

1G

1st generation system. This term refers to the analogue mobile phone networks: TACS (UK), NMT (Scandinavia), and AMPS (US).

2G

2nd generation system. This term refers to the digital mobile phone networks: GSM, DCS1800, PCS.

3G

Third-generation mobile telecommunications system. Three different 3G systems are currently being defined: UMTS by ETSI; J-FPLMTS by ARIB in Japan; and different systems by the TTA. The first generation was analog cellular such as NMT, AMPS, TACS; second generation cellular systems are digital such as NADC, GSM, PDC, CDMA.

ACPM

Adjacent Channel Power Measurement. Identifies residual power emitted by a radio transmitter in the neighboring channels.

ADPCM

Adaptive Differential Pulse Code Modulation. A speech coding method to compress a 64 kbit/s A-law or μ -law PCM channel into a 32 kbit/s channel.

AM

Amplitude Modulation.

AMPS

Advanced Mobile Phone System. An American cellular radio standard using analog speech transmission.

APN

Access Point Name

ATM

Asynchronous Transfer Mode

AuC

Authentication Centre

B-CDMA

Broadband CDMA, a variant of CDMA using larger bandwidth, typically 7 to 15 MHz.

BABT

Board of Approval for British Telecommunications

bandwidth

The bandwidth of a transmitted communications signal is a measure of the range of frequencies the signal occupies. The term is also used in reference to the frequency-response characteristics of a communications receiving system. All transmitted signals, whether analog or digital, have a certain bandwidth. The same is true of receiving systems. Generally speaking, bandwidth is directly proportional to the amount of data transmitted or received per unit time. In a qualitative sense, bandwidth is proportional to the complexity of the data for a given level of system performance. For example, it takes more bandwidth to download a photograph in one second than it takes to download a page of text in one second. Large sound files, computer programs, and animated videos require still more bandwidth for acceptable system performance. Virtual reality (VR) and full-length three-dimensional audio/visual presentations require the most bandwidth of all. In digital systems, bandwidth is data speed in bits per

second (bps). Thus, a modem that works at 57,600 bps has twice the bandwidth of a modem that works at 28,800 bps. In analog systems, bandwidth is defined in terms of the difference between the highest-frequency signal component and the lowest-frequency signal component. Frequency is measured in cycles per second (hertz). A typical voice signal has a bandwidth of approximately three kilohertz (3 kHz); an analog television (TV) broadcast video signal has a bandwidth of six megahertz (6 MHz) -- some 2,000 times as wide as the voice signal. Communications engineers once strove to minimize the bandwidths of all signals, while maintaining a minimum acceptable level of system performance. This was done for at least two reasons: (1) low-bandwidth signals are less susceptible to noise interference than high-bandwidth signals; and (2) low-bandwidth signals allow for a greater number of communications exchanges to take place within a specified band of frequencies. However, this simple rule no longer applies in general. For example, in spread-spectrum communications, the bandwidths of signals are deliberately expanded. In digital cable and fiberoptic systems, the demand for ever-increasing data speeds outweighs the need for bandwidth conservation. In the electromagnetic radiation spectrum, there is only so much available bandwidth to go around, but in hard-wired systems, available bandwidth can literally be constructed without limit by installing more and more cables.

BER

Bit Error Rate, a measure for the sensitivity of a receiver.

BG

Border Gateway

BGP

Border Gateway Protocol

broadband

Broadband refers to telecommunication that provides multiple channels of data over a single communications medium, typically using some form of frequency or wave division multiplexing.

BS

Base Station.

BSC

Base Station Controller

BSS

Base Station System

BSS

Base Station System

BSSGP

BSS GPRS Protocol

BTS

Base Transceiver System

C-Netz

German analog cellular standard, also applied in Portugal and by the South African Police.

