

Glossary of technical terms and abbreviations

2G, 2.5G: mobile systems predating 3G. For 2G, they include GSM, and for 2.5G, GPRS and EDGE.

3G: third-generation mobile system. The gradual introduction of packet switching technology into mobile networks allows 3G networks to provide access to a wide range of new services, particularly high-speed Internet access.

3GPP (3rd Generation Partnership Project): cooperation between regional telecommunications standardisation bodies such as ETSI (Europe), ARIB/TTC (Japan), CCSA (China), ATIS (North America) and TTA (South Korea), whose aim is to produce technical specifications for 3rd generation (3G) mobile networks. 3GPP also ensures the maintenance and development of technical specifications for GSM mobile standards, notably for GPRS and EDGE.

4G: informal term for referring to fourth generation mobile telephony. Speeds will increase to roughly 40 Mbps in 2009-2010 and to 80 Mbps and perhaps more further down the road. Several technologies that are currently being deployed can also be put in this group, including WiMAX (IEEE 802.16 standard technology), iBurst (IEEE 802.20 standard technology)... (See also: LTE).

Access network: network to which users directly connect their terminal equipment in order to access services. (See "Core network").

Accounting rates: system establishing the pricing principles to be used in interconnection agreements between international operators so that an operator in the country of origin and an operator in the country of destination may share international call revenue when cooperating to route international traffic. For calls to a given international destination, the operator in the country of origin sets the price charged to users (the retail price), which is called the collection rate. At the same time, this operator and the operator in the country of destination negotiate a per-minute accounting rate. Revenue is shared based on this rate according to a sharing formula that determines the portion (settlement rate) accruing to the operator in the country of origin and that accruing to the operator in the country of destination. This portion usually is equal to half of the accounting rate.

ADSL (*Asymmetrical Digital Subscriber Line*): ADSL is part of the xDSL technology family. It is designed to enhance the performance of access networks and in particular the subscriber's copper pair in the conventional telephone network. Use of two modems, one at the subscriber premises and the other on the subscriber line termination at the MDF allows for a significant improvement in the network bit rate, to reach speeds up to 70 times faster than with a conventional analogue modem. The principle underlying ADSL involves reserving one part of the bandwidth for voice transport, another for data transport in the direction of the core network (upstream data), and more importantly yet another part for data transport toward the subscriber (downstream data). Filtering at both ends of the line ensures acceptable voice quality by removing the unnecessary parts of the signal. ADSL technology is particularly well suited to the local loop since the throughput it supports diminishes with distance. It is relatively inexpensive and therefore is an attractive solution for broadband Internet access.

ADSL 2+: an improved version of ADSL that uses additional carrier frequencies (up to 2.2 MHz) for data transport thereby allowing peak data rates to be increased. However, the improvements over standard ADSL are only significant if the subscriber is located less than 3000m from the telephone exchange.

AFA (*Association des fournisseurs d'accès à Internet*): French association of Internet service providers.

AFORST (*Association française des opérateurs de réseaux et services de télécommunications*): French association of telecommunications network operators and service providers.

AFUTT (*Association française des utilisateurs de télécommunications*): French association of telecommunications users.

ANFR (*Agence nationale des fréquences*): agency responsible for managing the radio frequency spectrum, allocating frequencies to the various government departments and independent authorities that assign them (ARCEP, CSA, the Ministry of Defence, etc.), handling interference, and conducting international spectrum negotiations.

ARPU: Average Revenue Per User.

Asymmetrical regulation: a form of regulation that imposes certain obligations only on SMP operator(s) in a given market (e.g. France Telecom in the fixed telephony market), to enable the development of lasting competition.

ATM (*Asynchronous Transfer Mode*): technique for the asynchronous transfer of digital broadband communications using short, fixed-length packets. ATM allows for ultra high-speed data transmission and the optimal use of line capacity, and is particularly well suited to broadband multiservice networks. This type of transmission is especially useful for optimising the core network. Using ATM in the core network is attractive because the technology responds to increased traffic levels by optimising allocated resources and offers a guaranteed quality of service.

