CLOUD SHINE GLOBAL

L.L.P

YOUR TRUSTED PARTNER

AGENDA

1. **Billing Concepts**

Billing Concepts

Telecommunications billing is the group of processes of communications service providers that are responsible to collect consumption data, calculate charging and billing information, produce bills to customers, process their payments and manage debt collection

Few examples of the billing system are

Telecom Billing Enterprise Architecture
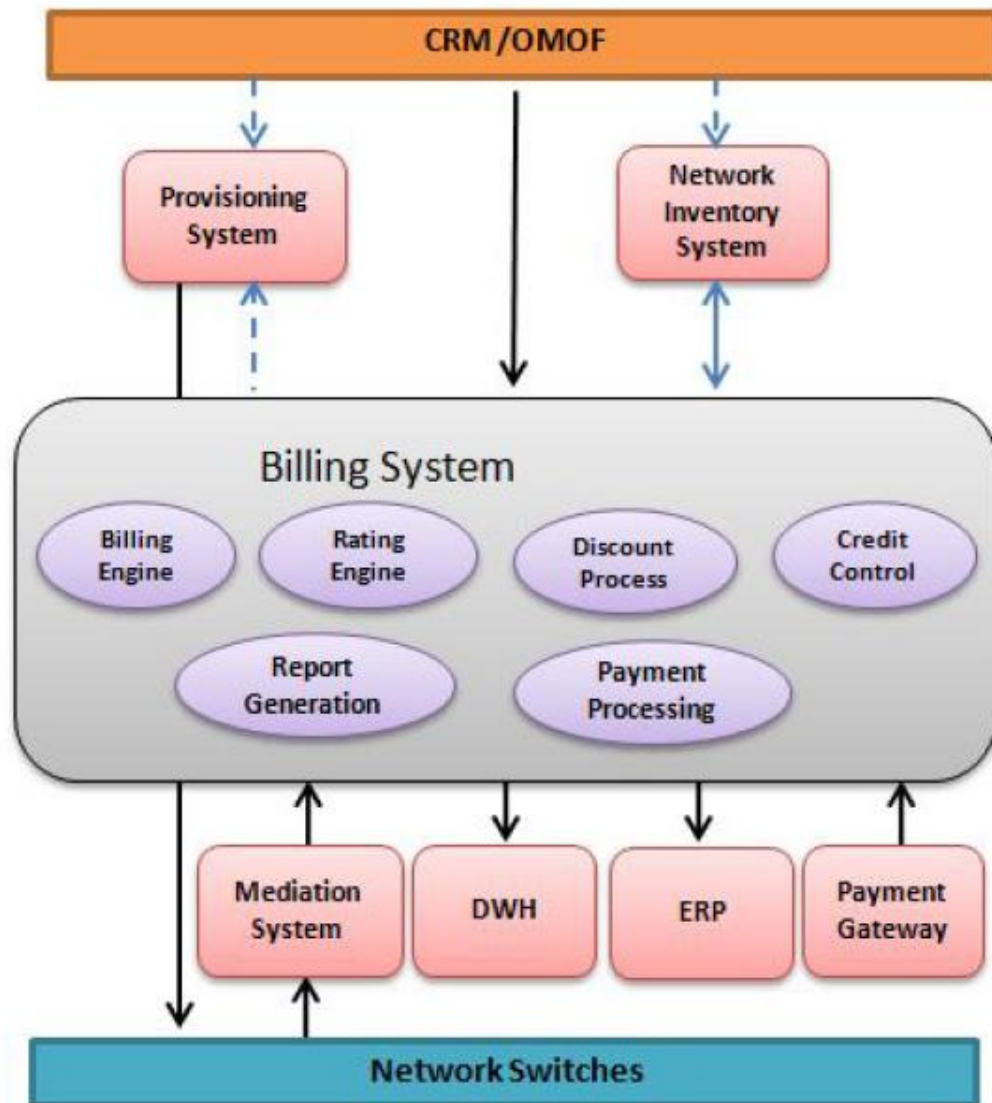
The picture on left side shows the BSS architecture consists of
CRM
OMOF or EAI
Provisioning System
Billing System
Mediation System.

CRM: is used to for registration of customer and it is a front end system.

OMOF or EAI: Is the middleware system which acts as mediator communicating with different front end and back end systems.

Provision System is used to activate the customer number in the network element/ network switches.

