

ITRAINONLINE MMTK

Glossary: Wireless

AD HOC	The mode in which a wireless device connects to another wireless device directly, without an access point conducting the connection.
AES	Advanced Encryption Standard. Very strong Encryption algorithm used for high security requirements. Not only used in wireless.
AH	Authentication Header: part of the IPSEC protocol that authenticates the entire packet using a checksum.
ALF	Application Layer Filter
ANTENNA	Device that couples guided electromagnetic waves in a cable to unguided electromagnetic waves in free space and vice versa.
ACCESS POINT (AP)	Base station transmitter/receiver which connects wireless clients to the network.
APERTURE	Capturing area of an antenna. It is proportional to its physical dimensions and inversely proportional to the wavelength.
ASYMMETRIC BANDWIDTH THROTTLING	Mechanism implemented in WORM to allow adjustments to data rate that users receive and send to enable differentiated services to customers.
ATM	<p>Asynchronous Transfer Mode is a dedicated-connection switching technology that organizes digital data into 53-byte cell units and transmits them over a physical medium using digital signal technology. Individually, a cell is processed asynchronously relative to other related cells and is queued before being multiplexed over the transmission path. Because ATM is designed to be easily implemented by hardware (rather than software), faster processing and switching speeds are possible. The pre-specified bit rates are either 155.520 Mbps or 622.080 Mbps. Speeds on ATM networks can reach 10 Gbps.</p> <p>Definition taken from http://whatis.techtarget.com/definition/0,289893,sid9_gci213790,00.html</p>
AWG	American Wire Gage. Measure of thickness for wire used in U.S.
AWL	Automatic White List.
AZIMUTH	Horizontal angle with respect of the geographic north.
BAYESIAN FILTERING	A filtering technique to identify spam

BEAMWIDTH	Angular distance between the points at which the power transmitted or received by an antenna drops to half of the maximum power. Region where most of the energy transmitted by an antenna is contained.
BORESIGHT	Direction of maximum gain of an antenna.
BSS	Basic Service Set: communicating stations on a wireless LAN.
CCK	Complementary Code Keying.
CHANNEL	Wireless standards like 802.11a/b/g divide their spectrum range into a number of channels. Choosing a channel thus means: choosing a frequency.
CLAM AV	A GPL anti-virus toolkit designed for email scanning on mail gateways.
CRC	Cyclic Redundancy Check. A simple checksum used to detect errors in datagram.
CSMA/CA	Carrier Sense Media Access/Collision Avoidance. A media access protocol used by IEEE 802.11 (WLAN) that can not detect collisions.
CSMA/CD	Carrier Sense Media Access /Collision Detection. A media access protocol used by Ethernet that can detect collisions.
DAMA	Demand Assigned Multiple Access. A contention access scheme that allow multiple communications users to share a discrete portion of the bandwidth.
DECIBEL (dB)	A dimensionless relation between two entities, mostly used to measure and calculate power. Definition: $dB = 10 \times \log(P1 / P0)$
DES (TRIPLE-DES)	Data Encryption Standard. A widely used method of data encryption that uses a 40-bit and 56-bit key to encrypt and decrypt data.
DHCP	Dynamic Host Configuration Protocol. This is a protocol that allows a client to automatically receive networking parameters (address, mask, gateway, DNS) from a server (typically the router or wireless gateway).
DIFFRACTION	Diffraction is the apparent bending and spreading of waves when they meet an obstruction.
DIPOLE	Antenna made with two collinear wires fed at their meeting ends.
DIRECTIVITY	Capability of an antenna to focus the electromagnetic waves in a certain direction while reducing the radiation in other directions.
DMZ	Demilitarized Zone. Part of the network that is neither part of the internal network

nor directly part of the Internet. Basically a network sitting between two networks.

DNAT	Destination Network Address Translation.
DNSBL	DNS Blacklist.
DRIVER	Software that is used by the Operating System to be able to interface with each piece of hardware. Typically, drivers come on a CD with the equipment, or can be downloaded from the Internet.
DSL	Digital Subscriber Line. Set of technologies for transmitting data at high rates over traditional copper wires.
DSSS	Direct-Sequence Spread Spectrum DSSS. A transmission technology used in wireless LAN.
EFFICIENCY	Measure of the departure of an antenna from the ideal due to the finite resistance of the material, imperfections and so on.
ELECTROLYSIS	Lysis of a bond produced by the passage of an electric current.
ESP	Encapsulated Security Payload. The part of IPSEC which provides encryption of the payload.
ESSID	Extended Service Set Identifier (see also SSID).
ETHERNET	<p>A local-area network protocol developed by Xerox Corporation in cooperation with DEC and Intel in 1976. Ethernet uses a bus or star topography and supports data transfer rates of 10 Mbps. It served as the basis for the IEEE 802.3 standard, which specifies the physical and lower software layers. Ethernet uses the CSMA/CD access method to handle simultaneous demands. It is one of the most widely implemented LAN standards. A newer version of Ethernet, called 100Base-T (or Fast Ethernet), supports data transfer rates of 100 Mbps. And the newest version, Gigabit Ethernet supports data rates of 1 gigabit (1,000 megabits) per second.</p> <p>Definition taken from: http://www.upstreamcio.com/glossary.asp</p>
FHSS	<p>Frequency Hopping Spread Spectrum. A transmission technology in which the data signal is modulated with a narrowband carrier signal that "hops" in random but in a known sequence from frequency to frequency as a function of time over a wide band of frequencies. The signal energy is spread in time domain rather than chopping each bit into small pieces in the frequency domain. This technique reduces interference because a signal from a narrowband system will only affect the spread spectrum signal if both are transmitting at the same frequency at the same time. If synchronized properly, a single logical channel is maintained.</p> <p>Definition taken from http://www.webopedia.com/TERM/F/FHSS.html</p>
FRESNEL ZONE	In optics and radio communications, a Fresnel zone (pronounced as FRA-nel