C7

Signalling System Number 7

CAMEL

Customised Application for Mobile Enhanced Logic

CDMA

Code Division Multiple Access. A standard using spread spectrum transmission, the same frequencies being used by other CDMA or narrowband systems. The term CDMA is often used to refer to IS-95 or cdmaOne.

cdma2000

Future Wideband-CDMA standard, based on Qualcomm's cdmaOne. Uses a chip rate of 3.6864 Mcps (mega-chips per second), three times that of cdmaOne. This rate is incompatible with the rate chosen in Japan and Europe.

cdmaOne

Name under which American CDMA standard IS-95 is marketed within the US and abroad. Basic CDMA parameters: Duplex spacing 45 MHz, Channel spacing 1.25 MHz, Modulation OQPSK, Coding gain K=128 (chip rate to data rate ratio), Gross bit rate 1.2288 Mcps/s. Data rate per full slot: Data rate traffic 9.6 kbit/s.

CDR

Call Detail Record

cellular telephone

Cellular telephone is a type of short-wave analog or digital transmission in which a subscriber has a wireless connection from a mobile telephone to a relatively nearby transmitter. The transmitter's span of coverage is called a cell. Generally, cellular telephone service is available in urban areas and along major highways. As the cellular telephone user moves from one cell or area of coverage to another, the telephone is effectively passed on to the local cell transmitter. A cellular telephone is not to be confused with a cordless telephone (which is simply a phone with a very short wireless connection to a local phone outlet). A newer service similar to cellular is personal communications services (PCS).

CGF

Charging Gateway Function

CHAP

Challenge Handshake Authentication Protocol

circuit-switched

Circuit-switched is a type of network in which a physical path is obtained for and dedicated to a single connection between two end-points in the network for the duration of the connection. Ordinary voice phone service is circuit-switched. The telephone company reserves a specific physical path to the number you are calling for the duration of your call. During that time, no one else can use the physical lines involved. Circuit-switched is often contrasted with packet-switched. Some packet-switched networks such as the X.25 network are able to have virtual circuit-switching. A virtual circuit-switched connection is a dedicated logical connection that allows sharing of the physical path among multiple virtual circuit connections.

CT2

2nd generation Cordless Telephony standard, operating from 864.1 to 868.1 MHz, with digital speech transmission (ADPCM). The standard has been prepared by the British Department of Trade and Industry (DTI) and can also be found as an ETSI standard (I-ETS 300 131).

D-AMPS

Digital Advanced Mobile Phone System, extension to AMPS system using either both digital and analog speech transmission (IS-54), or purely digital (IS-136).

DCS-1800

Digital Communications System. Refers to the PCN variant of GSM, using higher frequencies.

DECT

Digital Enhanced Cordless Telecommunications. Standard defined by ETSI. Check out a list of DECT manufacturers on the WWW. Basic DECT parameters: Frequency range 1.88 - 1.90 MHz, Number of carriers 10, Channel spacing 1.728 MHz, Multiplexing - between bearers TDMA - between uplink/downlink TDD (Time Division Duplex), Number of timeslots 24 per frame (12 uplink, 12 downlink), Frame length 10 ms, Modulation GFSK, B*T=0.5, Nominal deviation 288 kHz, Timeslot length 417 μ s, Peak transmit power 250 mW, Gross bit rate 1152 kbit/s. Data rate per full slot: Gross rate 48 kbit/s, Data rate traffic 32 kbit/s (B-field), Data rate signalling 6.4 kbit/s (A-field). Speech coding ADPCM to ITU rec. G.721 (32 kbit/s).

DHCP

Dynamic Host Configuration Protocol

DNS

Domain Name System

E-GSM

GSM protocol applied to an extended frequency range but still in the 900 MHz band.

E-TACS

Extended Total Access Communication System. TACS extended in frequency range.

EDACS

Enhanced Digital Access Communication System: Ericsson's proprietary trunked system standard for the USA.

EDGE

Enhanced Data for GSM Evolution, an upcoming extension to the GSM standard for higher data rates, a new modulation format, 8PSK, on the existing GSM TDMA structure and symbol rate. It can be used to access the Internet at much higher speed. The new technology requires new hardware and software in both mobile stations and base transceiver stations.

EFR

Enhanced Full Rate. New voice coding algorithm applied in PCS-1900 systems (and now in GSM-900 as well, first system installed in Hong Kong).

EGP

External/Exterior Gateway Protocol

EIGRP

External/Exterior Internet Group Routing Protocol

EMC

Electro Magnetic Compatibility

ERMES

European Radio MESSaging System. Paging standard defined by ETSI.