DWH is data ware house system used for reporting and analytics.

Payment Gateway is used to receive payment of customers into billing system.

Billing Concepts – Billing Types

Prepaid billing

- Subscribers pay in advance and once the payments have been received by the telecom service operator they will start the service to the subscribers.
- Prepaid customers usually pay in real-time.
- There will no generation of bills or invoices in prepaid billing type.

Postpaid billing

- Subscribers utilize the services provided by the telecom service operator for period of a month.
- After the end of the month operators generates the invoices and sent the same electronically or manually to the subscribers/users.
- Once the invoices are received by the subscribers they will make the payment.

Billing Concepts – Different types of Charges

Charge/Fee Type	Description
Installation Fee or Set Fee or One-time charge/Fee	These are one time charges which can be taken from the customer as a part of installation, activation, service or initiating a connection.
Recurring Charges or Cycle Fee or Cycle Charges	These are the charges which can be applied on monthly or bi-monthly or years basis as a rental of the product and service provided.
Usage Charges	This is most important type of charge which would be applied base on the usage of the service. For example call per minute, or per second, data download per MB, etc.
Discounts	A billing system should be capable of giving various types of discounts on different usages and rentals.

INSTALLATION CHARGES

TRULY **UNLIMITED** INTERNET

GET ALL 12 PAID OTT APPS AT NO EXTRA COST

PLANS STARTING AT ₹399/MONTH

SYMMETRIC SPEED
UPLOAD SPEED=DOWNLOAD SPEED

PLAN >	₹ 399	₹ 699	₹ 999	₹ 1499
TRULY UNLIMITED INTERNET	30 Mbps	100 Mbps	150 Mbps	300 Mbps
UNLIMITED VOICE	✓	✓	✓	✓
OTT APP SUBSCRIPTION INCLUDED	–	–	11 APPS WORTH ₹1000	12 APPS WORTH ₹1500

On Home Network	
Local & STD Airtel to Airtel mobile	50 paisa per minute
Local & STD Airtel to other mobile & landline calls	60 paisa per minute
While Roaming	
Incoming calls	60 paisa per minute
Local & STD Airtel to Airtel mobile	60 paisa per minute
Local & STD Airtel to other mobile & landline calls	80 paisa per minute

Recurring Charges or Cycle Fee or Cycle Charges

Recurring Charges or Cycle fees are divided into different types based on the frequency like

Monthly - Monthly Charge which occurs every month.
Quarterly - Charges once in quarter i.e. every 3 months.
Semi Annual – Charge every 6 months.
Annual – Yearly Charge.

Recurring charges are also depended on the event when it is trigger like at start of month/quarter or at the end of month/quarter.

If they are at start of month/quarter we call them as **cycle forward**.
If they are at the end of month/quarter we call them as **cycle arears**.

Proration: Is the process of charging customer for the number of days the customer used the service.
Proration Rules are applied at the time of purchase and cancellation of services by the customer.

Rules:
- Charge for the complete Cycle.
- Charge for number of days the customer used the service.
- Don't Charge the customer.

Parameters for Usage Charges

- Calls in day time usually called peak time, will be charged on higher rate and in night time, i.e., off peak time rate will be relatively low.
- If calls are terminating with-in the same network usually called on-net calls , would be charged at relatively low prices.
- Calls during weekend, i.e., Sat and Sun would be charged at low prices.
- Calls to a particular destination would be charged at high prices.
- Calls during some festival would be charged at special prices.
- Data download from a particular site would be free of cost.
- Sending SMS to a particular code would be charged at high rate.
- Calls with-in a particular group of numbers usually called closed user group (CUG), would be charged at zero prices.
- Sending international or national MMS would be charged at the same prices.

Types Of Usage Charges

➤ **On-net:**
  - ➤ 'On-Net' is used when your call or message originates on your home operator's network and terminates to another mobile number that resides with your operator.

➤ **Off-net or Cross-net:**
  - ➤ 'Off-Net' applies when the call or message is made on a different network, e.g. whilst you are roaming, or if you are using your home network and make a call or send a message to a number that resides with a different network provider.

➤ **CUG calls:**
  - ➤ Closed User **group** (**CUG**) is a supplementary services provided by the mobile operators to mobile subscriber's who can make and receive **calls** from member associated within the **group**.

➤ **International Calls:**
  - ➤ Calls made to other countries.

