



Glossary “Network Technology”

Short Explanation of
Important Terms Used in
the Field of Ethernet and
Wireless Communication

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10Base-T	Standard for data transmission of 10 Mbps Ethernet using unshielded Category 3, 4 or 5 twisted pair cables
100Base-TX	Standard for data transmission of 100 Mbps Ethernet using Category 5 twisted pair cables. Each connection is established via two conductor pairs – one conductor pair to “transmit data” and the other one to “receive data”.
100Base-X	Fast Ethernet; 100Base-T has been officially elevated to an IEEE standard as ITU 802.3u. This standard is generally based on the technologies of 10Base-T, the Ethernet version for twisted pair cables. There are several recognized versions of 100Base-T, which differ with regard to the Physical Layer and therefore the transmission media: 100Base-TX, 100Base-T2, 100Base-T4, and 100Base-FX. All 100Base-T networks are designed with a star formation and are connected to a central hub. With this method, the MAC level and therefore the conventional CSMA/CD access method are retained at a transmission speed of 100 Mbps. As a result, only very short distances can be covered with 100Base-T and realtime applications cannot be implemented. If Category 5 twisted pair cables (UTP, STP) are used, the maximum segment expansion is 100 m; when using fiber optics it is 400 m.
100Base-FX	Standard for data transmission of 100 Mbps Ethernet using fiber optics
1000Base-LX	Standard for data transmission of 1000 Mbps Ethernet using fiber optics at a wavelength of 1300 nm
1000Base-SX	Standard for data transmission of 1000 Mbps Ethernet using fiber optics at a wavelength of 850 nm

A

Access Point	Component that forms the transfer point between the wired and wireless network (see also AP)
Aging	Method for updating data, especially in address tables (see Aging time)
Aging time	A learnt IP address of a device (source address) is deleted from a switch address table if no data telegrams are received from this source address within the aging time. The switch assumes that the device with the source address is no longer in the network.
AP	Access point – An AP provides the connection to the wired network for the access clients (AC). It is connected to all ACs within its wireless range and performs central tasks such as roaming or security functions.
Application Layer	Layer 7 in the ISO/OSI reference model, in which applications access network services. The Application Layer provides software-based services that can directly access the application.

ARP	Address Resolution Protocol (RFC-826) – ARP is used to determine the MAC address of a network device that belongs to an IP address. The determined assignments on the relevant computer are managed in the ARP table.
Auto Polarity	Device function which automatically corrects wiring errors of the interface 10Base-T or 100-Base-TX and reverses the polarity of the data signals
Autocrossing	A device with autocrossing automatically detects which type of device (DTE or DCE) should be used to establish communication. With this mechanism there is no need to distinguish between line and crossover connecting cables.
Auto-negotiation	In autonegotiation mode, an Ethernet device automatically sets itself to the data transmission rate (10 Mbps or 100 Mbps) and the transmission mode (half or full duplex) of the device it is connected to.

B

B-FOC (ST®)	Bayonet Fiber Optic Connector – Standardized fiber optic connector for multi-mode and single-mode fibers at 10 Mbps, also referred to as an ST connector. The connector is secured with bayonet locking.
Bluetooth	Industrial standard of 1990 for the wireless networking of devices over short distances. Bluetooth provides a wireless interface to replace cable connections between devices.
BootP	The Bootstrap Protocol is directly based on the User Datagram Protocol (UDP) in terms of its application. Communication takes place via a single data packet according to the client/server principle. In addition to the server IP address, the client can also request the IP address of the next router, the IP address of a specific server or the name of the server's boot file. In the manufacturer-specific part, specially defined information can also be transmitted.
BPDU	Bridge Protocol Data Unit – Signaling packets between switches that are used with Spanning Tree
Bridge	Device for connecting two separate networks. The incoming data packets are filtered using the destination address and are forwarded to the second network or rejected. Bridges connect subnetworks according to the ISO/OSI reference model using protocols on Layer 2.
Broadcast	Broadcast to all devices in the network that is not transmitted via the router and bridges
Browser	Computer program used to view Internet pages (text, images) on a monitor
Bus	A bus, or fieldbus, is an industrial communication system that connects different devices, sensors, actuators and drives to a control system. The fieldbus technology was developed in the 1980s to replace the wiring of binary signals and analog signal transmission with digital transmission technology.