ESP

Electro Static Precautions

ETSI

European Telecommunications Standards Institute

FCC

Federal Communications Commission. Telecommunications regulator in the USA.

FDMA

Frequency Division Multiple Access: Each physical channel occupies one carrier frequency; for each channel a separate transmitter is required.

FLEX

Motorola's paging standard. An extension to two-way paging has been named ReFLEX.

FM

Frequency Modulation.

G-CDR

GGSN CDR

Gb

Interface between an SGSN and a BSS.

Gc

Interface between a GGSN and an HLR.

Gd

Interface between a SMS-GMSC and an SGSN, and between a SMS-IWMSC and an SGSN.

GGSN

Gateway GPRS Support Node

Gi

Reference point between GPRS and an external packet data network.

GMSC

Gateway MSC

GMSK

Gaussian Minimum Shift Keying: A binary modulation format used by GSM and Tetrapol.

Gn

Interface between two GSNs within the same PLMN.

Gp

Interface between two GSNs in different PLMNs. The Gp interface allows support of GPRS network services across areas served by the co-operating GPRS PLMNs.

GPRS

General Packet Radio Service. You can get more information regarding GPRS, IP and so on, on the following web site: <http://www.whatis.com/>

Gr

Interface between an SGSN and an HLR.

Gs

Interface between an SGSN and an MSC/VLR.

GSM

GSM (Global System for Mobile communication) is a digital mobile telephone system that is widely used in Europe and other parts of the world. GSM uses a variation of time division multiple access (TDMA) and is the most widely used of the three digital wireless telephone technologies (TDMA, GSM, and CDMA). GSM digitizes and compresses data, then sends it down a channel with two other streams of user data, each in its own time slot. It operates at either the 900 MHz or 1800 MHz frequency band. GSM is the de facto wireless telephone standard in Europe. GSM has over 120 million users worldwide and is available in 120 countries, according to the GSM MoU Association. Since many GSM network operators have roaming agreements with foreign operators, users can often continue to use their mobile phones when they travel to other countries. American Personal Communications (APC), a subsidiary of Sprint, is using GSM as the technology for a broadband personal communications service (PCS). The service will ultimately have more than 400 base stations for the palm-sized handsets that are being made by Ericsson, Motorola, and Nokia. The handsets include a phone, a text pager, and an answering machine. GSM together with other technologies is part of an evolution of wireless mobile telecommunication that includes High-Speed Circuit-Switched Data (HSCSD), General Packet Radio System (GPRS), Enhanced Data GSM Environment (EDGE), and Universal Mobile Telecommunications Service (UMTS).

GSN

GPRS Support Node

GTP

GPRS Tunnelling Protocol

GTP-id

GTP Identity

HLR

Home Location Register

IETF

Internet Engineering Task Force

IGMP

Internet Group Management Protocol

IGRP

Interior Gateway Routing Protocol

IMSI

International Mobile Station Identity

IN

Intelligent Network

IP (Internet Protocol)

The Internet Protocol (IP) is the method or protocol by which data is sent from one computer to another on the Internet. Each computer (known as a host) on the Internet has at least one address that uniquely identifies it from all other computers on the Internet. When you send or receive data (for example, an e-mail note or a Web page), the message gets divided into little chunks called

packets. Each of these packets contains both the sender's Internet address and the receiver's address. Any packet is sent first to a gateway computer that understands a small part of the Internet. The gateway computer reads the destination address and forwards the packet to an adjacent gateway that in turn reads the destination address and so forth across the Internet until one gateway recognizes the packet as belonging to a computer within its immediate neighborhood or domain. That gateway then forwards the packet directly to the computer whose address is specified. Because a message is divided into a number of packets, each packet can, if necessary, be sent by a different route across the Internet. Packets can arrive in a different order than the order they were sent in. The Internet Protocol just delivers them. It's up to another protocol, the Transmission Control Protocol (TCP) to put them back in the right order. IP is a connectionless protocol, which means that there is no established connection between the end points that are communicating. Each packet that travels through the Internet is treated as an independent unit of data without any relation to any other unit of data. (The reason the packets do get put in the right order is because of TCP, the connection-oriented protocol that keeps track of the packet sequence in a message.) In the Open Systems Interconnection (OSI) communication model, IP is in layer 3, the Networking Layer. The most widely used version of IP today is Internet Protocol Version 4 (IPv4). However, IP Version 6 (IPv6) is also beginning to be supported. IPv6 provides for much longer addresses and therefore for the possibility of many more Internet users. IPv6 includes the capabilities of IPv4 and any server that can support IPv6 packets can also support IPv4 packets.