Bandwidth: this denotes the *transmission* capacity of a transmission link. It determines the amount of information (in bps) that can be transmitted simultaneously. In computing, it is often confused with the transfer rate of a communication link, expressed in bits per second.

BAS (Broadband Access Server): equipment whose function is to manage ATM data transport for ADSL-based Internet access offerings. Each BAS in the France Telecom network aggregates ATM traffic from about ten DSLAMs. Thus, a BAS manages traffic for all ADSL lines in the coverage area of the DSLAMs to which it is connected. France Telecom calls the area covered by a BAS a plaque (coverage area). Two ATM circuits, one “upstream” and the other “downstream”, are established between each connected customer and the BAS serving that customer.

Beauty contest (comparative selection): method of operator selection to award scarce resources. It is different from an auction in that it allows candidate selection to be based on multiple criteria and not just on price offered.

Bitrate: amount of data transiting a network within a given timeframe.

Bitstream: refers to wholesale offers which may be used by alternative operators to market retail residential and business offers in zones where they have no broadband equipment of their own installed (sites which are too small or too far from their collection network). From a technical standpoint, France Telecom activates the copper pair to the end user with its own broadband access equipment, then routes the Internet stream up to the nearest connection point between its collection network and the alternative operator’s collection network.

BSC (Base Station Controller): GSM base station controller. Equipment that controls one or several BTS and manages radio resources.

BTS (Base Transceiver Station): GSM equipment comprising transmitters and receivers and constituting the interface between the BSC and mobile terminals.

Bulk mail: mail items produced in mass quantities by computer – at least 400 items per mailing – such as invoices, bank statements, addressed advertising and periodicals.

CAA (Commutateur à autonomie d’acheminement): local exchange (exchange to which subscribers are connected) on the France Telecom telephone network. The structure of the France Telecom network is hierarchical and the CAA is the lowest-ranking exchange in the network. Thus, there are two types of exchange: subscriber exchanges (the CAAs) at the bottom of the hierarchy to which subscribers are linked via a subscriber line unit (called a unité de raccordement d’abonné or URA), and transit exchanges (CTs) at the top of the hierarchy.

Cable networks: audiovisual distribution networks that offer electronic communication services.

Call-back: a calling process that operates as follows: the user dials a number in the country operating the call-back; since the call is not actually set up, there is no charge; an automatic device calls back the user, setting up the call on an international line; the user then dials the number of the called party; the call is billed at the tariff charged by whatever foreign operator is selected. This system thus enables users to take advantage of tariffs in the called country.

Carrier selection: option given to customers to choose among multiple carrier operators. Carrier selection applies to all calls (local, national long distance and international long distance). It can be exercised per call or by subscription.

CCR (*Commission consultative des radiocommunications*) and CCRSCE (*Commission consultative des réseaux et services de communications électroniques*):

Respectively, the Consultative Committee for Radiocommunications and the Consultative Committee for Electronic Communication Networks and Services, which are advisory committees to the telecommunications minister and the Authority. These two authorities merged in 2009 to form the consultative committee for electronic communications, CCCE (*Commission consultative des communications électroniques*).

Circuit: bi-directional link between two terminal units over which a connection-mode service can be provided.

Collocation: under France Telecom's standard interconnection offer, physical interconnection is possible using three different techniques:

- collocation: The operator installs its equipment at France Telecom's premises.
- interconnection link: France Telecom installs its equipment at the operator's premises.
- in-span interconnection: a solution halfway between these methods of connection, where the connection point is located, for example, in the public domain.

For purposes of local loop unbundling, collocation consists of supplying the space and technical resources necessary to host and connect the technical equipment of alternative operators.

Convergence: convergence of the broadcast and telecommunications sectors, made possible by technological advances that allow different media (cable networks, terrestrial or satellite wireless networks, computer terminals and television sets) to be used to transport and process all types of information and services involving sound, images and data; since it derives from technological disruption (the digitisation of information), convergence has both economic and regulatory implications. (See *a/so Fixed-mobile convergence*).

Core network: the core or backbone network, consisting of all transmission and switching infrastructure beginning with the local exchange.