C

CAN	Controller Area Network – Asynchronous, serial bus system, which was developed in 1983 in order to network control devices in automobiles
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CANopen	Communication protocol based on CAN that is mainly used in automation technology and for networking within complex devices. CANopen is widely used in Europe.
Client	Hardware or software component that accepts services from a server. The client is always the service requester.
Collision domain	The CSMA/CD access method limits the runtime of a data packet between individual devices. Depending on the data rate, a physically restricted network – the collision domain – is established.
COM server	Termination device in TCP/IP networks, which provides interfaces for serial devices via the network
Connection mirroring	see Port mirroring
Crossover cable	Cable configuration that connects two devices of the same type (DTE/DTE and DCE/DCE). The connector pin assignment is different at the cable ends so that transmit cables can be connected to receive cables.
CSMA/CD	Carrier Sense Multiple Access with Collision Detection – Method for dealing with data collisions in wired networks. A station ready to transmit checks if the transmission medium is free (carrier sense). It then starts transmitting and simultaneously checks if other stations (multiple access) are also transmitting data. If two or three stations are transmitting data at the same time, there will be a collision. The stations will then stop transmitting (collision detection) and try to transmit again after a random time.
cUL 1604	US safety standard for electrical equipment in potentially explosive environments
cUL 508	US safety standard for industrial control equipment

D

DALI	Digital Addressable Lighting Interface – Control protocol for digital, optic devices in building automation systems. DALI uses a serial, asynchronous data protocol with a transmission rate of 1200 bps. The control cable is electrically isolated, polarity-free and thus without the risk of polarity reversal.
DCE	Data Communication Equipment – Infrastructure components in a communication path, e.g., modem, hub, switch. DCE devices can be connected directly, i.e., with 1:1 cables, to DTE devices. Direct connection of two DTE devices can only be implemented using crossover cables.
DCP	Device Control Protocol – Protocol for reading out network devices via their names and assigning names and IP addresses
DeviceNet TM	Low-cost industrial network using CAN technology. It connects industrial I/O components to the control systems or PCs.
DHCP	Dynamic Host Configuration Protocol – Automatic, dynamic, and usually temporary assignment of IP addresses from a defined address area

DNS	Domain Name System – System that assigns host names, internet addresses in plain text and IP addresses to one another. As a data source for implementation, the DNS server or files with the designation “hosts” are used.
DTE	Data Terminal Equipment – Termination devices that are always installed at the start and end of a communication path, e.g., PLC or PC. Direct connection of two DTE devices can only be implemented using crossover cables.
Dynamic DNS	Dynamic DNS that assigns the same name while IP address changes

E

EIA	Electronics Industry Association – American association for the standardization of interfaces and communication applications
Ethernet	Network standard developed by Intel, DEC, and Xerox since 1976, which has been widely used, especially in LANs. The Ethernet standard contains specifications on the network architecture (bus or star topology), hardware (e.g., cabling with coaxial or twisted pair cables), transmission and access methods.

F

Fast Ethernet	Standardized in the IEEE 802.3 in 1995. Fast Ethernet is operated using Category 5 copper cables or fiber optics at a transmission rate of 100 Mbps.
FCC	Federal Communications Commission – US agency that manages and assigns the frequency spectrum on a local, regional and national level
FCC CFR47 Part 15	Federal Communications Commission of Federal Regulations – Standard on noise emission for information technology equipment
FCS	Frame Check Sequence – Term for a bit field for saving user data in bit-oriented protocols. Sender and receiver use a determined algorithm to form and compare a checksum. This procedure is used to detect errors in data transmission.
FDCML	Field Device Configuration Markup Language – XML-based, flexible language for describing field devices. In this language, information on the manufacturer, device type, configuration and device parameter are described.
Fiber optic cable	Transmission medium with an inner conductor made from glass or plastic and several sheaths as protection against mechanical strain
Firewall	Firewalls are network components that use special protocols to monitor and restrict requested services, the data they contain, and the direction of information flow. Access rights can be defined depending on authentication and identification. Firewalls can also be used to encrypt data.