Zone), named for physicist Augustin-Jean Fresnel, is one of a (theoretically infinite) number of a concentric ellipsoids of revolution which define volumes in the radiation pattern of a (usually) circular aperture. Fresnel zones result from diffraction by the circular aperture.

Definition taken from: http://www.absoluteastronomy.com/encyclopedia/f/fr/fresnel_zone.htm

FRONT TO BACK RATIO Ratio between the power transmitted or received in the front of an antenna to the corresponding in the opposite direction.

FTP File Transfer Protocol. Allows transfer of one or more files from one machine to another across the Internet.

GAIN Ratio between the amount of power transmitted or received by a given antenna and that of a reference antenna.

GPL GNU Public License: Implies free access to software published under its terms. Users are allowed to copy, modify, and redistribute GPL software.

GROUND An electrical path to earth which should have a low resistance, typically less than 5 ohm.

HARNESS Safety belt used for climbing and working securely in elevated locations.

HOTSPOT Area where the internet can be accessed from and an 802.11x enabled computer.

HTB Hierarchical token bucket – classful queueing discipline.

HUB A common connection point for devices in a network.

IBSS Independent Basic Service Set.

ICMP Internet Control Message Protocol. An error control mechanism in the IP layer.

IEEE Institute of Electrical and Electronics Engineers. A non-profit U.S. engineering organization which develops, defines, and reviews standards within the electronics and computer science industries.

IETF Internet Engineering Task Force

INFRASTRUCTURE MODE Infrastructure mode uses access points to allow wireless computers to send and receive information. Wireless computers transmit to the access point, the access point receives the information and rebroadcasts it to other computers. The access point can also connect to a wired network or to the Internet.

Definition taken from: <http://support.intel.com/support/wireless/wlan/sb/cs-008165.htm>

IKE Internet Key Exchange. An automatic security negotiation and key management service, used with the IPSEC protocols based on the Diffie-Hellman key

exchange protocol.

INTERFERENCE

Interference is the superposition of two or more waves resulting in a new wave pattern. As most commonly used, the term usually refers to the interference of waves which are correlated or coherent with each other, either because they come from the same source or because they have the same or nearly the same frequency. In wireless networking, it is often used in a wider sense, meaning all kinds of effects between signal and other radio sources.

Definition taken from: <http://en.wikipedia.org/wiki/Interference>

IP

Internet Protocol, also short for IP number.

IPSEC

Internet Protocol Security. A security protocol from the IETF that provides authentication and encryption over the Internet at IP level.

ISM

Industrial, Scientific, Medical. Name of the 3 frequency bands open and free of use without license. These include the 900Mh band, the "L band" 2.4 Ghz, and the 5GHz band.

ISO

International Standards Organization

LATENCY

Time taken to deliver a packet from the source to the receiver (i.e. delay).

LIGHTNING ROD

A metallic conductor that is attached to a high point and leads to the ground which protects the surrounding equipment/buildings from destruction by lightning.

LLC

Logical Link Control. Sub-layer of the Data-link layer (2), LLC is in charge of defining a common frame format for transmitting data between two devices sharing the same link.

LOS

Line of sight.

MAC

Medium Access Control. Sub-Layer of the Data-link layer (2), MAC address is a 48bits unique identifier for network interface cards, also referred as Physical Address.

MAN

Metropolitan Area Network. A high speed network spanning several kilometers.

MASONRY

Structure built of cement or brick.

MATCHED

Condition in which the antenna impedance is the same as that of the transmission line feeding it and therefore no power is lost.

MESH NETWORK, NETWORKING A mesh network is a network that employs one of two connection arrangements, full mesh topology or partial mesh topology. In the full mesh topology, each node is connected directly to each of the others. In the partial mesh topology, nodes are connected to only some, not all, of the other nodes.