CPCE (*Code des postes et des communications électroniques*): French postal and electronic communications code.

CRIP (*Comité des réseaux d'initiative publique*): a committee reporting to the ARCEP Executive Board. It comprises local government representatives and operators and is charged with defining success criteria for local authority projects focused on digital development in the regions.

CSA (*Conseil supérieur de l'audiovisuel*): French national broadcasting authority.

CUG (*Closed User Group*): a CUG is an independent network for shared or private use. When the network is reserved for the use of the individuals or corporate entities that established it, it is called private, and when it is reserved for the use of multiple individuals or corporate entities organised as one or more closed user groups for purposes of exchanging communications internal to the group, it is called shared. The Authority has clarified this definition by indicating that a CUG is understood to be a group based on a community of interest that is stable enough to be identifiable and which predates provision of the telecommunication service. The notion of a "closed user group" is not limited to independent networks but is used also to define, for example, a virtual private network on a public network.

Direct interconnection: also known as call termination service. For an operator, this consists of terminating a call to a France Telecom subscriber. The call is routed by the operator to the interconnection point; from that point, it is carried by France Telecom over the France Telecom network to the subscriber's customer premises equipment.

DSLAM (*Digital Subscriber Line Access Multiplexer*): one of the devices used to convert conventional telephone lines into ADSL lines for broadband data transmission, particularly for Internet access. The DSLAM is installed on the main distribution frame of the local operator's network. It combines several ADSL lines onto a single medium, which routes data to and from these lines.

DTT: Digital Terrestrial Television.

DVB-H (*Digital Video Broadcasting Handheld*): a digital terrestrial broadcasting standard geared to enabling audiovisual content reception on a mobile handset (mobile TV).

EDGE (*Enhanced Data rate for Global Evolution*): EDGE is a third-generation mobile standard allowing data to be transferred at 384kbps. It evolved from the GSM and American TDMA standards.

E-SDSL (*Extended Symmetrical Digital Subscriber Line*): technology enabling symmetrical bitrates, but with a shorter range than classic ADSL.

Exchange: switching equipment permitting calls to be directed to their destinations by establishing a temporary connection between two circuits on a telecommunications network or by routing information organised as packets. France Telecom's network comprises a hierarchical system of switches. The higher the exchange is in the system, the greater the number of subscribers it serves.

FFT (*Fédération française des télécommunications*): French telecommunications federation.

Fixed-mobile convergence: also known as FMC, and which involves the convergence of the fixed and mobile telephony technologies used and services offered. FMC opens up the possibility for operators to offer all users the same services, regardless of the technology or network being used.

Flat-rate interconnection: denotes an offer for interconnecting third-party operators with the France Telecom network. Under it, the fees that third-party operators pay for the collection of local loop traffic are fixed on a per-circuit basis rather than billed per minute.

FTTB: Fibre to the building.

FTTH: Fibre to the home.

Full unbundling: or fully unbundled access to the local loop, which consists of making all of the frequency bands of the copper pair available. As a result, the end user is no longer connected to the France Telecom network, but rather to that of the new entrant operator.

GPRS (*General Packet Radio Services*): packet switching system (see "Switching") enabling enhanced data rates over GSM networks.

HDSL (*High-speed DSL*): bi-directional symmetrical transmission technique conceived primarily for business applications. This technology achieves bit rates of 2Mbps over distances of up to 2500m.

HLR (*Home Location Register*): central database of permanent subscriber information for a mobile network.

HSCSD (*High-speed Circuit Switched Data*): circuit-switched data system (see “Switching”) allowing improved bit rates on GSM networks.

HSDPA (*High Speed Downlink Packet Access*): a 3G technology that can deliver downstream speeds of up to 1.8 and even 3.6 Mbps (N.B.: also referred to by some as 3.5G).

HSUPA (*High Speed Uplink Packet Access*): 3G technology derived from HSDPA that makes it possible to increase upstream bitrates (and not only downstream rates, as is the case with HSDPA).

