

Terms and acronyms in Future Mobile Phones

ADSL	Asymmetric Digital Subscriber Line	A data communications technology that enables faster data transmission over copper telephone lines than a conventional modem can provide. The access utilises the 1.1 MHz band and has the possibility to offer, dependent of subscriber line length, downstream rates of up to 8 Mb/s. Upstream rates start at 64 kb/s and typically reach 256 kb/s but can go as high as 768 kb/s.
BT	Bluetooth	Bluetooth is an industrial specification for wireless personal area networks (PANs). Bluetooth provides a way to connect and exchange information between devices like personal digital assistants (PDAs), mobile phones, laptops, PCs, printers and digital cameras via a secure, low-cost, globally available short range radio frequency.
CDC	Connected Device Configuration	CDC is a larger subset of J2SE, containing almost all the libraries that are not GUI related. CDC is based on the cVM (compact Virtual Machine)
CLDC	Connected Limited Device Configuration	The CLDC contains a strict subset of the Java class libraries and is the minimal needed for a Java virtual machine to operate. CLDC is based on the kVM (kilo Virtual Machine). CLDC is basically used to classify the myriad of devices into a fixed configuration.
CIFS	Common Internet File System	CIFS defines a standard remote file system access protocol for use over the Internet, enabling groups of users to work together and share documents across the Internet or within corporate intranets. CIFS is an open, cross-platform technology based on the native file-sharing protocols built into Microsoft® Windows® and other popular PC operating systems, and supported on dozens of other platforms. With CIFS, millions of computer users can open and share remote files on the Internet without having to install new software or change the way they work.
DHCP	Dynamic Host Configuration Protocol	DHCP is a client-server networking protocol. A DHCP server provides configuration parameters specific to the DHCP client host requesting, generally, information required by the client host to participate on an IP network. DHCP also provides a mechanism for allocation of IP addresses to client hosts. DHCP appeared as a standard protocol in October 1993. RFC 2131 provides the latest (March 1997) DHCP definition. The latest standard on a protocol describing DHCPv6, DHCP in an IPv6 environment, was published in July 2003 as RFC 3315
DM	Device Management	Device Management is the generic term used for technology that allows third parties to carry out the difficult procedures of configuring mobile devices on behalf of the end user (customer). Third parties would typically be wireless operators, service providers or corporate information management departments. Through device management, an external party can remotely set parameters, conduct troubleshooting servicing of terminals, install or upgrade software.
GSM	Global System for Mobile Communications	GSM is the most popular standard for mobile phones in the world. GSM phones are used by over a billion people across more than 200 countries. The ubiquity of the GSM standard makes international roaming very common between mobile phone operators which enables phone users to access their services in many other parts of the world in addition to their own country. GSM differs significantly from its predecessors in that both signalling and speech channels are digital, which means that it is seen as a second generation (2G) mobile phone system. This fact has also meant that data communication was built into the system from very early on. GSM is an open standard which is currently developed by the 3GPP.
HLR	Home Location Register	The HLR is a central database that contains details of each mobile phone subscriber that is authorized to use the GSM core network. More precisely, the HLR stores details of every SIM card issued by the mobile phone operator. Each SIM has a unique identifier called an IMSI which is one of the primary keys to each HLR record. The next important items of data associated with the SIM are the telephone numbers used to make and receive calls to the mobile phone, known as MSISDNs. The main MSISDN is the number used for making and receiving voice calls and SMS, but it is possible for a SIM to have other secondary MSISDNs associated with it for fax and data calls. Each MSISDN is also a primary key to the HLR record.

IEEE 802.11		Refers to a family of specifications developed by the IEEE for wireless local area networks. It also refers to the “Wireless LAN working group” of the IEEE 802 project. 802.11 specifies an over-the-air interface between a wireless client and a base station or between two wireless clients. The IEEE accepted the specification in 1997. There are several specifications in the 802.11 family, including i) 802.11 – provides 1 or 2 Mbit/s transmission in the 2.4 GHz band; ii) 802.11a – an extension that provides up to 54 Mbit/s in the 5 GHz band. It uses an orthogonal frequency division multiplexing encoding scheme rather than FHSS or DSSS; iii) 802.11b provides 11 Mbit/s transmission in the 2.4 GHz band and was ratified in 1999 allowing wireless functionality comparable to Ethernet; iv) 802.11g provides 20+ Mbit/s in the 2.4 GHz band; v) 802.11z is a method for transporting an authentication protocol between the client and access point, and the Transport Layer Security (TLS) protocol. More variants are also under preparation, including support of 100 Mbit/s traffic flows. http://www.ieee802.org/11
IMAP	Internet Message Access Protocol	The Internet Message Access Protocol (commonly known as IMAP, and previously called Interactive Mail Access Protocol) is an application layer Internet protocol used for accessing email on a remote server from a local client. IMAP and POP3 (Post Office Protocol version 3) are the two most prevalent Internet standard protocols for email retrieval. Both are supported by virtually all modern email clients and servers, although in some cases in addition to vendor-specific, typically proprietary, interfaces. For example, while proprietary protocols are typically used between Microsoft’s Outlook client and an Exchange server and between IBM’s Notes client and a Domino server, all of these products also support IMAP and POP3 allowing interoperability with other servers and clients. The current version of IMAP, IMAP version 4 revision 1 (IMAP4rev1), is defined by RFC 3501.
