GLOSSARY

802.3af	The IEEE standard that describes a mechanism for Power over Ethernet (PoE). The standard provides the capability to deliver both power and data over standard Ethernet cabling.
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 operating in the 2.4-GHz band.
802.11a	The IEEE standard that specifies carrier sense media access control and physical layer specifications for wireless LANs operating in the 5-GHz frequency band.
802.11b	The IEEE standard that specifies carrier sense media access control and physical layer specifications for 5.5- and 11-Mbps wireless LANs operating in the 2.4-GHz frequency band.
802.11g	The IEEE standard that specifies carrier sense media access control and physical layer specifications for 6, 9, 12, 18, 24, 36, 48, and 54 Mbps wireless LANs operating in the 2.4-GHz frequency band.
802.11n	An IEEE standard that builds upon previous 802.11 standards by adding MIMO (multiple-input multiple-output). IEEE 802.11n offers high throughput wireless transmission at 100Mbps – 200 Mbps.

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.
AES-CCMP	Based on the Advanced Encryption Standard (AES) defined in the National Institute of Standards and Technology's *FIPS Publication 197*, AES-CCMP is a symmetric block cipher that can encrypt and decrypt data using keys of 128, 192, and 256 bits. AES-CCMP is superior to WEP encryption and is defined in the IEEE 802.11i standard.
antenna gain	The gain of an antenna is a measure of the antenna's ability to direct or focus radio energy over a region of space. High gain antennas have a more focused radiation pattern in a specific direction.

ampdu	Aggregate MAC protocol unit. An A-MPDU is a structure containing multiple MPDUs transported as a single PSDU by the PHY.
associated	A station is configured properly to allow it to wirelessly communicate with an Access Point.

B

beacon	A wireless LAN packet that signals the availability and presence of the wireless device.
BID	Bridge identifier used in spanning tree calculations. The BID contains the bridge MAC address and its spanning tree priority value. If all bridges in the spanning tree are assigned the same priority, the bridge with the lowest MAC address becomes the spanning tree root.
BOOTP	Boot Protocol. A protocol used for the static assignment of IP addresses to devices on the network.
BPDU	Bridge protocol data unit. When spanning tree is enabled, bridges send and receive spanning-tree frames, called BPDUs, at regular intervals and use the frames to maintain a loop-free network.
BPSK	A modulation technique used by IEEE 802.11b-compliant wireless LANs for transmission at 1 Mbps.
broadcast packet	A single data message (packet) sent to all addresses on the same subnet.

C

CCK	Complementary code keying. A modulation technique used by IEEE 802.11b-compliant wireless LANs for transmission at 5.5 and 11 Mbps.
CCKM	Cisco Centralized Key Management. Using CCKM, authenticated client devices can roam from one access point to another without any perceptible delay during reassociation. An access point on your network acts as a subnet context manager (SCM) and creates a cache of security credentials for CCKM-enabled client devices on the subnet. The SCM's cache of credentials dramatically reduces the time required for reassociation when a CCKM-enabled client device roams to a new access point.
cell	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.

| **client** | A radio device that uses the services of an Access Point to communicate wirelessly with other devices on a local area network. |
| **CSMA** | Carrier sense multiple access. A wireless LAN media access method specified by the IEEE 802.11 specification. |

D

data rates	The range of data transmission rates supported by a device. Data rates are measured in megabits per second (Mbps).
dBi	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.
DFS	Dynamic Frequency Selection. In some regulatory domains, 5-GHz radios are required to use DFS to avoid interfering with radar signals.
DHCP	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.
dipole	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.

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. |

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.

G

gateway   A device that connects two otherwise incompatible networks together.

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

I

IEEE   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.

infrastructure   The wired Ethernet network.

IP address   The Internet Protocol (IP) address of a station.

IP Subnet Mask   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.

isotropic   An antenna that radiates its signal in a spherical pattern.

M

MAC   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.

MBSSID   Multiple basic SSID. Each multiple basic SSID is assigned a unique MAC address. You use multiple BSSIDs to assign a unique DTIM setting for each SSID and to broadcast SSIDs in beacons (one SSID per beacon).

modulation   Any of several techniques for combining user information with a transmitter's carrier signal.

multipath   The echoes created as a radio signal bounces off of physical objects.

multicast packet   A single data message (packet) sent to multiple addresses.

O

omni-directional   This typically refers to a primarily circular antenna radiation pattern.

**Orthogonal
Frequency Division
Multiplex (OFDM)**   A modulation technique used by IEEE 802.11a-compliant wireless LANs for transmission at 6, 9, 12, 18, 24, 36, 48, and 54 Mbps.

P

packet   A basic message unit for communication across a network. A packet usually includes routing information, data, and sometimes error detection information.

Q

**Quadruple Phase
Shift Keying**   A modulation technique used by IEEE 802.11b-compliant wireless LANs for transmission at 2 Mbps.

R

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.

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.

T

transmit power   The power level of radio transmission.

U

UNII   Unlicensed National Information Infrastructure—regulations for UNII devices operating in the 5.15 to 5.35 GHz and 5.725 to 5.825 GHz frequency bands.

UNII-1   Regulations for UNII devices operating in the 5.15 to 5.25 GHz frequency band.

UNII-2   Regulations for UNII devices operating in the 5.25 to 5.35 GHz frequency band.

UNII-3   Regulations for UNII devices operating in the 5.725 to 5.825 GHz frequency band.

unicast packet   A single data message (packet) sent to a specific IP address.

W

WDS   Wireless Domain Services. An access point providing WDS on your wireless LAN maintains a cache of credentials for CCKM-capable client devices on your wireless LAN. When a CCKM-capable client roams from one access point to another, the WDS access point forwards the client's credentials to the new access point with the multicast key. Only two packets pass between the client and the new access point, greatly shortening the reassociation time.

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.

WLCCP   Wireless LAN Context Control Protocol.

WLSE   Wireless LAN Solutions Engine. The WLSE is a specialized appliance for managing Cisco Aironet wireless LAN infrastructures. It centrally identifies and configures access points in customer-defined groups and reports on throughput and client associations. WLSE's centralized management capabilities are further enhanced with an integrated template-based configuration tool for added configuration ease and improved productivity.

workstation   A computing device with an installed client adapter.

WPA   Wi-Fi Protected Access (WPA) is the new interim security solution from the Wireless Ethernet Compatibility Alliance (WECA). WPA, mostly synonymous to Simple Security Network (SSN), relies on the interim version of IEEE Standard 802.11i. WPA supports WEP and TKIP encryption algorithms as well as 802.1X and EAP for simple integration with existing authentication systems. WPA key management uses a combination of encryption methods to protect communication between client devices and the access point.

Cisco IOS Command Reference for Cisco Aironet Access Points and Bridges