IPSEC

IP Secure Protocol

IPv4

IP version 4

IPv6

IP version 6

IS-IS

Intermediate System - Intermediate System

ISDN

Integrated Services Digital Network

ISP

Internet Service Provider

ITU-R

International Telecommunications Union - Radiocommunication Sector. An agency of the United Nations that deals with regulatory matters, standardisation and spectrum allocations on a global scale.

IWMSC

Inter-working MSC

L2TP

Layer 2 Tunnelling Protocol

LA

Location Area

link

This is a big glossary what gives an explanation to many, many IT/IS, IP, Telecom words etc., that sometimes are abracadabra. Copy this link and find out <http://www.whatis.com>

LLC

Logical Link Control

M-CDR

Mobility Management CDR

MAI

Mobile Applications Initiative

MAI

Mobile Applications Initiative, MAI (former GPRS Applications Alliance, GAA). The key message with this change is that MAI has broadened its focus for positive gain. Application Developers have indicated that they want the ability to test future applications over TDMA, EDGE and UMTS systems and so MAI will not only provide GPRS testing and training but also will include WCDMA/UMTS and EDGE in its scope. This is a positive change and will add value for the MAI Member companies.

MAP

Mobile Application Part

Mbps

Mbps (millions of bits per second, or megabits per second) Mbps stands for millions of bits per second and is a measure of bandwidth (the total information flow over a given time) on a data transmission medium such as twisted-pair copper cable, coaxial cable, or optical fiber. Depending on the medium and the transmission method, bandwidth may also be in the Kbps (thousands of bits or kilobits per second) range or the Gbps (billions of bits or gigabits per second) range.

MIB

Management Information Base

MS

Mobile Station

MSC

Mobile Switching Centre

MSISDN

Mobile Station ISDN

MT

Mobile Terminal

MTBF

Mean Time Between Failure

MTTR

Mean Time To Recovery

N/A

Not Applicable

NAS

Network Access Server

NAT

Network Address Translation

NTP

Network Time Protocol

O&M

Operations & Maintenance

OSPF

Open Shortest Path First

packet

A packet is the unit of data that is routed between an origin and a destination on the Internet or any other packet-switched network. When any file (e-mail message, HTML file, GIF file, URL request, and so forth) is sent from one place to another on the Internet, the Transmission Control Protocol (TCP) layer of TCP/IP divides the file into "chunks" of an efficient size for routing. Each of these packets is separately numbered and includes the Internet address of the destination. The individual packets for a given file may travel different routes through the Internet. When they have all arrived, they are reassembled into the original file (by the TCP layer at the receiving end). A packet-switching scheme is an efficient way to handle transmissions on a connectionless network such as the Internet. An alternative scheme, circuit-switching, is used for networks allocated for voice connections. In circuit-switching, lines in the network are shared among many users as with packet-switching, but each connection requires the dedication of a particular path for the duration of the connection. "Packet" and "datagram" are similar in meaning. A protocol similar to TCP, the User Datagram Protocol (UDP) uses the term datagram.

packet-switched

Packet-switched describes the type of network in which relatively small units of data called packets are routed through a network based on the destination address contained within each packet. Breaking communication down into packets allows the same data path to be shared among many users in the network. This type of communication between sender and receiver is known as connectionless (rather than dedicated). Most traffic over the Internet uses packet switching and the Internet is basically a connectionless network. Contrasted with packet-switched is circuit-switched, a type of network such as the regular voice telephone network in which the communication circuit (path) for the call is set up and dedicated to the participants in that call. For the duration of the connection, all resources on that circuit are unavailable for other users. Voice calls using the Internet's packet-switched system are possible. Each end of the conversation is broken down into packets that are reassembled at the other end. Another common type of digital network that uses packet-switching is the X.25 network, a widely installed commercial wide area network protocol. Internet protocol packets can be carried on an X.25 network. The X.25 network can also support virtual circuits in which a logical connection is established for two parties on a dedicated basis for some duration. A permanent virtual circuit (PVC) reserves the path on an ongoing basis and is an alternative for corporations to a system of leased lines. A permanent virtual circuit is a dedicated logical connection but the actual physical resources can be shared among multiple logical connections or users.