IP	Internet Protocol	A protocol for communication between computers, used as a standard for transmitting data over networks and as the basis for standard Internet protocols. http://www.ietf.org
ISDN	Integrated Services Digital Network	A digital telecommunications network that provides end-to-end digital connectivity to support a wide range of services, including voice and non-voice services, to which users have access by a limited set of standard multi-purpose user-network interfaces. The user is offered one or more 64 kb/s channels. http://www.itu.int
ITU	International Tele-communication Union	On May 17, 1865, the first International Telegraph Convention was signed in Paris by the 20 founding members, and the International Telegraph Union (ITU) was established to facilitate subsequent amendments to this initial agreement. It changed its name to the International Telecommunications Union in 1934. From 1948 a UN body with approx. 200 member countries. It is the top forum for discussion and management of technical and administrative aspects of international telecommunications. http://www.itu.int
ITU-T	International Tele-communication Union – Standardization Sector	http://www.itu.int/ITU-T/
J2ME	Java 2 Platform, Micro Edition	J2ME is a collection of Java APIs targeting embedded consumer products such as PDAs, cell phones and other consumer appliances.
MIDlet		A MIDlet is a Java program for embedded devices, more specifically the J2ME virtual machine. Generally, these are games and applications that run on a cell phone.
MIDP	Mobile Information Device Profile	Designed for cell phones, MIDP boasts an LCD-oriented GUI API, and MIDP 2.0 includes a basic 2D gaming API. Applications written for this profile are called MIDlets. Almost all new cell phones come with a MIDP implementation, and it is now the de facto standard for downloadable cell phone games.
MIME	Multipurpose Internet Mail Extensions	MIME is an Internet Standard for the format of e-mail. Virtually all Internet e-mail is transmitted via SMTP in MIME format. Internet e-mail is so closely associated with the SMTP and MIME standards that it is sometimes called SMTP/MIME e-mail.
MSC	Mobile services Switching Centre	The MSC is a sophisticated telephone exchange which provides circuit-switched calling, mobility management and GSM services to the mobile phones roaming within the area that it serves. This means voice, data and fax services, as well as SMS and call divert. A Gateway MSC is the MSC that determines in which visited MSC the subscriber who is being called is currently located. It also interfaces with the Public Switched Telephone Network. All mobile to mobile calls and PSTN to mobile calls are routed through a GMSC. The term is only valid in the context of one call since any MSC may provide both the gateway function and the Visited MSC function; however, some manufacturers design dedicated high capacity MSCs which do not have any BSCs connected to them. These MSCs will then be the Gateway MSC for many of the calls they handle.