➤ **Roaming Calls:**
  - ➤ **Roaming** is the ability for a customer of mobile communications to automatically make and receive telephone **calls**, send and receive data, or access other services while travelling outside the geographical coverage area of the home network, by means of using a network of another operator.

Discounts

All discounts modify (most often to reduce) the price to pay for a set of events and / or products.

The discount sets a fixed amount of money (in percentage or cash) to be applied to products or usage that meet certain criteria.

For example, all local calls made on a particular day, such as 01-01-2010, are charged $ 0.20.

Discounts can be calculated either during the rating process or during the billing process

Different Type of Discounts

➢ Flat discounts (dollars off)

➢ Percentage discounts

➢ Bill Time Discount [BTD] (based on the invoiced amount for product/service or calls)

➢ Volume discounts (based on the quantity of product/service, number of calls or minutes)

  ▪ 5% discount for spending $ 100 or 100 events, etc
  ▪ "10 free SMS if more than $ 30 is spent on mobile calls ".

➢ Tiered discounts (volume and revenue discounts applied separately for each volume tier)

  ▪ For example, 0% off for a threshold spend of $ 0 to $ 100 or threshold of 0 to 100 events, 5% off for a threshold spend of $ 100 to $ 200 or from 100 to 200 events, etc.

➢ Discounts based on customer credit rating and/or length of customer relationship (loyalty rewards)

Tiered Discounts

SPEND	DISCOUNT
0-100	0%
100-200	5%
200-300	10%
>300	15%
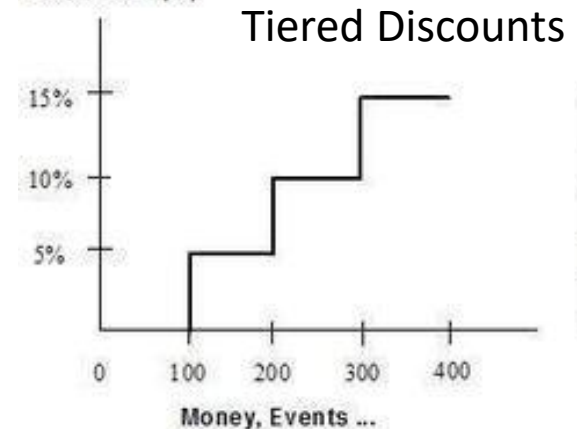
Billing Concepts

A **rate** defines the impact of events on customer accounts using:

- Currency such as Dollars, Euros, Yen.
- Non-currencies such as Free Minutes or Songs Downloaded.

Examples:

Charge a customer 40 cents per minute for a voice call.

Credit a customer account with 500 Free Minutes per month.

Resource

What you track: Dollars, Euros, Frequent Flier Miles, Megabytes.

There are two type of resources.

Currency & Non Currency Resources.

Rating

The process that determines the balance impact of an event to a customer's account

Service

A *service* is an entity to which a company grants a customer access, for example, wireless voice, video, or access to digital content.

Examples: Voice; SMS; MMS; GPRS; Data/internet
Cloud services, webhosting services, IPTV. VoIP.

Comparison	2G	3G	4G	5G
Introduced in year	1993	2001	2009	2018
Technology	GSM	WCDMA	LTE, WiMAX	MIMO, mm Waves
Access system	TDMA, CDMA	CDMA	CDMA	OFDM, BDMA
Switching type	Circuit switching for voice and packet switching for data	Packet switching except for air interference	Packet switching	Packet switching
Internet service	Narrowband	Broadband	Ultra broadband	Wireless World Wide Web
Bandwidth	25 MHz	25 MHz	100 MHz	30 GHz to 300 GHz
Advantage	Multimedia features (SMS, MMS), internet access and SIM introduced	High security, international roaming	Speed, high speed handoffs, global mobility	Extremely high speeds, low latency
Applications	Voice calls, short messages	Video conferencing, mobile TV, GPS	High speed applications, mobile TV, wearable devices	High resolution video streaming, remote control of vehicles, robots, and medical procedures

Event

An **event** is a transaction recognized by BRM and recorded in the BRM database.

- BRM tracks all events.
- Events can be billable and non-billable.
- Billable events are rated and billed.

Examples:

Purchasing a product
Connecting to the Internet
Placing a voice call
Rolling over unused minutes
Downloading a file
Sending an email
Changing a login password
Changing payment method

BRM Account Groups

An account group is

A collection of accounts linked for discounting, sponsoring, billing and reporting.