PAP

Password Authentication Protocol

PDN

Packet Data Network

PDP

Packet Data Protocol

PLMN

Public Land Mobile Network

PMR

Private Mobile Radio. This class of service is used by utilities, ambulances, police, taxis, etc. It is characterised by the way it makes maximum use of limited spectrum. It also has limited functionality (e.g. only calls between mobile to base station). Emerging systems such as TETRA offer much higher functionality PMR, with features such as access to the PSTN, priority channels and calls between mobiles and user groups.

PTM-G

Point-to-Multipoint Group Call

PTM-M

Point-to-Multipoint Multicast

QoS

Quality of Service

RA

Routing Area

RADIUS

Remote Authentication Dial In User Service

RIP

Routing Information Protocol

roaming service

Roaming service is the ability to get access to the Internet when away from home at the price of a local call or at a charge considerably less than the regular long-distance charges. For example, if you normally get access to the Internet from an access provider in Brooklyn, New York and are travelling to Hong Kong, you can call a designated access provider in Hong Kong. Instead of paying long distance charges to your local provider in Brooklyn, you pay the local phone connection charge in Hong Kong and possibly a modest additional charge for the service. Roaming service is made possible through Internet service providers (ISPs) who have cooperative agreements to grant each others' customers local access to the Internet. Special software allows cooperating ISPs to keep track of and calculate prearranged payments for usage differences. Here's how it works for the user: The Internet user must already subscribe to an ISP that offers roaming service arrangements. Assuming the ISP does, the user can determine a cooperating ISP in a city to which the user is travelling. In the travel location, the user can call the local ISP's designated phone number through the computer modem, entering information during login that will identify the user's home ISP. The "foreign" ISP will contact the ISP and determine that the user is a valid user. The "foreign" ISP will grant the user access to the Internet. The user will be able to access e-mail from the home mail server. The user will be charged at local phone rates. In addition, depending on the particular service arrangement, the home ISP may levy an additional hourly usage charge of several dollars an hour or a monthly charge in case the service is used during that month. A similar roaming service is provided by some cooperating cellular telephone or personal digital assistant (PDA) service providers. If you are travelling and simply need to be able to exchange e-mail, you can consider getting a freemail membership (usually free) from HotMail, Rocketmail, or other freemail providers. Hotmail also offers POP3 server accounts for access to up to four e-mail accounts you may already have, assuming you remember the POP3 server name and your user IDs and passwords. If you subscribe to a somewhat global service such as AT&T's WorldNet or the IBM Global Network, you may already be able to access your account in certain cities through your provider's local point-of-presence (POP) on the Internet without having to pay for a long-distance call.

RSVP

Resource reSerVation Protocol

RTP

Real-time Transport Protocol

S-CDR

SGSN CDR

SAGE

Security Algorithm Group of Experts (associated with SMG-10)

