

Mobile Computing and Communication

General Packet Radio Service (GPRS)

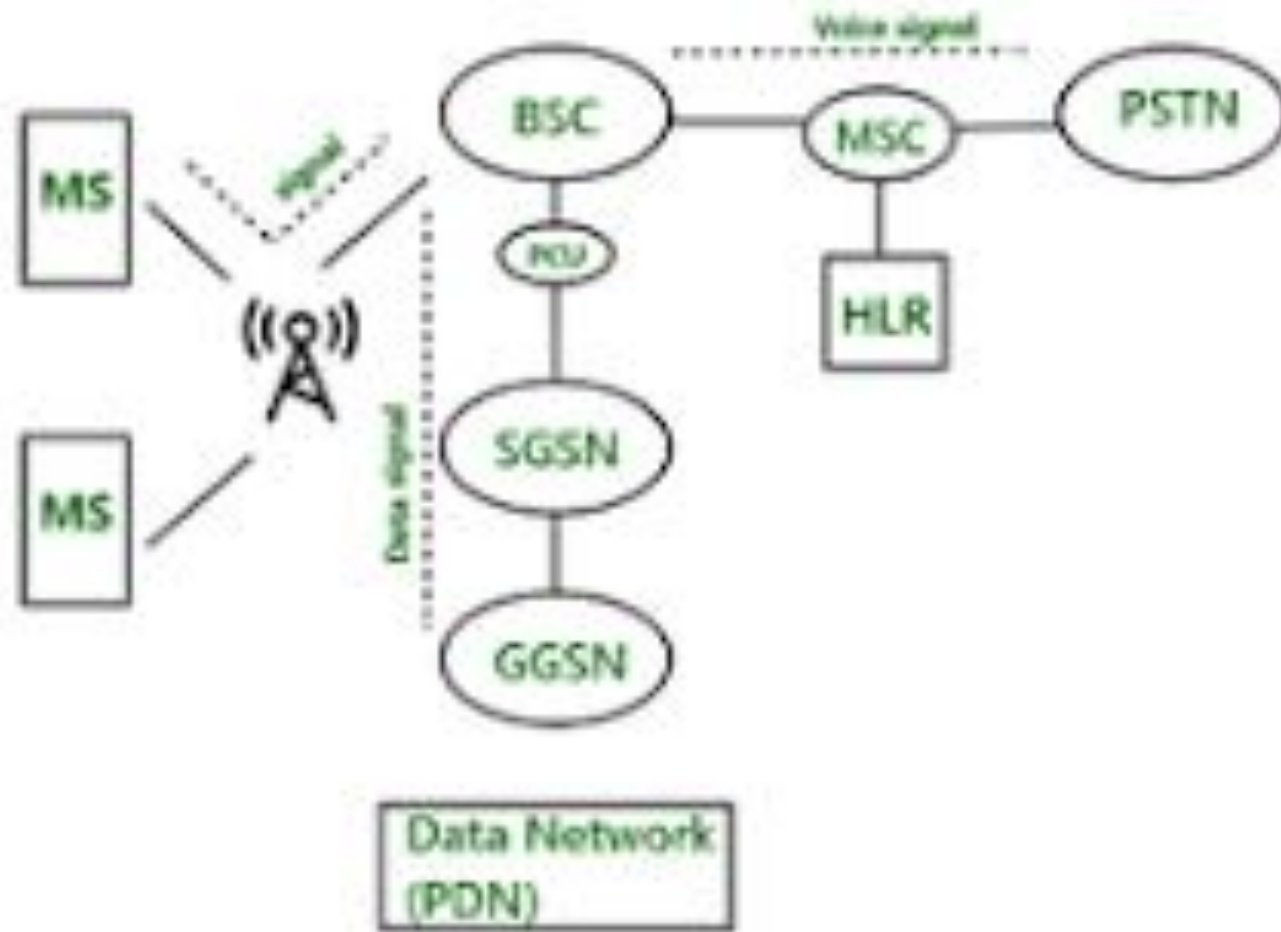
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GPRS transfers data packets from GSM mobile stations to external packet data networks (PDNs)