IMT-2000 (*International Mobile Telecommunications 2000*): third-generation mobile systems supporting enhanced mobility services thanks to the introduction of new functionality. The ITU selected five terrestrial radio interfaces for third-generation mobile systems under the designation IMT-2000. UMTS was one of the five.

Indirect interconnection: also known as call-collection service, in which an alternative operator collects a call from a France Telecom subscriber. The subscriber dials a prefix to select the operator and the call is then carried by France Telecom from the subscriber’s customer premises equipment to the point of interconnection, where the call is then carried by the alternative operator.

Insured item: a service that consists of insuring a postal item for the value declared by the sender against loss, theft or damage..

Interconnection: the linking of various telecommunication networks so that any subscriber of one operator may communicate with any subscriber of any other operator.

Interconnection agreement: private contract negotiated and signed by two operators to determine, on a case-by-case basis, the terms and conditions of interconnection between them. Generally, agreements signed with an operator that has significant market power are based on that operator’s standard interconnection offer. Otherwise, the conditions are determined without reference to a standard interconnection offer.

Interconnection interface: the set of technical specifications necessary for the operational implementation of interconnection based on establishing dialogue between networks. It defines physical interconnection arrangements, services and advanced functions accessible by the networks concerned, the ordering mechanism for these services, and associated billing and operating arrangements.

Internet: a group of variable-sized networks interconnected by the Internet protocol (IP) over which a wide range of services can be provided.

Interoperability: also called interworking. Service interoperability refers to the seamless functioning of various services on different networks. With respect to interconnection, the technical functionality available at the interconnection interface determines partly whether a service will interoperate between different operators.

IP (*Internet Protocol*): telecommunications protocol that is used by the networks that support the Internet. It allows information to be packetised for transmission and the various packets to be addressed, transferred independently of one another, and reassembled into the original message on arrival. The switching technique therefore is referred to as packet switching. For Internet use, it is associated with a data transmission control protocol called TCP (Transmission Control Protocol); it is therefore known as the TCP/IP protocol.

ISP: Internet Service Provider.

Items of correspondence: postal items addressed to households and businesses. Includes both domestic items and items sent from abroad.

LLO (*Local Loop Operator*): telecommunications company that operates subscriber lines.

Local loop unbundling: local loop unbundling, also known as unbundled access to the local network, consists of allowing new operators to use the incumbent operator's local copper-pair network to serve their subscribers directly. The new entrant of course pays the incumbent for use of the local network.

Local loop: the wired or wireless facilities between the subscriber terminal and the local exchange to which the subscriber is connected. The local loop therefore is the part of an operator's network that provides direct access to the subscriber.

Long distance carrier: telecommunications company that transports national and/or international long distance communications.

LTE (*Long Term Evolution*): a 3GPP project focused on producing specifications for the fourth generation (4G) mobile radio standard.

Main distribution frame (MDF): apparatus that connects subscriber copper pairs to the cables that connect to the local exchange. It allows several subscriber lines to be concentrated onto a single cable.

MSC (*Mobile Services Switching Centre*) and VLR (*Visitor Location Register*): on GSM and/or UMTS networks, the MSC is the exchange that manages incoming and outgoing circuit-switched calls. The switch is linked to a database (VLR) containing a copy of the user profile and terminal or handset location information.

MVNO (*Mobile Virtual Network Operator*): unlike mobile network operators (Orange France, SFR and Bouygues Telecom in Metropolitan France), MVNOs have no frequency resources of their own. To provide end customers with mobile services, they therefore use a mobile network operator's radio network.

Narrowband Internet: also referred to as dial-up. Internet access from the France Telecom public switched telephone network, which is used for routing conventional telephone calls.

NAS (*Network Access Server*): equipment used by operators to provide Internet access services over the switched telephone network. An NAS converts telephone calls into IP data streams and thus provides the interface between the switched telephone network and the IP data transport network.

Network: totality of telecommunication resources employed including all switches and transmission links, whether wireline (metallic pair or cable or fibre optic cable) or wireless (terrestrial or satellite using electromagnetic waves).

