

Glossary

- **AAL5:** ATM Adaptation Layer type 5
- **ATM:** Asynchronous Transfer Mode
- **BSC:** Base Subsystem Controller. Carries out control functions for the BSS.
- **BSS:** Base Station Subsystem. The physical equipment that provides radio coverage to prescribed geographical areas.
- **BSSAP:** Base Station System Application Part
- **BSSGP:** Base Station System GPRS Protocol
- **BTS:** Base Transceiver Station. Carries out transmitting functions for the BSS.
- **CAMEL:** Customized Application for Mobile network Enhanced Logic. One of the biggest enhancements first implemented in GSM networks is mobile network integration with intelligent networks. CAMEL is a GSM feature that makes worldwide support of operator specific services possible. CAMEL is not a service per se, but a feature to create services. CAMEL supports call screening and supervision services, number translation services, enhanced call forwarding (time and location dependent), and fraud information gathering services. It is implemented to support both mobile originated and terminated calls.
- **CDMA:** Code Division Multiple Access. CDMA can be thought of as a combination of both FDMA and TDMA; it takes the entire allocated frequency range for a given service and multiplexes information for all users across the spectrum range at the same time. CDMA uses unique spreading codes to spread the base-band data before transmission. The receiver then uses a correlator to despread the desired signal, which is passed through a narrow band pass filter. Unwanted signals will not be despread and will not pass through the filter. It is used with second- and third-generation systems.
- **CK:** Cipher Key
- **CMM:** Circuit Mobility Management
- **CS:** Circuit Switched
- **DHCP:** Dynamic Host Configuration Protocol
- **DNS:** Domain Name System
- **EGPRS:** Enhanced GPRS
- **EIR:** Equipment Identity Register. Maintains a list of legitimate, fraudulent, or faulty MSs.
- **FDMA:** Frequency Division Multiple Access. In FDMA, the frequency spectrum is divided among several logical channels. Each user has exclusive possession of some frequency band. A frequency synthesizer is used to set the transmission and reception frequencies. FDMA has been widely adopted in existing analog systems for portable and automobile telephones. It assigns a different carrier wave frequency to each active user. FDMA is used with AMPS and GSM systems.
- **GGSN:** Gateway GPRS Support Node. Provides internetworking with external packet-switched networks.
- **GMM/SM:** GPRS Mobility Management and Session Management

- **GPRS-SSF:** GPRS Service Switching Function
- **GPRS-CSI:** GPRS CAMEL Subscription Information
- **GSM-SCF:** GSM Service Control Function
- **GSIM:** GSM Service Identity Module
- **GSN:** GPRS Support Node
- **GTP:** GPRS Tunnelling Protocol
- **GTP-C:** GTP Control Plane
- **GTP-U:** GTP User Plane
- **HLR:** Home Location Register. Maintains subscriber information relevant to provisioning of services.
- **ICMP:** Internet Control Message Protocol
- **IK:** Integrity Key
- **IP:** Internet Protocol
- **L2TP:** Layer 2 Tunnelling Protocol
- **LLC:** Logical Link Control
- **LL-PDU:** LLC PDU
- **MAC:** Medium Access Control
- **MS:** Mobile Station. A combination of the phone hardware and the SIM.
- **MSC:** Mobile Switching Center. Within the NSS, the switching functions are performed by the MSC.
- **Node B:** UTRAN node roughly equivalent Node B to GSM's BTS.
- **NS:** Network Service
- **NSAPI:** Network Layer Service Access Point Identifier
- **NSS:** Network Subsystem
- **PCU:** Packet Control Unit
- **PDCH:** Packet Data Channel
- **PDCP:** Packet Data Convergence Protocol
- **PDN:** Packet Data Network
- **PDP:** Packet Data Protocol, e.g., IP.
- **PDU:** Protocol Data Unit

- **PLMN:** Public Land Mobile Network
- **PMM:** Packet Mobility Management
- **RAC:** Routing Area Code
- **RAI:** Routing Area Identity
- **RANAP:** Radio Access Network Application Protocol
- **RAU:** Routing Area Update
- **Reporting Area:** The service area for which the location of an MS is reported.
- **RLC:** Radio Link Control
- **RNC:** Radio Network Controller. A UTRAN component roughly equivalent at a peer level to the GSM BSC.
- **RNS:** Radio Network Subsystem
- **Service Area:** The location accuracy level needed for service management purposes in the 3G-SGSN, e.g., a routing area or a cell. The 3G-SGSN can request the SRNC to report the MS's current service area; when the MS moves into a given service area; or when the MS moves out of a given service area.
- **SGSN:** Serving GPRS Support Node. The GPRS equivalent to the MSC.
- **SIM:** Subscriber Identity Module. A smart card that contains user account information.
- **SM:** Short Message
- **SMS:** Short Messaging Service
- **SM-SC:** Short Message service Center
- **SMS-GMSC:** Short Message Service Gateway MSC
- **SMS-IWMSC:** Short Message Service Internetworking MSC
- **SNDC:** Subnetwork Dependent Convergence
- **SNDCP:** Subnetwork Dependent Convergence Protocol
- **SN-PDU:** SNDCP PDU
- **SRNC:** Serving RNC
- **TCAP:** Transaction Capabilities Application Part
- **TCP:** Transmission Control Protocol
- **TDMA:** Time Division Multiple Access. TDMA splits a single carrier wave into time slots and distributes the slots among multiple users. The communications channels essentially consists of many units called time slots over a certain time cycle, which makes it possible for one frequency channel to be effectively utilized by multiple users as each uses a different time slot. Each user takes the possession of the frequency spectrum in round

robin fashion. GSM, which originally only used FDMA, now supports TDMA also, though it can only use one access scheme at a time.

- **TFT:** Traffic Flow Template
- **TRAU:** Transcoder and Rate Adaptor Unit
- **UDP:** User Datagram Protocol
- **UTRAN:** UMTS Terrestrial Radio Access Network
- **VLR:** Visitor Location Register. Part of the NSS; dynamically stores subscriber information when the subscriber is located in its coverage area.
- **WCDMA Wideband CDMA:** A third-generation (3G) mobile wireless technology offering much higher data speeds to mobile and portable wireless devices than those commonly offered in today's market. The UMTS system uses the WCDMA access scheme.

Interfaces

- **Ga:** Charging data collection interface between a CDR transmitting unit (e.g., an SGSN or a GGSN) and a CDR receiving functionality (a CGF).
- **Gb:** Interface between an SGSN and a BSS.
- **Gc:** Interface between a GGSN and an HLR.
- **Gd:** Interface between an SMS-GMSC and an SGSN, and between an SMS-IWMSC and an SGSN.
- **Gf:** Interface between an SGSN and an EIR.
- **Gi:** Reference point between GPRS and an external packet data network.
- **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.
- **Gr:** Interface between an SGSN and an HLR.
- **Gs:** Interface between an SGSN and an MSC/VLR.
- **Iu:** Interface between the RNS and the core network. It is also considered as a reference point.
- **R:** Reference point between a non-ISDN compatible TE and MT. Typically, this reference point supports a standard serial interface.
- **Um:** Interface between the mobile station (MS) and the GSM fixed network part. The Um interface is the GSM network interface for providing GPRS services over the radio to the MS. The MT part of the MS is used to access the GPRS services in A/Gb mode through this interface.
- **Uu:** Interface between the mobile station (MS) and the UMTS fixed network part. The Uu interface is the UMTS network interface for providing GPRS services over the radio to the MS. The MT part of the MS is used to access the GPRS services in Iu mode through this interface.