MIB	Management Information Base. Used by SNMP to provide network management information and device control.
MRTG	Multi Router Traffic Grapher. A web-based network management tool to monitor and display network parameters evolving over time.
NAT	Network Address Translation. A mechanism used to share the same IP address for several clients connected. Originally designed to avoid the lack of IP addresses, NAT is now used in small/medium networks requiring basic Internet access, for simplicity.
NLOS	Non line of sight.
NOISE	In general usage, noise can be considered data without meaning; that is, data that is not being used to transmit a signal, but is simply produced as an unwanted by-product of other activities. In science, and especially in physics and telecommunication, noise is fluctuations in and the addition of external factors to the stream of target information (signal) being received at a detector. Definition taken from: http://en.wikipedia.org/wiki/Noise
NTOP	Web-based traffic measurement and monitoring application.
OFDM	Orthogonal Frequency Division Multiplexing. A modulation scheme used in IEEE 802.11a and HiperLAN2.
OMNIDIRECTIONAL	Antenna that radiates uniformly in a given plane.
OS	Operating System. The complete set of programs that allow the user to operate the computer. This is a generic name for all the Windows (98, 2000, XP, CE) family and also other families (UNIX, MACOS, IOS, JUNOS).
OSI	Open Systems Interconnection.
PING	Network command sending an ICMP request to another network interface and requesting an answer.
POLARIZATION	Direction of the electric field of an electromagnetic wave. Can be Linear (Vertical or horizontal), circular, or elliptical.
POP	Post Office Protocol. Protocol used by mail clients to retrieve messages from a mail server.
PORTSCAN	The act of probing a computer on a network for open ports to search for its vulnerabilities.
PSK	Phase-Shift Keying is a modulation technique in which the phase of the carrier is modulated by the state of the input signal.

PTP, PTMP	Point-to-point, Point-to-multipoint.
QOS	Quality of Service.
RADIATION PATTERN	Graph of the power transmitted or received by an antenna as a function of the spatial angle. Generally the vertical and horizontal radiation patterns are drawn separately.
RSL	Received Signal Level.
RSLI	Received Signal Level Indicator.
RTA	Real Time Application.
RTS/CTS	Request-to-send/Clear-to-send. Messages used in IEEE 802.11 to avoid collisions.
RX	Short for receive.
	Stochastic fairness queue – classless queueing discipline.
SFQ	
SIDELOBES	Regions in which an antenna transmits or receives power at a lower level than in the main lobe.
SIMPLE NETWORK MANAGEMENT PROTOCOL	Simple Network Management Protocol - standard for collecting statistical data about network traffic and behaviour of network components.
SNAT	Source NAT or Secure NAT (Microsoft).
SNR	Signal to Noise Ratio.
SPAMASSASSIN	An intelligent spam filter programme.
SPOOFING	Host claims to be another host in order to intercept packets by using the other host's IP address.
SPY	Host with its network card in promiscuous mode which enables capturing of packets independent of destination.
SSH	Secure Shell. A cryptographically strong replacement for rlogin, telnet, ftp, and other programs for remote access.
SSID	Short for service set identifier, a 32-character unique identifier attached to the header of packets sent over a WLAN that acts as a password when a mobile device tries to connect to the BSS.

In simpler words, it is the name you give to your Access Point network.

SSL	Secured Sockets Layer. A protocol that transmits data over the Internet in an encrypted form.
TCP	Transport Control Protocol. The transport level protocol used in the TCP/IP suite of communications protocols.
TDMA	Time Division Multiple Access. A digital wireless telephony transmission technique.
TROJAN HORSE	A seemingly innocent but in fact destructive program that can cause damage to your computer. Unlike viruses, Trojan horses do not replicate themselves.
TRUSS	A framework of beams forming a rigid structure.
TX	Short for transmit.
UDP	User Datagram Protocol. A connection-less, unreliable, transport protocol.
UV	Ultra Violet radiation. Part of the solar spectrum beyond the visible that has high energy.
VIRUS FINGERPRINT	<p>A virus signature is a unique string of bits, or the binary pattern, of all or part of a computer virus. The virus signature is like a fingerprint in that it can be used to detect and identify specific viruses.</p> <p>Definition taken from: http://en.wikipedia.org/wiki/Virus_signature</p>
VPN	<p>Virtual Private Network. Usually refers to a network in which some of the parts are connected using the public Internet, but the data sent across the Internet is encrypted, so the entire network is "virtually" private. A typical example would be a company network where there are two offices in different cities. Using the Internet the two offices merge their networks into one network, but encrypt traffic that uses the Internet link.</p> <p>Definition taken from: http://www.estoreready.com/glossary.html</p>
VSWR	Voltage Standing Wave Ratio. Index of the fraction of the transmitted power that is reflected back towards the transmission line.
WAN	Wide Area Network. It describes a network capable of covering thousands of kilometres.
WEP	Wired Equivalent Privacy. A link layer encryption protocol for IEEE 802.11. Still in use but considered obsolete by security experts.
WIFI	Wireless Fidelity.

WIMAX	Worldwide Interoperability for Microwave Access. Popular name for the IEEE 802.16 standard.
WISP	Wireless Internet Service Provider.
WORP	Wireless Outdoor Router Protocol – routing protocol developed by Proxim.
WPA	WPA (Wi-Fi Protected Access) is a wireless standard designed to improve upon the security features of WEP. It is designed to work with existing Wi-Fi products (as a software upgrade to existing WEP-capable hardware).