FO	Fiber optics – See Fiber Optic Cable
F-SMA	Fiber optics connector for POF and HCS fibers that can be connected using fast connection technology
FTP	File Transfer Protocol – TCP/IP protocol for file transmission. To transfer files via FTP, a connection must be established between the client and an FTP server. To log into this server, an access ID and corresponding password must be entered. By default upon delivery the password for read-only access is “public” and the password for read/write access is “private”.
Full duplex	Concurrent, independent sending and receiving of data

G

GARP	Generic Attribute Registration Protocol – Term for a protocol range that serves for exchanging parameters between switches on Layer 2 of the ISO/OSI reference model. At the moment, there are the protocols GMRP and GVRP.
Gateway	Technical equipment that enables a transition between different networks (e.g. between Ethernet and Interbus). Gateways are protocol converters that convert received data to another protocol.
GBIC	Gigabit Interface Converter – See SFP
Gbps	Giga bit per second
Gigabit Ethernet	Extremely fast Ethernet data network, which is standardized according to IEEE 802.3 and is based on a transmission speed of 1000 Mbps with a variable packet length of 64 to 1518 bytes
GL	Germanic Lloyd – Approval for the use in maritime applications
GMRP	GARP Multicast Registration Protocol
GSD	General Station Description – In order to be able to integrate the components needed in an automation solution, a range of information on the device must be provided in the various engineering steps. In the Profinet system, this kind of device description is imported into the engineering system as a GSD file in XML format. For this, the GSD high-level language (markup language) GSDML is used. In the engineering system, the GSD file operates as a basis for planning the configuration of a Profinet IO system.
GSDML	GSD Markup Language – XML-based high-level language for GSD files
GVRP	GARP VLAN Registration Protocol – A protocol that switches can use to exchange information with the VLANs. If a VLAN is set on a switch, the switch sends this information to all other switches in the network. These are able to, e.g. integrate the port the information was received at as a VLAN device.

H

Half duplex	Data transmission in both directions, but not at the same time
HASH	Checksum for checking the integrity of a piece of information
Header	Start of a data packet that contains information on packet size, transmission type and sender and receiver addresses
HFI	Programming interface for Interbus users for developing control applications for Interbus-PC controller boards in a high-level language
HTML	Hypertext Markup Language – Standardized description language for WWW pages. So that HTML documents can be displayed by all popular computers, operating systems, and browsers, they only contain ASCII text. “Formatting” and “commands” are placed in angular brackets so that the browser can distinguish them from the actual content. The HTML standard was introduced by the World Wide Web Consortium (W3C) in Geneva, Switzerland.
HTTP	Hypertext Transfer Protocol – Protocol that controls the exchange of data between a web server and a web client. HTTP is based on TCP/IP.
HTTPS	Hyper Text Transfer Protocol Secure – Data exchange where each packet of information is encrypted
Hub	Center of a star structure that forwards received data to all ports and uses CSMA/CD to ensure collision-free data transmission. A hub is always used in half duplex mode.

I

ICMP	Internet Control Message Protocol – Protocol for detecting errors when transmitting IP data packets
IE	Industrial Ethernet – In automation technology, IE imposes increased requirements on network availability, network security and environmental conditions of the Ethernet components.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers – US-American association for developing standards with the focus on information technology
IGMP	Internet Group Management Protocol – Protocol on Layer 3 that informs multicast group devices on neighbored routers
IGMP Snooping	Internet Group Management Protocol snooping – Function where Layer 2 switches check IGMP packets and forward them according to which group the packet belongs to
IP	Internet Protocol – Operates on Layer 3 of the ISO/OSI reference model and enables the connection of devices positioned in different networks

IP address	Unique device address in the Ethernet made up of four numbers between 0 and 255 (32 bits) separated by dots (decimal dotted notation). The IP address is assigned by the network administrator and consists of two parts: the network address and the host address.
IPsec	Internet Protocol Security Standard – IPsec enables the authenticity of the sender, and the integrity and confidentiality of the data to be maintained through encryption when sending IP telegrams. IPsec consists of the Authentication Header (AH), Encapsulating Security Payload (ESP), Security Association (SA), and Internet Key Exchange (IKE).
IPv4	Internet Protocol Version 4 – Has an address range of 4 bytes
IPv6	Internet Protocol Version 6 – Continuous further development of Version 4 (IPv4), offers significantly extended addressing options and improved security aspects
ISO	International Standards Organization – Head of national standardization associations with more than 200 committees of experts
ISO/OSI reference model	Seven-layer model for network architecture for data communication. Each layer defines services and provides them to higher layers.