NAT	Network Address Translation	<p>In computer networking, the process of network address translation (NAT, also known as network masquerading or IP-masquerading) involves re-writing the source and/or destination addresses of IP packets as they pass through a router or firewall. Most systems using NAT do so in order to enable multiple hosts on a private network to access the Internet using a single public IP address. According to specifications, routers should not act in this way, but many network administrators find NAT a convenient technique and use it widely. Nonetheless, NAT can introduce complications in communication between hosts.</p> <p>NAT first became popular as a way to deal with the IPv4 address shortage and to avoid the difficulty of reserving IP addresses. Use of NAT has proven particularly popular in countries other than the United States, which (for historical reasons) have fewer address-blocks allocated per capita. It has become a standard feature in routers for home and small-office Internet connections, where the price of extra IP addresses would often outweigh the benefits.</p> <p>In a typical configuration, a local network uses one of the designated "private" IP address subnets (such as 192.168.x.x or 10.x.x.x), and a router on that network has a private address (such as 192.168.0.1) in that address space. The router is also connected to the Internet with a single "public" address (known as "overloaded" NAT) or multiple "public" addresses assigned by an ISP. As traffic passes from the local network to the Internet, the source address on the packets are translated on the fly from the private addresses to the public address(es). The router tracks basic data about each active connection (particularly the destination address and port). When a reply returns to the router, it uses the connection tracking data it stored during the outbound phase to determine where on the internal network to forward the reply; the TCP or UDP client port numbers are used to demultiplex the packets in the case of overloaded NAT, or IP address and port number when multiple public addresses are available, on packet return. To a system on the Internet, the router itself appears to be the source/destination for this traffic.</p>
NetBIOS	Network Basic Input/Output System	<p>The NetBIOS API allows applications on separate computers to communicate over a local area network. It provides services related to the session layer of the OSI model but is not routable and must be encapsulated within a protocol in order to be of use in a wide area network. NetBIOS makes wide use of broadcast messages, which accounts for its reputation as a chatty interface.</p> <p>NetBIOS provides three distinct services:</p> <ul style="list-style-type: none"> - Name service for name registration and resolution - Session service for connection-oriented communication - Datagram distribution service for connectionless communication
NFC	Near Field Communication Technology	<p>NFC, jointly developed by Sony and Philips, was approved as an ISO/IEC standard on 8 December 2003. It was approved as an ECMA standard earlier on. On 18 March 2004 Nokia, Sony and Philips formed the NFC-forum to advance NFC development.</p> <p>NFC holds the promise of bringing true mobility to consumer electronics in an intuitive and psychologically comfortable way since the devices can hand-shake only when brought literally into touching distance</p>
PAN	Personal Area Network	<p>A PAN is a computer network used for communication between computer devices (including telephones and personal digital assistants) close to one person. The devices may or may not belong to the person in question. The reach of a PAN is typically a few metres. PANs can be used for communication between the personal devices themselves (intrapersonal communication), or for connecting to a higher level network and the Internet (an uplink).</p> <p>Personal area networks may be wired with computer buses such as USB and FireWire. A wireless personal area network (WPAN) can also be made possible with network technologies such as IrDA and Bluetooth.</p>
POP3	Post Office Protocol version 3	<p>POP3 is an application layer Internet standard protocol used to retrieve email from a remote server to a local client over a TCP/IP connection. Nearly all individual Internet service provider email accounts are accessed via POP3.</p>
POTS	Plain Old Telephone Service	<p>A very general term used to describe an ordinary voice telephone service. See also PSTN.</p>
PSTN	Public Service Telephone Network	<p>Common notation for the conventional analogue telephone network.</p>

RFID	Radio Frequency Identification	RFID is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders. An RFID tag is a small object that can be attached to or incorporated into a product, animal, or person. RFID tags contain antennas to enable them to receive and respond to radio frequency queries from an RFID transceiver. Passive tags require no internal power source, whereas active tags require a power source.
SAT	SIM Application Toolkit	The SIM Application Toolkit is a set of commands which defines how the card should interact with the outside world and extend the communication protocol between the card and the handset. With SIM Application Toolkit, the card has a proactive role in the handset (this means that the SIM initiates commands independently of the handset and the network).
SMB	Server Message Block	SMB was originally invented by IBM to turn DOS "Interrupt 33" local file access into a networked file system, but the most common version is heavily modified by Microsoft. At around the time when Sun Microsystems announced WebNFS, Microsoft coincidentally launched an initiative in 1998 to rename SMB to Common Internet File System (CIFS) and added more features, including support for symbolic links, hard links, larger file sizes and an attempt at supporting direct connection without all the NetBIOS trimmings – an effort that was largely experimental and required further refinement. SMB was originally designed to run on top of the NetBIOS protocol (which itself is typically run on NetBEUI, IPX/SPX or NBT), though SMB can also run on top of TCP/IP directly since Windows 2000. "SMB the protocol" is not to be confused with the SMB services that run on it, nor with NetBIOS, nor with the DCE/RPC services that utilise SMB as an authenticated Inter-process communication channel (over Named pipes), nor with the "Network Neighborhood" protocols which primarily but not exclusively run as datagram services direct on the NetBIOS transport. Because of the importance of the SMB protocol in interacting with the dominant Microsoft Windows platform, coupled with the heavily modified nature of the SMB implementation present in that platform, the Samba project was created to provide a free implementation of a compatible SMB client and server for use with non-Microsoft operating systems.
SIM	Subscriber Identity Module	A SIM is a logical application running on a UICC smartcard. Although the terms UICC and SIM are often interchanged, UICC refers to the physical card, whereas SIM refers to a single application residing in the UICC that collects GSM user subscription information. The SIM provides secure storing of the key identifying a mobile phone service subscriber but also subscription information, preferences and storage of text messages. The equivalent to a SIM in UMTS is a Universal Subscriber Identity Module (USIM).
