for use with dynamic WEP keys. If your client adapter uses LEAP or EAP-TLS authentication and you enable this feature, the access point changes the dynamic broadcast WEP key that it provides at the interval you select.
<b>Broadcast Packet</b>	A single data message (packet) sent to all addresses on the same subnet.

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## C

<b>Cardbus</b>	Cardbus is a high-performance variation of the PC Card that can support the high data rates of 802.11a wireless adapter clients. Cardbus slots are reverse-compatible with PC Cards, but Cardbus cards only operate in Cardbus slots.
<b>CCK</b>	Complementary code keying. A modulation technique used by IEEE 802.11-compliant wireless LANs for transmission at 5.5 and 11 Mbps.
<b>Cell</b>	The area of radio range or coverage in which the wireless devices can communicate with the base station. The size of the cell depends upon the speed of the transmission, the type of antenna used, and the physical environment, as well as other factors.
<b>Client</b>	A radio device that uses the services of an Access Point to communicate wirelessly with other devices on a local area network.
<b>CSMA</b>	Carrier sense multiple access. A wireless LAN media access method specified by the IEEE 802.11 specification.
<b>Cyclic Redundancy Check (CRC)</b>	A method of checking for errors in a received packet.

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## D

<b>Data Rates</b>	The range of data transmission rates supported by a device. Data rates are measured in megabits per second (Mbps).
<b>dBi</b>	A ratio of decibels to an isotropic antenna that is commonly used to measure antenna gain. The greater the dBi value, the higher the gain, and the more acute the angle of coverage.
<b>DHCP</b>	Dynamic host configuration protocol. A protocol available with many operating systems that automatically issues IP addresses within a specified range to devices on the network. The device retains the assigned address for a specific administrator-defined period.
<b>Dipole</b>	A type of low-gain (2.2-dBi) antenna consisting of two (often internal) elements.

**Domain Name** The text name that refers to a grouping of networks or network resources based on organization-type or geography; for example: name.com—commercial; name.edu—educational; name.gov—government; ISPname.net—network provider (such as an ISP); name.ar—Argentina; name.au—Australia; and so on.

**DNS** Domain Name System server. A server that translates text names into IP addresses. The server maintains a database of host alphanumeric names and their corresponding IP addresses.

**DSSS** Direct sequence spread spectrum. A type of spread spectrum radio transmission that spreads its signal continuously over a wide frequency band.

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## E

**EAP** Extensible Authentication Protocol. An optional IEEE 802.1x security feature ideal for organizations with a large user base and access to an EAP-enabled Remote Authentication Dial-In User Service (RADIUS) server.

**Ethernet** The most widely used wired local area network. Ethernet uses carrier sense multiple access (CSMA) to allow computers to share a network and operates at 10, 100, or 1000 Mbps, depending on the physical layer used.

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## F

**File Server** A repository for files so that a local area network can share files, mail, and programs.

**Firmware** Software that is programmed on a memory chip.

**Full Duplex** A means of communication whereby each node receives and transmits simultaneously (two-way). See also [Half Duplex](#).

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## G

**Gateway** A device that connects two otherwise incompatible networks together.

**GHz** Gigahertz. One billion cycles per second. A unit of measure for frequency.

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## H

**Half Duplex** A means of communication whereby each node receives and transmits in turn (one-way). See also [Full Duplex](#).

**Hexadecimal** A set of characters consisting of ten numbers and six letters (0-9, A-F, and a-f).

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**I**

<b>IEEE</b>	Institute of Electrical and Electronic Engineers. A professional society serving electrical engineers through its publications, conferences, and standards development activities. The body responsible for the Ethernet 802.3 and wireless LAN 802.11 specifications.
<b>Infrastructure</b>	The wired Ethernet network.
<b>IP Address</b>	The Internet Protocol (IP) address of a station.
<b>IP Subnet Mask</b>	The number used to identify the IP subnetwork, indicating whether the IP address can be recognized on the LAN or if it must be reached through a gateway. This number is expressed in a form similar to an IP address; for example: 255.255.255.0.
<b>Isotropic</b>	An antenna that radiates its signal 360 degrees both vertically and horizontally in a perfect sphere.