J

Jabber	Telegram with invalid CRS and/or a length of more than 1536 bytes sent to the network by a station. Reasons for the transmission of jabbers are mostly defect network cards or drivers.
Jitter	Signal deformations and skew in the received signal compared to the sent signal

L

L2TP	Layer 2 Tunneling Protocol – Serves for creating a VPN tunnel on Layer 2. See also IPsec.
LAN	Local Area Network – Network of computers, which share applications, data, printers, and other services. The physical expansion is limited to a local area, i.e., a building or a group of buildings.
Latency	Delay time between a device receiving data and forwarding it again after processing
Link aggregation	Function in which up to four ports are connected in parallel to form a virtual port to provide redundancy and considerably increase data throughput
Link status	The device sends regular link status pulses to the ports of connected partner devices to monitor the validity of the connection with these partner devices.
LLDP	Link Layer Discovery Protocol – Automatic topology detection to identify adjacent components. For this, the devices exchange LLDP packets and save them to neighboring tables.

Long Haul Module	Also LX-LH module – Optical transceiver used in combination with single-mode fibers, enabling data transmission over very large distances
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M

MAC	Media Access Control – Common term for the type of access to the transmission medium
MAC address	Globally unique ID for a network component that cannot be modified and comprises eight bytes and a manufacturer ID
MAC address table	Address table of a switch in which is stores the information to which port a data packet has to be sent. In the address table, a MAC address is assigned to the port. Via this MAC address, the respective device can be reached. The table is updated regularly.
Mbps	Mega bit per second
MDI	Media Dependent Interface – Ethernet connection, which can be connected directly to other infrastructure components without the need for special crossover cables. These connections are often referred to as “uplinks”.
MDI-X	Media Dependent Interface Crossover – Ethernet connection, which can be connected directly to termination devices such as PCs or PLCs
MIB	Management Information Base – Database containing the objects and variables of monitored network components, which are required for network management via SNMP
Mirroring	Integrated Web server function. See Port mirroring
MRP	Media Redundancy Protocol – Redundancy protocol as part of the Profinet IEC 61158 standard. Ensures switch-over times from 200 to 500 ms in a ring structure.
MTBF	Mean Time Between Failures – Average time a system operates without an error occurring
Multi Mode Module	Also: SX module. Optical transceiver used in combination with multi-mode fibers. Serves for the transmission over medium distances.
Multicast	Sending data packets from a sender to a defined group of receivers. This logically created group receives a group address from the area reserved for multicasts.
Multicast address	Telegrams with a multicast address can be received by several devices, which are ready to receive for this address.

N

NAT	Network Address Translation, also called IP masquerading. The NAT router forms the connection between the Internet (external) and entire networks (internal). Externally, only the NAT router with its IP address is documented. All connections from the inside to the outside or vice versa run via the NAT router, which manipulates the corresponding entries in the data telegrams. NAT routers can be used to provide a certain degree of protection for the internal network.
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Network management	Network management is carried out by the administrator using software (e.g., Factory Manager from Phoenix Contact) that enables configuration, optimization, monitoring and diagnosis of the network.
NIC	Network Interface Card – Adapter card, which is integrated in a PC and provides the necessary software/hardware for communication via a network

O

ODVA	Open Device Vendor Association – Association promoting the worldwide use of DeviceNet and EtherNet/IP network technologies and standards in industrial automation
OLE	Object Link and Embedding – Central architecture in Windows
OPC	OLE for Process Control – Standard Windows interface for exchanging process data and status information
OSI	Open System Interconnection – Open structure for networking various devices from different manufacturers

P

PAN	Personal Area Network – Network that can be used to immediately establish/break down small devices such as PDAs or mobile phones. PANs can be installed using wired transmission methods such as USB and FireWire, or wirelessly using, e.g. Bluetooth. Usually, the range is only a couple of meters, so that the devices can communicate.
Physical layer	Layer 1 in the ISO/OSI reference model, which defines the type of wiring and transmission as well as the regulation of the bit current via a cable
Ping	Packet Internet Groper – Data packet used to measure the reliability of a network connection and the response time of a server. The ping port of the server is contacted via a client. As soon as the server responds, the client calculates the elapsed time in milliseconds. In order to receive realistic results, pings with different byte sizes can be sent (Factory Manager: 1 byte to 32 bytes).
PLC	Programmable logic controller – Electronic module for open and closed-loop control tasks in industrial environments
PoE	Power over Ethernet – Describes the option of transmitting data and power via a common cable and even via common wires
POF	Polymer optical fiber, see Polymer fiber
Polymer fiber	Plastic fiber optics with a diameter of 980/1000 µm that can be easily assembled using F-SMA fast connection technology
Port	Interface/Ethernet slot for data transmission to infrastructure components or termination devices

