

# GPRS BILLING TECHNIQUES

As packet data is introduced into mobile systems, the question of how to bill for the services arises. Always online and paying by the minute does not sound all that appealing. Here, we describe the possibilities but it totally depends on different service providers, how they want to charge their customers.

The SGSN and GGSN register all possible aspects of a GPRS user's behavior and generate billing information accordingly. This information is gathered in so-called Charging Data Records *CDR* and is delivered to a billing gateway.

The GPRS service charging can be based on the following parameters:

- **Volume** - The amount of bytes transferred, i.e., downloaded and uploaded.
- **Duration** - The duration of a PDP context session.
- **Time** - Date, time of day, and day of the week *enabling lowertariffsatoffpeakhours*.
- **Final destination** - A subscriber could be charged for access to the specific network, such as through a proxy server.
- **Location** - The current location of the subscriber.
- **Quality of Service** - Pay more for higher network priority.
- **SMS** - The SGSN will produce specific CDRs for SMS.
- **Served IMSI/subscriber** - Different subscriber classes *differenttariffsforfrequentusers, businesses, orprivateusers*.
- **Reverse charging** - The receiving subscriber is not charged for the received data; instead, the sending party is charged.
- **Free of charge** - Specified data to be free of charge.
- **Flat rate** - A fixed monthly fee.
- **Bearer service** - Charging based on different bearer services *foranoperatorwhohasseveralnetworks, suchasGSM900andGSM1800, andwhowantstopromoteusageofoneofthenetworks*. Or, perhaps the bearer service would be good for areas where it would be cheaper for the operator to offer services from a wireless LAN rather than from the GSM network.