Network sharing: on FTTH networks that can be shared, the network share point is the location of the connection between the optical fibres running to the different subscriber premises and those of the different operators. This connection can be either spliced or a cross-connection point. The network share point can be located more or less close to the premises that it serves. It can be a cabinet located at the entrance to the building, a street cabinet or even the OLT (optical line terminal) itself. The location of the share point depends on technical (fibre cableway capacity) and commercial (density) considerations. Trials that are currently underway make a distinction between two types of sharing:

- single fibre: with this model, the building operator pulls a single fibre from the building to the share point. Connection to the commercial network operator is through an optical jumper. This model makes it possible to optimise fibre capacity horizontally, but requires a technician for each connection to the share point;
- multi-fibre: under this model, the building operator pulls several fibres from the building to the share point. Connection to the commercial network operator is through either splicing or an optical jumper. This means that each operator owns a fibre and a dedicated port in each building. The appeal of this model is that, once the connection is installed in a building, a technician does not have to be sent out to the site and the risk of jumper error becomes nil. On the down side, this model requires a great deal of fibre, as much in the vertical as in the horizontal portion (for operators that opt for splicing) since a building can, in theory, be equipped with 400% capacity.

NRA: national regulatory authority.

NRA (*Nœud de raccordement d'abonnés*): subscriber connection point. A term used by France Telecom to designate the main distribution frame (see "MDF").

OLT (*also known as ONT*): point of convergence for the lines of FTTH network subscribers located in the same neighbourhood or the same town. It can be compared to the "NRA" (see above) in the copper local loop.

On-net and off-net calling: respectively, calls between two customers of the same mobile network and between two customers of different mobile networks.

PMR (*Professional Mobile Radio*): mobile radio networks for business users. In France the following distinctions are made:

- 3RP (*Réseaux radioélectriques à ressources partagées*): trunked private mobile radio network.
- 3RPC (*Réseaux radioélectriques à ressources partagées commerciaux*): trunked public access commercial mobile radio networks using 3RP technology;
- RPN (*Radiocommunications mobiles professionnelles numériques*): digital trunked Professional Mobile Radio networks using Tetra or Tetrapol technology.
- 2RC (*Réseaux à usage partagé à relais commun*): trunked private mobile radio networks for commercial purposes.
- 3R2P: 3RP networks operated for the user's private purposes.
- RPX: local trunked networks (new category of network).
- RPS (*Radio professionnelles simplifiées*): Short-range business radio.

Point-to-point: a type of fibre optic network architecture. It allows several operators to install their own, possibly different, equipment in the customer premises (dedicated fibre).

PON (*Passive Optical Network*): a type of fibre optic network architecture. It is a tree architecture whose active equipment is all managed by the same operator. Unlike point-to-point technology, it cannot be “unbundled”.

Radio interface: system enabling a mobile terminal to communicate with the network. Standardisation of the UMTS interface was the subject of numerous discussions within ETSI during 1997. On 29 January 1998, the SMG (Special Mobile Group) committee adopted the UTRA (UMTS Terrestrial Radio Access) standard for the terrestrial interface (as opposed to the interface for satellite).

The UTRA standard is a compromise between two originally competing standards: WCDMA and TD/CDMA. UTRA was adopted by the ITU in March 1999 as a radio interface standard for IMT-2000.

READSL2 (*Reach Extended Digital Subscriber Line*): a technique that makes it possible to increase the range of the ADSL signal by injecting more power into certain frequency bands. Its chief purpose is to provide minimum service to subscribers located just outside the farthest reach of the normal ADSL coverage zone.

Registered item: a service that guarantees flat rate compensation for the loss, theft or damage of the postal item and which, when so requested by the sender, provides proof of deposit of the postal item and/or its delivery to the recipient.

RFID: Radio Frequency Identification technology which takes the form of chips or electronic tags that contain information on the product in which they are inserted, and which are equipped with readers that make it possible to query the tags remotely (within a range of several meters).

RIO (*Relevé d'identité opérateur*): operator identity statement. A unique identifier which is attributed to a mobile phone line and the customer contract associated with it, enabling better identification during the number portability process.

SCS (*Société de commercialisation de services*): a term specific to the mobile sector, designating a mobile communications service provider, a company that sells and manages mobile subscriptions on behalf of an operator.