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**L**

<b>LEAP</b>	LEAP, or <i>EAP-Cisco Wireless</i> , is the 802.1X authentication type that is available for use with operating systems that do not have EAP support. Support for LEAP is provided in the client adapter's firmware and the Cisco software that supports it, rather than in the operating system. With LEAP, a username and password are used by the client adapter to perform mutual authentication with the RADIUS server through an access point.
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**M**

<b>MAC Address</b>	Media Access Control address. A unique 48-bit number used in Ethernet data packets to identify an Ethernet device, such as an access point or your client adapter.
<b>MIC</b>	Message integrity check. MIC prevents bit-flip attacks on encrypted packets. During a bit-flip attack, an intruder intercepts an encrypted message, alters it slightly, and retransmits it, and the receiver accepts the retransmitted message as legitimate. The client adapter's driver must support MIC functionality, and MIC must be enabled on the access point.
<b>Modulation</b>	Any of several techniques for combining user information with a transmitter's carrier signal.
<b>Multicast Packet</b>	A single data message (packet) sent to multiple addresses.
<b>Multipath</b>	The echoes created as a radio signal bounces off of physical objects.

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**O**

- OFDM** Orthogonal frequency division multiplexing. A multicarrier modulation method for broadband wireless communications.
- Overrun Packets** Packets that were discarded because the access point had a temporary overload of packets to handle.

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**P**

- Packet** A basic message unit for communication across a network. A packet usually includes routing information, data, and sometimes error detection information.
- PC Card** A credit-card-sized card that plug into portable computers, and some desktop computers, to add and remove network adapters, modems, hard disks, and other devices without requiring that you open the box. These PC Cards conform to several standards set by the PCMCIA.

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**Q**

- QPSK** Quadruple Phase Shift Keying. A modulation technique used by IEEE 802.11-compliant wireless LANs for transmission.

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**R**

- Radio Channel** The frequency at which a radio operates.
- Range** A linear measure of the distance that a transmitter can send a signal.
- Receiver Sensitivity** A measurement of the weakest signal a receiver can receive and still correctly translate it into data.
- RF** Radio frequency. A generic term for radio-based technology.
- Roaming** A feature of some Access Points that allows users to move through a facility while maintaining an unbroken connection to the LAN.
- RP-TNC** A connector type unique to Cisco Aironet radios and antennas. Part 15.203 of the FCC rules covering spread spectrum devices limits the types of antennas that may be used with transmission equipment. In compliance with this rule, Cisco Aironet, like all other wireless LAN providers, equips its radios and antennas with a unique connector to prevent attachment of non-approved antennas to radios.

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**S**

- Spread Spectrum** A radio transmission technology that spreads the user information over a much wider bandwidth than otherwise required in order to gain benefits such as improved interference tolerance and unlicensed operation.
- SSID** Service Set Identifier (also referred to as Radio Network Name). A unique identifier used to identify a radio network and which stations must use to be able to communicate with each other or to an access point. The SSID can be any alphanumeric entry up to a maximum of 32 characters.

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**T**

- TKIP** Temporal Key Integrity Protocol. Also referred to as *WEP key hashing*. A security feature that defends against an attack on WEP in which the intruder uses the initialization vector (IV) in encrypted packets to calculate the WEP key. TKIP removes the predictability that an intruder relies on to determine the WEP key by exploiting IVs.
- Transmit Power** The power level of radio transmission.

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**U**

- Unicast Packet** A single data message (packet) sent to a specific IP address.
- UNII** Unlicensed National Information Infrastructure. An FCC regulatory domain for 5-GHz wireless devices. UNII bands are 100 MHz wide and divided into four channels when using 802.11a OFDM modulation.
- UNII 1** A UNII band dedicated to in-building wireless LAN applications. UNII 1 is located at 5.15 to 5.25 GHz and allows for a maximum transmit power of 40 mW (or 16 dBm) with an antenna up to 6 dBi. UNII 1 regulations require a nonremovable, integrated antenna.
- UNII 2** A UNII band dedicated to in-building wireless LAN applications. UNII 2 is located at 5.25 to 5.35 GHz and allows for a maximum transmit power of 200 mW (or 23 dBm) with an antenna up to 6 dBi. UNII 2 regulations allow for an auxiliary, user-installable antenna.

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**W**

- WEP** Wired Equivalent Privacy. An optional security mechanism defined within the 802.11 standard designed to make the link integrity of wireless devices equal to that of a cable.
- Workstation** A computing device with an installed client adapter.