The main element within the core network area of the

overall GSM network architecture is the Mobile

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Home Subscriber Server (**HSS**) for LTE Data. Home Subscriber Server (**HSS**) for IMS Voice

**HSS (Home Subscriber Server)**

The HSS (Home Subscriber Server) is the concatenation of the HLR (Home Location Register) and the AuC (Authentication Center) – two functions being already present in pre-IMS 2G/GSM and 3G/UMTS networks. The HLR part of the HSS is in charge of storing and updating when necessary the database containing all the user subscription information, including (list is non exhaustive):

User identification and addressing – this corresponds to the IMSI (International Mobile Subscriber Identity) and MSISDN (Mobile Subscriber ISDN Number) or mobile telephone number.

User profile information – this includes service subscription states and user-subscribed Quality of Service information (such as maximum allowed bit rate or allowed traffic class).

The AuC part of the HSS is in charge of generating security information from user identity keys. This security information is provided to the HLR and further communicated to other entities in the network. Security information is mainly used for:

Mutual network-terminal authentication.

Radio path ciphering and integrity protection, to ensure data and signalling transmitted between the network and the terminal is neither eavesdropped nor altered.

**HSS**  is an essential core component that a mobile operator or MVNO needs to provide mobile services over GSM, UMTS and LTE networks

**HLR**. The Home Location Register is a database from a mobile network in which information from all mobile subscribers is stored. The **HLR** contains information about the subscribers identity, his telephone number, the associated services and general information about the location of the subscriber.

What is IVR in telecom?

Stands for "Interactive Voice Response." **IVR** is a telephony technology that can read a combination of touch tone and voice input. It gives users the ability to access a database of information via phone. A typical **IVR** system has several menus of prerecorded options that the caller can choose from.

How do IVR systems work?

**How Does IVR Work**? ... **IVR** or **Interactive Voice Response** is a technology which allows incoming callers to navigate a phone **system** before talking to a human operator. IVRs **work** with DTMF tones — touch tones from a telephone — and some have voice recognition or even artificial intelligence to respond to and route callers.

What is IVR process?

**Interactive Voice Response** (**IVR**) is an automated telephony system that interacts with callers, gathers information and routes calls to the appropriate recipients. ... **IVR**systems can consist of telephony equipment, software applications, a database and a supporting infrastructure.

The Gateway GPRS Support Node (**GGSN**) is a main component of the GPRS network. The **GGSN** is responsible for the interworking between the GPRS network and external packet switched networks, like the Internet and X.25 networks

What is the use of SGSN and GGSN?

The **Serving GPRS Support Node** (SGSN) is a main component of the GPRS network, which handles all packet switched data within the network, e.g. the mobility management and authentication of the users. The SGSN performs the same functions as the MSC for voice traffic.

Policy and Charging Rules Function (**PCRF**) is the software node designated in real-time to determine policy rules in a multimedia network. As a policy tool, the **PCRF** plays a central role in next-generation networks. ... Such a network might offer multiple services, quality of service (QoS) levels, and charging rules.

What is PCRF and PCEF?

**PCRF** is designed to provide network control relating to the service data flow detection, QoS, and flow based charging controlling to the **PCEF**, whereas **PCEF**basically provides user traffic handling and QoS at the Gateway

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The message is then forwarded to the carrier's **MMS**store and forward server, known as the **MMSC**(Multimedia Messaging Service Centre). If the receiver is on a carrier different from the sender, then the **MMSC**acts as a relay, and forwards the message to the **MMSC**of the recipient's carrier using the internet.

What is MMSC on phone?

**MMSC**. In order to send and receive MMS messages, you **phone** needs to connect to an **MMSC** (Multimedia Messaging Service Center) as specified in this field. This field needs to be set to the **MMSC** address (which looks like a web address) provided to you by your carrier.

Voice mailbox service (**VMS**) is a kind of value added **telecom** service based on intelligent network platform. It can replace the answering machine adding more interactive service features. In this system, customers do not need to add any equipment to their telephone set.

What is VMS security?

Its **VMS** software is an IP based system designed to manage digital and analog video, storage and retrieval and provide automated alerts from VCA, access control and other physical **security** systems.

The Short Message Service Centre (**SMSC**) is an element in a GSM network responsible for the delivery of short messages (SMS). All messages are sent to the**SMSC**. The **SMSC** stores the messages, extracts the destination from it and tries to deliver the message.

Definition - What does Caller Ringback Tone (**RBT**) mean? ... As mobile technology has advanced, the caller **RBT** term has become more synonymous with a customized**RBT** that replaces a standard caller **RBT**. A caller **RBT** is also known as an answer tone, ringback tone, audible ring, callertune, call tone or connecting tone.

Audible ringing (ringing tone, colloquially also ringback tone) is a signaling tone in**telecommunication** that is heard by the originator of a telephone call while the destination terminal is alerting the receiving party. ... The ringing tone is often also called ringback tone

## Mediation platform[Edit](https://en.m.wikipedia.org/w/index.php?title=Telecommunications_mediation&action=edit&section=1)

[A billing mediation platform](https://en.m.wikipedia.org/w/index.php?title=Billing_Mediation_Platform&action=edit&redlink=1) is a system used to convert data of certain datatypes to other datatypes, usually for billing purposes. Billing Mediation Platforms are used mostly by telephone companies, who typically need to process UDRs (Usage Detail Records). In call scenarios UDRs are most often known as [CDRs](https://en.m.wikipedia.org/wiki/Call_detail_record) (Call Detail Records), and among broadband carriers they are often referred to as [IPDR](https://en.m.wikipedia.org/wiki/IPDR).

## Functionality

Typically a mediation platform is used for the following tasks:

* Collection and validation of CDRs
* Filtering out of non billing-relevant CDRs
* Collating
* Correlation of different input sources CDRs
* Aggregation of partial CDRs related to the same call
* Format change and CDRs normalization
* Business transformation of data

In a telecom billing scenario, mediation is the first step after receiving a CDR. The mediated CDR is forwarded to a rating engine, which calculates the charge associated with the CDRs. In today's world Rating Engines are more becoming necessary for the telecom billing system to meet the growing variant customer needs for different services.[[*citation needed*](https://en.m.wikipedia.org/wiki/Wikipedia:Citation_needed)]

Despite the name, not all of the data transferred via billing mediation platforms is actually used for billing purposes. For instance, the mediation software might generate traffic volume statistics based on the number and origin of the records passing through it. Those statistics could then be used for capacity planning, as part of a [network monitoring](https://en.m.wikipedia.org/wiki/Network_monitoring) procedure, or for any other business intelligence applications.