Shared access: or partially unbundled access to the local loop, which consists of making the “high” frequency bands of the copper pair available to third-party operators, on which they will be able to build an ADSL service, for instance. The low frequency band (the one used traditionally for telephony) continues to be managed by France Telecom, which thus continues to supply subscribers with its telephone services, without unbundling having any effect on the service.

Short messages or SMS (*Short Message Service*): text messages which are transmitted over the GSM mobile network signalling channels and have a maximum length of 160 characters. Transmission of these messages on the GSM network is standardised. A short-message server integrated into the mobile network provides the interface between the mobile and fixed-network environments.

Signalling: on a telecommunication network, the signalling function performs the exchange of information internal to the network for purposes of call routing. Just as road signs on a roadway network direct the movement of vehicles, signalling information directs the movement of communications on the telecommunications network. This could involve, for example, the information necessary to recognise the caller for purposes of setting up call billing or displaying the calling number. This function can be provided directly by the network transporting the subscriber call. Thus, it is generally integrated into the switches. It can also be performed by a separate network, called the signalling network.

SIM (*Subscriber Identity Module*): smartcard inserted into a mobile terminal and containing the subscriber data required to authenticate a user on the network (GSM standard).

Single piece mail: mail items sent by individuals, businesses and high volume issuers, which are not subject to any special preparation. They are deposited in the collection boxes on the public thoroughfare or adjacent to sorting centres, or in La Poste points of contact.

SMP (*Significant Market Power*) operator: an operator has significant market power (SMP) if, individually or jointly with others, it commands a position equivalent to a dominant position, i.e., it has considerable ability to behave without regard to its competitors, its customers and ultimately, consumers.

SMS (*Short Message Service*): see “Short Messages”.

SNG: satellite newsgathering, refers to ground stations for temporary satellite video links.

Standard interconnection offer: also known as the interconnection catalogue. Technical and commercial interconnection offer that operators designated by the Authority as having significant market power, pursuant to Article L.3-8 of the CPCE (the French postal and electronic communications code), are required to publish annually so that other operators may establish their own commercial offers and prices. The standard interconnection offer also sets forth the conditions governing physical interconnection between the SMP operator and other operators.

Switching: in a telecommunications network, switching allows temporary traffic connections to be established between two or more network points. This is carried out by equipment, called switches or exchanges, located at different points in the network. The basic structure of a telecommunications network therefore comprises transmission links interconnected by switches. Packet switching and circuit switching are two switching techniques used in telecommunication networks. The first is used by Internet (IP) networks for example and the second by traditional switched telephony networks.

Symmetrical regulation: a form of regulation that imposes the same obligations on all the operators in a given market in order to guarantee consumers network interoperability, a minimum quality of service, adequate information and streamlined operator switching procedures which, in turn, allow users to take the utmost advantage of market competition.

Terminal equipment: equipment allowing a user to send, process or receive information (e.g., telephone, fax, modem etc.).

Third-party billing: service by which new operators may entrust the incumbent operator with billing for the services they offer their customers via interconnection. In the case of special services, third-party billing can be used for charged services only (not for services that are free to the caller). As this market develops, third party billing becomes essential for effective competition.

Third-party collection: in the context of interconnection, a service enabling a network operator to collect traffic from the incumbent's network on behalf of an operator that has no infrastructure in the geographic area concerned. This service is used particularly by telephone operators who wish to provide their service over an extended area without deploying a network.

Transmission: in an electronic communication network, the transmission function transports information from one point in the network to another. The infrastructure supporting transmission may consist of copper or fibre optic cables or may be wireless. (See "Switching".)

Triple Play: a bundle of three services (broadband Internet access, unmetered calling and TV) delivered over an electronic communications network.

Ultra-fast broadband (or ultra high-speed access): a term that refers to Internet access capacities that exceed those of ADSL, when referring to fixed network access, and to those of UMTS, when speaking of mobile access. For fixed access, ultra-fast broadband is delivered via optical fibre while, on mobile, the technologies are referred to collectively as 3.5G (HSDPA) or 4G (LTE).