GPRS Services

GPRS offers end-to-end packet-switched data transfer services

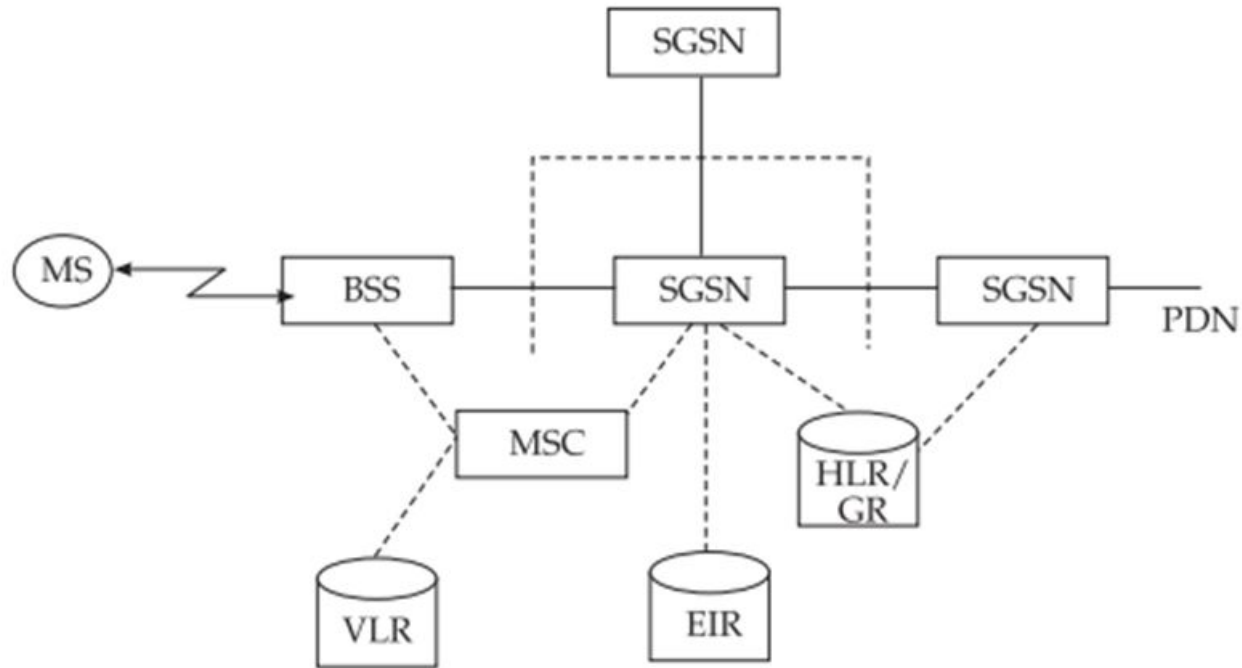
(i) Point-to-Point (PTP) service

(ii) Point-to-Multipoint (PTM) service

The PTP service is between two users and can either be connectionless or connection-oriented.

The PTM is a data transfer service from one user to multiple users.

GPRS Architecture



GPRS architecture introduces two new network elements, called GPRS Support Node (GSN) and the Gateway GPRS Support Node (GGSN).

Task of SGSN :

Packet Delivery

Mobility management

apply/ sign off of terminals

localization

LLC (Logical Link Control) management

Authentication

billing

Task of GGSN :

Mediator between GPRS between backbone and external data networks.

Saves current data for the SGSN address of the participant as well as their profile and data for authentication and invoice.

Universal Mobile Telecommunications System (UMTS)

UMTS systems are compatible with GSM networks. Therefore, the UMTS networks can easily work with any existing GSM/GPRS network.

UMTS Applications

Streaming / Download (Video, Audio)

Videoconferences.

Fast Internet / Intranet.

Mobile E-Commerce (M-Commerce)

Remote Login

Background Class applications

Multimedia-Messaging, E-Mail

FTP Access

Mobile Entertainment (Games)

UMTS Network Architecture

The UMTS network architecture can be divided into three main elements:

- User Equipment (UE)
- Radio Network Subsystem (RNS)
- Core Network

UMTS Network Architecture