Port mirroring	Function in which transmitted data from a port is copied (mirrored) to another port, e.g., for diagnostic purposes
Port security	Function which prevents unauthorized access to the network. In suitable switches MAC addresses can be specified, which are permitted to access the network. All other addresses are denied access.
Powerlink	Protocol expansion of the Ethernet standard according to IEEE 802.3 to transmit real-time data in automation technology within microseconds
PPP	Point-to-Point Protocol – Successor of the SLIP protocol. Enables data transmission via permanent and dial-up line connections in analog and digital fixed-line and cellular phone networks. PPP is used when the PC is connected to the Internet via telephone lines.
PPPoE	Point-to-Point Protocol over Ethernet
Prioritizing	Predefined criteria are used to transmit some data packets faster than others
Profibus	Standard open fieldbus system according to EN 50170
Profinet	Ethernet standard for seamless communication from the field to the control level
Profinet IO	A Profinet IO system consists of the following devices: <ul style="list-style-type: none"> – IO controller as control system which controls the automation task – IO device as field device that is controlled by an IO controller – a software that is used to parameterize and diagnose individual IO devices
PSE	Power Sourcing Equipment – Describes power-supplying devices (e.g. Switch). The IEEE P802.3af standard defines the power supply via an Ethernet twisted pair cable.

Q

QoS	Quality of Service – Collective term for quality classes for network services. Considers speed, bandwidth, delay, security or priority.
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R

RADIUS	Remote Authentication Dial-In User Service – Used to protect authentication in wireless networks
Redundancy manager	Part of the Hiper ring proprietary redundancy mechanism
RFC	Request for Comments – Standardization document from the Internet research and development group, e.g., for the definition of protocols or services
RJ45	The RJ45 plug-in connection was originally developed in 1980 by AT&T for 3 MHz, and was accepted as a standard in cabling standards EN 50173-1 and FSO 11801.

RMON	Remote Monitoring – RMON is a subset of SNMP MIB II and enables the monitoring and management of network devices using ten different information groups.
Router	Connecting element, which acts on Layer 3 of the ISO/OSI reference model between different networks. The destination IP address is used to determine which network the packet should be forwarded to.
Routing	Specifying the optimum data transport path through all networks
Routing table	Saves all path information regarding the devices that are the basis for deciding how the packet is to be forwarded
RS-232 Interface	The serial interface defined in the American standard EIA-232 and the international standard CCITT V.24 implements data transmission between two devices (point-to-point connection) in full duplex mode. The maximum transmission speed is 115.2 kbps, and the maximum transmission length is 15 m. See DCE, DTE.
RS-485 Interface	The serial interface defined in the American standard EIA-485 offers an option for multipoint connections of up to 32 devices. The transmission rate is 10 Mbps maximum, the transmission length 1200 m maximum. There are RS-485 interfaces in 2-wire and 4-wire technology. For 2-wire technology, data transmission in half duplex mode, for 4-wire technology, data transmission in full duplex mode is possible.
RSTP	Rapid Spanning Tree Protocol – Redundancy mechanism according to IEEE 802.1W, which supports any structure

S

SCADA	Supervisory Control and Data Acquisition – Term for systems for controlling and visualising processes
SCRJ	Interface module for use in the Modular Managed Switch with diagnostic option and connection options for polymer fibers or HCS
SFP	Small Form Pluggable – Optical interface for flexible use of different glass fiber modules. The standardized interfaces for Gigabit applications can be replaced during operation.
Single Mode Module	Also: LX module. Optical transceiver used in combination with single-mode fibers. Serves for the transmission over large distances.
SNMP	Simple Network Management Protocol – Manufacture-independent standard for managing Ethernet networks. SNMP consists of three parts: the protocol itself, the Structure of Management Information (SMI), and the Management Information Base (MIB). The protocol transfers the data, which is defined and collected by the SMI and MIB.
SNTP	Simple Network Time Protocol – Protocol for time synchronization with an accuracy of 1 to 50 ms
SOHO	Small Office Home Office – Network solutions and Internet access technologies for small offices or home offices