URA (*Unité de raccordement d'abonné*): on the France Telecom network, this is the subscriber line unit, the part of the telephone switch where subscriber lines connect and information is digitised.

UWB (*Ultra wide-band*): a wireless modulation technology for transmitting large amounts of digital data over a wide spectrum of frequency bands, but with very low power to prevent interference with other signals.

VDSL (*Very high speed Digital Subscriber Line*): xDSL technologies enabling better performance on local copper loop access networks, the goal being to supply higher speeds than classic ADSL.

VGAST (*Vente en gros de l'abonnement téléphonique*): a wholesale line rental offer marketed by France Telecom which includes not only the subscription as such and services which are traditionally associated with the telephone subscription (caller display, incoming call signal, etc.) but also all person-to-person calls, calls to special numbers and narrowband Internet access. It is compatible with the simultaneous use of the high frequency band, notably in the case of wholesale broadband offers delivered at the regional or national level and shared access, regardless of the operator employing this high frequency band.

VPN (Virtual Private Network): a virtual private network involves the shared use of one or several public networks for the internal purposes of a closed user group, which is defined "as a group based on a community of interest that is stable enough to be identifiable and which predates the provision of the telecommunications service". It responds to a need for both internal communication (communication within the user group) and external communication (communication with public network users). It allows businesses with widely distributed sites to use the operator's network for emulated private network access that employs a numbering plan internal to the company: this emulation provides businesses with the functionality of a private automatic branch exchange (PABX) without requiring the investment

VSAT (Very Small Aperture Terminal): satellite telecommunication service supporting two-way information exchange at low or medium speed via a small transmitter-receiver terminal that uses a narrow part of the total satellite bandwidth.

WAP (Wireless Application Protocol): standard that adapts the Internet to mobile telephone constraints, in particular by employing a suitable content format. This communication protocol is a component of the process for gradually migrating GSM mobile networks to the Internet.

WAPECS (Wireless Access Policy for Electronic Communications Services): an initiative launched by European Union countries aimed at facilitating swift access to spectrum for new technologies, in a bid to promote competitiveness and innovation (by eliminating all of the obstacles impeding market momentum), and to ensure consistent licensing mechanisms, while upholding the principles of technological neutrality for services.

Wi-Fi (Wireless Fidelity): generic commercial name for IEEE 802.11x wireless local Ethernet network (WLAN) technology operating at 2.4 GHz, 2.5 GHz or 5 GHz.

WiMAX (Worldwide Interoperability for Microwave Access): label certifying the interoperability of IEEE 802.16-standard equipment from different suppliers.

WLAN (Wireless Local Area Network): wireless network operating over a limited area.

WLL (Wireless Local Loop): local loop employing radio technology rather than the copper wire used in today's networks, thereby allowing for greater flexibility in infrastructure deployment.

WRC (World Radiocommunication Conference): its purpose is to ensure international coordination in matters relating to radiocommunication. This coordination is essential because frequencies cross borders and it is simpler to have the same types of services in the same bands. Organised by the ITU, this conference is held every three or four years. The results, once incorporated into radiocommunications regulations, constitute international treaty. Each WRC conference is preceded by a meeting of the Radiocommunications Assembly and is followed by a conference preparatory meeting (CPM), where the groundwork is laid to prepare for the next conference.

ZAA (Zone à autonomie d'acheminement): local exchange area. In the France Telecom network, every category of switch is associated with a technical service area which indicates the number of subscribers served by one or more switches at a given level of the network. The ZAA (*Zone à autonomie d'acheminement*) corresponds to the CAA or local exchange, and the ZT (*Zone de transit*) corresponds to the CT or transit exchange (*Commutateur de transit*).

ZLT (Zone locale de tri): local sorting area. The local loop operator sends calls to the carrier designated by the calling party only when the calls are destined for called parties outside of the ZLT; it keeps and routes calls internal to the ZLT regardless of the way in which the calling party dials the call. In France, the ZLT generally corresponds geographically to a *département*.

ZT (Zone de transit): transit area. (See "ZAA").