General Packet Radio Service (GPRS)

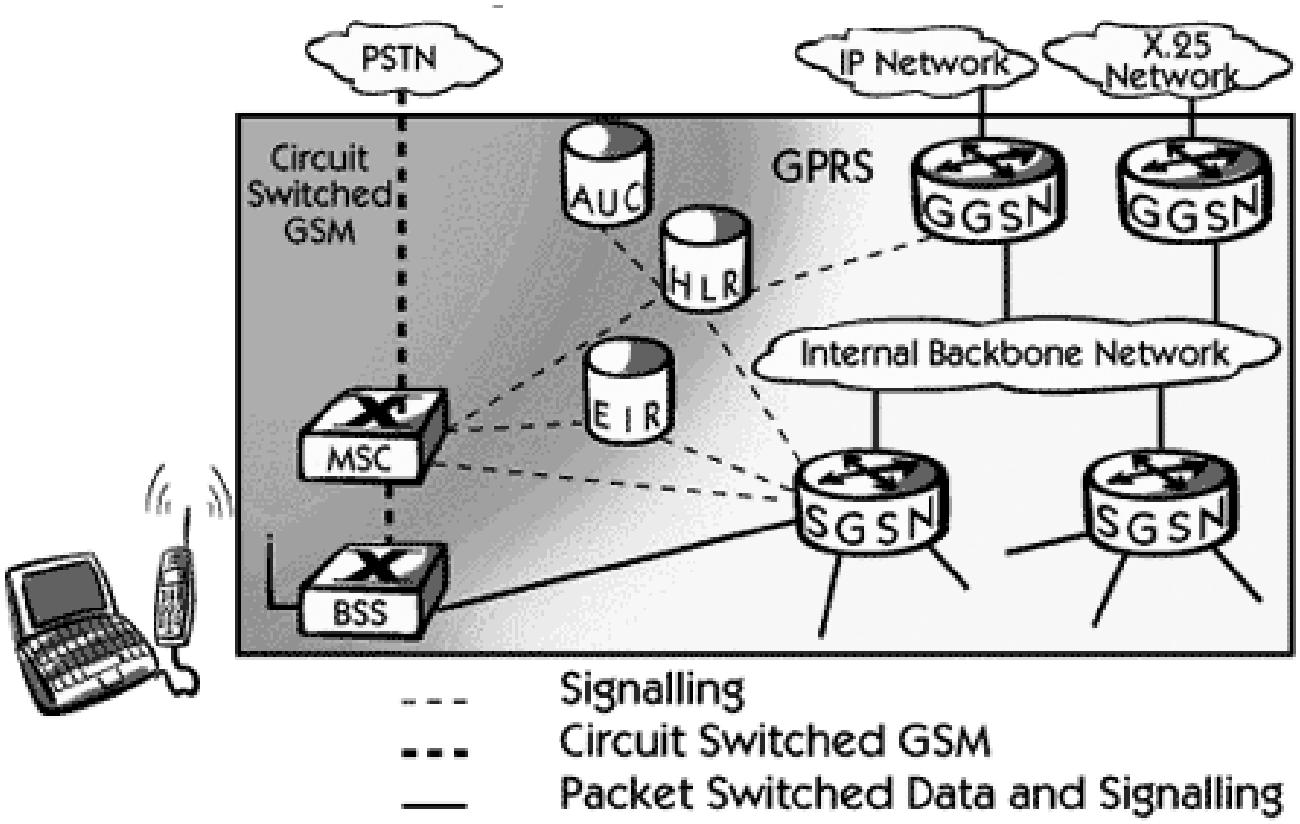
GPRS is an expansion Global System for Mobile Communication. It is basically a packet-oriented mobile data standard on the 2G and 3G cellular communication network's global system for mobile communication. GPRS was built up by European Telecommunications Standards Institute (ETSI) because of the prior CDPD, and I-mode packet switched cell advances.

GPRS overrides the wired associations, as this framework has streamlined access to the packet information's network like the web. The packet radio standard is utilized by GPRS to transport client information packets in a structured route between GSM versatile stations and external packet information networks. These packets can be straightforwardly directed to the packet changed systems from the GPRS portable stations.

GPRS Architecture

GPRS architecture works on the same procedure like GSM network, but, has additional entities that allow packet data transmission. This data network overlaps a second-generation GSM network providing packet data transport at

the rates from 9.6 to 171 kbps. Along with the packet data transport the GSM network accommodates multiple users to share the same air interface resources concurrently.



GPRS Architecture

GPRS attempts to reuse the existing GSM network elements as much as possible, but to effectively build a packet-based mobile cellular network, some new network elements, interfaces, and protocols for handling packet traffic are required.

Goals Of GPRS:

1. Consistent IP services
2. Leverage industry investment in IP
3. Open Architecture
4. Service innovation independent of infrastructure

Services Offered:

1. SMS messaging and broadcasting
2. Push-to-talk over cellular
3. Instant messaging and presence
4. Multimedia messaging service
5. Point-to-Point and Point-to-Multipoint services

Protocols supported:

1. Internet Protocol (IP)
2. Point-To-Point Protocol (PPP)

Benefits Of GPRS:

- **Mobility:**
  The capacity to keep up consistent voice and information interchanges while moving.

- **Cost Efficient:**
  Communication via GPRS is cheaper than through the regular GSM network.
- **Immediacy:**
  Allows customers to obtain connectivity when needed, regardless of location and without a lengthy login session.
- **Localization:**
  Enables customers to acquire data applicable to their present area.
- **Easy Billing:**
  GPRS packet transmission offers an easier to use billing than that offered by circuit switched administrations.

GPRS Applications:

- **Communications -** E-mail, fax, unified messaging and intranet/internet access, etc.
- **Value-added services -** Information services and games, etc.
- **E-commerce -** Retail, ticket purchasing, banking and financial trading, etc.
- **Location-based applications -** Navigation, traffic conditions, airline/rail schedules and location finder, etc.

- **Vertical applications -** Freight delivery, fleet management and sales-force automation.
- **Advertising -** Advertising may be location sensitive. For example, a user entering a mall can receive advertisements specific to the stores in that mall.

Along with the above applications, non-voice services like SMS, MMS and voice calls are also possible with GPRS. Closed User Group (CUG) is a common term used after GPRS is in the market, in addition, it is planned to implement supplementary services, such as Call Forwarding Unconditional (CFU), and Call Forwarding on Mobile subscriber Not Reachable (CFNRc), and closed user group (CUG).