SMTP	Simple Mail Transfer Protocol	SMTP is the <i>de facto</i> standard for email transmission across the Internet. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified (and in most cases verified to exist) and then the message text is transferred. It is quite easy to test a SMTP server using the telnet program. SMTP uses TCP port 25. To determine the SMTP server for a given domain name, the MX (Mail eXchange) DNS record is used.
SOAP	Simple Object Access Protocol	SOAP is a protocol for exchanging XML-based messages over a computer network, normally using HTTP. SOAP forms the foundation layer of the web services stack, providing a basic messaging framework that more abstract layers can build on. SOAP facilitates the Service-Oriented architectural pattern.
UMA	Unlicensed Mobile Access	UMA provides an alternative access to GSM and GPRS core network services via IP-based broadband connections. In order to deliver a seamless user experience, the specifications define a new network element and associated protocols that provide for the secure transport of GSM/GPRS signaling and user traffic over IP. The caller can automatically switch from GSM to IP-based networks and back again without interruptions. UMA also helps to make better use of the scarce GSM spectrum: as soon as a phone is in reach of an UMA access point, it will leave the GSM spectrum and continue its call over WiFi, leaving the GSM spectrum for those callers that really need it.
UMTS	Universal Mobile Telecommunication System	The European member of the IMT 2000 family of 3G wireless standards. UMTS supports data rates of 144 kb/s for vehicular traffic, 384 kb/s for pedestrian traffic and up to 2 Mb/s in support of in-building services. The standardisation work began in 1991 by ETSI but was transferred in 1998 to 3GPP as a corporation between Japanese, Chinese, Korean and American organisations. It is based on the use of WCDMA technology and is currently deployed in many European countries. The first European service opened in 2003. In Japan NTT DoCoMo opened its "pre-UMTS" service FOMA (Freedom Of Mobile multimedia Access) in 2000. The system operates in the 2.1 GHz band and is capable of carrying multimedia traffic. http://www.3gpp.org/

VLR	Visitors Location Register	The VLR is a temporary database of the subscribers who have roamed into the particular area which it serves. Each Base Station in the network is served by exactly one VLR, hence a subscriber cannot be present in more than one VLR at a time. The data stored in the VLR has either been received from the HLR, or collected from the MS. In practice, for performance reasons, most vendors integrate the VLR directly to the V-MSC and, where this is not done, the VLR is very tightly linked with the MSC via a proprietary interface.
VPN	Virtual Private Network	A VPN is a private communications network usually used within a company, or by several different companies or organizations, to communicate over a public network. VPN message traffic is carried on public networking infrastructure (e.g. the Internet) using standard (often insecure) protocols, or over a service provider's network providing VPN service guarded by well defined Service Level Agreement (SLA) between the VPN customer and the VPN service provider.
WAP	Wireless Application Protocol	WAP is an open international standard for applications that use wireless communication, for example Internet access from a mobile phone. WAP was designed to provide services equivalent to a Web browser with some mobile-specific additions, being specifically designed to address the limitations of very small portable devices. It is now the protocol used for the majority of the world's mobile internet sites, otherwise known as wap-sites. The Japanese i-mode system is the other major competing wireless data protocol.
WDMA	Wavelength Division Multiple Access	In optical communication different wavelengths are used to send packets from different sources. The wavelength constitutes independent communication channels and may carry different signal formats.
WSDL	Web Services Description Language	WSDL is an XML format published for describing Web services. Version V 1.1 has not been endorsed by the World Wide Web Consortium (W3C), however it released a draft for version 2.0 on 11 May 2005, that will be a recommendation (an official standard), and thus endorsed by the W3C. It is commonly abbreviated as WSDL in technical literature and often pronounced "Whiz'-Dull". WSDL describes the public interface to the web service. This is an XML-based service description on how to communicate using the web service; namely the protocol bindings and message formats required to interact with the web services listed in its directory. The supported operations and messages are described abstractly and then bound to a concrete network protocol and message format. WSDL is often used in combination with SOAP and XML Schema to provide web services over the internet. A client (program) connecting to a web service can read the WSDL to determine what functions are available on the server. Any special datatypes used are embedded in the WSDL file in the form of XML Schema. The client can then use SOAP to actually call one of the functions listed in the WSDL.
XML	Extensible Markup Language	XML is a W3C-recommended general-purpose markup language for creating special-purpose markup languages, capable of describing many different kinds of data. It is a simplified subset of SGML. Its primary purpose is to facilitate the sharing of data across different systems, particularly systems connected via the Internet. Languages based on XML (for example, RDF/XML, RSS, MathML, XHTML, SVG, and cXML) are defined in a formal way, allowing programs to modify and validate documents in these languages without prior knowledge of their form.
	XML Web Service	A Web Service is a software component that is described via WSDL and is capable of being accessed via standard network protocols such as, but not limited to SOAP over HTTP.