satellite

A satellite is a specialized wireless receiver/transmitter that is launched by a rocket and placed in orbit around the earth. There are hundreds of satellites currently in operation. They are used for such diverse purposes as weather forecasting, television broadcast, amateur radio communications, Internet communications, and the Global Positioning System. The first artificial satellite, launched by Russia (then known as the Soviet Union) in the late 1950s, was about the size of a basketball. It did nothing but transmit a simple Morse code signal over and over. In contrast, modern satellites can receive and re-transmit thousands of signals simultaneously, from simple digital data to the most complex television programming. There are three types of communications satellite systems. They are categorized according to the type of orbit they follow. A geostationary satellite orbits the earth directly over the equator, approximately 22,000 miles up. At this altitude, one complete trip around the earth (relative to the sun) takes 24 hours. Thus, the satellite remains over the same spot on the earth's surface at all times, and stays fixed in the sky from any point on the surface from which it can be "seen." So-called weather satellites are usually of this type. You can view images from some of these satellites on the Internet via the Purdue Weather Processor. A single geostationary satellite can "see" approximately 40 percent of the earth's surface. Three such satellites, spaced at equal intervals (120 angular degrees apart), can provide coverage of the entire civilized world. A geostationary satellite can be accessed using a dish antenna aimed at the spot in the sky where the satellite hovers. A low-earth-orbit (LEO) satellite system employs a large fleet of "birds," each in a circular orbit at a constant altitude of a few hundred miles. The orbits take the satellites over, or nearly over, the geographic poles. Each revolution takes approximately 90 minutes to a few hours. The fleet is arranged in such a way that, from any point on the surface at any time, at least one satellite is on a line of sight. The entire system operates in a manner similar to the way a cellular telephone network functions. The main difference is that the transponders, or wireless receiver/transmitters, are moving rather than fixed, and are in space rather than on the earth. A well-designed LEO system makes it possible for anyone to access the Internet via wireless from any point on the planet, using an antenna no more sophisticated than old-fashioned television "rabbit ears." Some satellites revolve around the earth in elliptical orbits. These satellites move rapidly when they are near perigee, or their lowest altitude; they move slowly when they are near apogee, or their highest altitude. Such "birds" are used by amateur radio operators, and by some commercial and government services. They require directional antennas whose orientation must be constantly adjusted to follow the satellite's path across the sky.

SCCP

Signalling Connection Control Part

SDM

Site Data Mediation

SGSN

Serving GPRS Support Node

SMG10

Special Mobile Group 10

SMS

Short Message Service

SMSC

Short Message Service Centre

SNDCP

Subnetwork Dependent Convergence Protocol

SNMP

Simple Network Management Protocol

ST2

C7 Signalling Terminal

TCP

Transmission Control Protocol

TMN

Telecommunication Managed Network

UDP

User Datagram Protocol

Um

Interface between the mobile station (MS) and the GPRS fixed network part. The Um interface is the GPRS network interface for providing packet data services over the radio to the MS. The MT part of the MS is used to access the GPRS services through?

UMTS

Universal Mobile Telecommunication System

Virtual Home Environment (VHE)

In mobile computing, the Virtual Home Environment (VHE) is the concept that networks supporting mobile users should provide them the same computing environment on the road that they have in their home or corporate computing environment. VHE is part of IMT-2000 and the Universal Mobile Telecommunication Service (UMTS). With VHE, a network (referred to as a foreign network) emulates the behavior of the user's home network and the user has the same services that they are accustomed to at home.

VLR

Visitor Location Register

VMSC

Visitor MSC

VoIP

Voice over IP

WAN

Wide Access Network

WAP

Wireless Application Protocol

WDA

Wireless Data Application

wireless

Wireless refers to a communications, monitoring, or control system in which electromagnetic or acoustic waves carry a signal through atmospheric space rather than along a wire. In most wireless systems, radio-frequency (RF) or infrared (IR) waves are used. Some monitoring devices, such as intrusion alarms, employ acoustic waves at frequencies above the range of human hearing. Early experimenters in electromagnetic physics dreamed of building a so-called wireless telegraph. The first wireless telegraph transmitters went on the air in the early years of the 20th century. Later, as amplitude modulation (AM) made it possible to transmit voices and music via wireless, the medium came to be called radio. With the advent of television, facsimile, data communication, and the effective use of a larger portion of the electromagnetic spectrum, the original term has been brought to life again. Common examples of wireless equipment in use today include the Global Positioning System (GPS), cellular phones and pagers, cordless computer accessories (for example, the cordless mouse), home-entertainment-system control boxes, remote garage-door openers, two-way radios, and baby monitors. An increasing number of companies and organizations are using wireless local area networks (LANs). Wireless transceivers are available for connection to portable and notebook computers, allowing Internet access in selected cities without the need to locate a telephone jack. Eventually, it will be possible to link any computer to the Internet via satellite, no matter where in the world the computer might be located.