Spanning Tree algorithm	Spanning Tree is a method for suppressing loops in (redundantly) connected networks. The physically redundant network structures are determined and a loop-free structure is created by disconnecting specific ports. This measure reduces the active connection paths in any meshed structure. The resulting tree structure has two key properties: All networked points (ports) are only connected together by a single path. The algorithm is implemented in the relevant devices, and each switch uses defined quality criteria to calculate the path to the root switch. Possible quality criteria include distance, capacitance, cost, load, etc.
Store-and-forward switch	Switching technology where the entire data packet is read and checked for errors before it is forwarded
ST connector	See B-FOC (ST®) connector, registered trademark of AT&T
Subnet mask	The subnet mask specifies which part of the IP address is used as the subnet address. Example: in a Class A network (subnet mask 255.0.0.0) the first field is the IP address of the subnetwork. The IP address is 207.142.2.1. Thus, the subnet address is 207.0.0.0 and the device address is 142.2.1.
Switch	Connects areas of the network, which for example operate at different speeds (10 or 100 Mbps) or keeps areas with very large data volume separate from other areas of the network. The switch can determine the area of the network to which data packets are addressed and only forwards them to another segment if required. This increases the useful total bandwidth of the network.

T

TAG field	Optional field in the Ethernet telegram which contains information on the priority of user data and assignment to a VLAN
TCP/IP	Transmission Control Protocol – TCP uses IP and ensures that data is correct and data packets are transmitted in the right order
TCP/IP stack	Part of the operating system or a driver, which provides all the drivers and functions required to support the IP protocol
Telnet	Terminal over Network – Standard protocol which is used to establish an interactive connection to other devices via Ethernet. Telnet is based on TCP/IP as transmission and security protocol.
TFTP	Trivial File Transfer Protocol – This protocol, which only uses few commands like “read” and “write”, is suitable for transmitting entire files. TFTP is mainly used for configuring networks or loading operating systems.
TIA/EIA	Telecommunications Industry Organisation / Electronic Industries Association – Private American Organisation for Standardization
TP	See Twisted Pair

Transmission speed	Number of bits transmitted per time unit
Trap	Traps are SNMP alarm and event messages, which are transmitted with maximum priority to various addresses (if required) and can then be displayed by the management station in plain text.
Trap targets	Targets that evaluate traps (alarm or event messages)
Trunking	See Link Aggregation
Tunneling	Also: Encapsulation – Describes the encapsulation of data into a data packet of another protocol of the same OSI layer
Twisted Pair	Data line in which pairs of data wires are twisted together. Twisting the forward and return lines greatly reduces the crosstalk ratio. A distinction is made between STP (Shielded Twisted Pair) and UTP (Unshielded Twisted Pair).
TX	Transmitter – Marker for transmitter ports and transmission power of a transmitter without taking into account the packing or radiation due to antenna design

U

UDP	User Datagram Protocol – Connectionless protocol, which is based on IP but does not use any security measures. UDP supports higher speeds for data transmission.
UNICAST	A certain receiver receives a message.

V

VLAN	Virtual Local Area Network – Virtual network for the creation of separate logical networks, which can be connected together physically
VPN	Virtual Private Network – Connects several separate networks together via a public network, e.g., the Internet. Confidentiality and authenticity are ensured using cryptographic protocols.

W

WEP	Wired Equivalent Privacy – Encryption method based on RC4 for Wireless LAN (Note: WEP has been completely compromised).
WEP 64-bit	Wired Equivalent Privacy – Encryption method based on RC4 for Wireless LAN (Note: WEP has been completely compromised).
Wi-Fi	Wireless Fidelity – Technology to increase security in wireless networks, which was developed by a group of manufacturers led by Microsoft
Wire speed	Term for forwarding data at cable speed
WLAN	Wireless Local Area Network – Network which operates without cables/lines according to IEEE standards

WPA	Wi-Fi Protected Access – Authentication method with dynamic key exchange. WPA1 is based on RSA RC4 and WPA2 is based on AES.
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X

XML	Extensible Markup Language – Meta language for displaying hierarchically structured data in text files. XML is preferably used for data exchange between different IT systems.
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