Types of account groups:

– Hierarchical account groups

– Resource Sharing groups

- Discount Sharing Groups
- Charge Sharing Groups

Hierarchical account groups

Contains one parent account and any number of child accounts

Created for two purposes

Roll the charges of a child account up to the parent account The charges belong to account's bill groups

- ⁻ Accounts track their own balance impacts
- ⁻ Charges roll up at time of billing
- ⁻ To display relationships between accounts

Two hierarchical account categories

- ⁻ Subordinate: parent pays bill (Non-Paying Child)
- ⁻ Nonsubordinate: account pays own bill
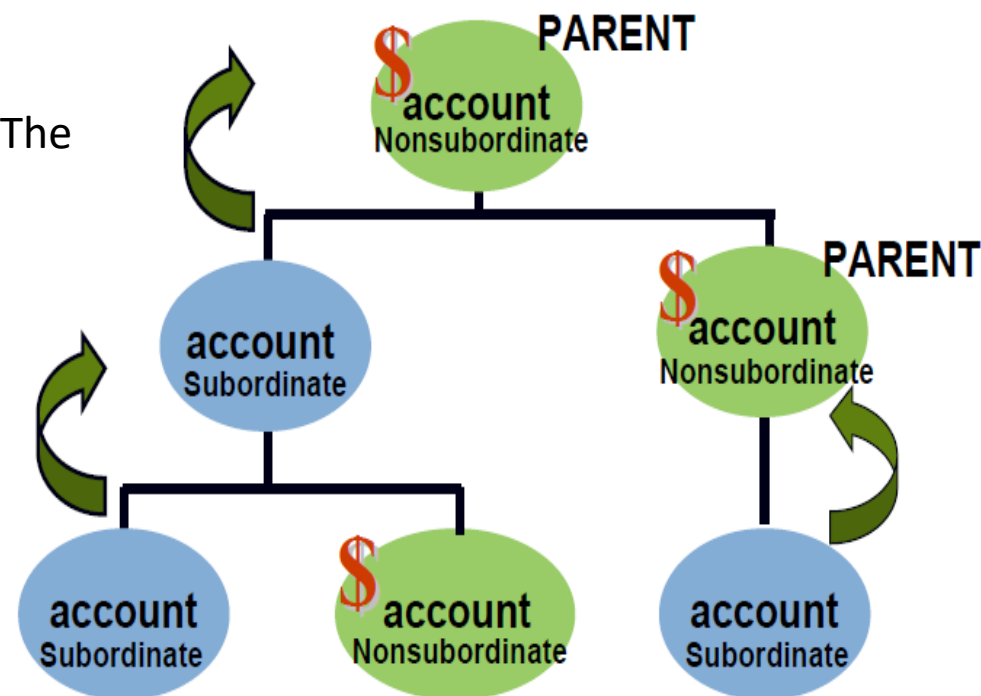
Resource Sharing Groups

Discount Sharing Group

– Group members are eligible for discounts owned by Group Owner

Example 1: Group owner is sharing Free Minutes. A member is charged for usage, discounting credits the member's account and free minutes are deducted from owner.

Example 2: Group owner is sharing a 10% discount. A member is charged for usage, discounting credits 10% of the charge

– Discount is defined by one or more **Discount Objects**

– Replaces the Discount Owner and Discount Bundle ERAs

Charge Sharing Group

– Event charge is transferred to Group Owner's balance

– Charge sharing is defined by one or more **Charge Share Objects**

- Similar to Discount Object
- Defined in Pricing Center

- **Complex Account Groups and Relationships**
  - Discount Sharing Groups for shared pools of minutes
  - Charge Sharing capabilities for splitting of charges and sponsorship
  - Applications:
    - Volume-based discounts
    - Family and corporate accounts

DISCOUNT SHARING GROUP
Owner can share his discount with the members e.g. a pool of free minutes

Personal calls use shared minutes

Business calls sponsored by employer

CHARGE SHARING GROUP
Owner can pay for part or all of the charges of the members

Calling Circle Groups (CUG)

Calling circle Groups usually define a relationship between users, who are categorized as members and (by default) non-members.

Within this model, a call made by a member of the circle to another member of the circle will be priced using a different rate when compared to a non-member (or associate) that makes the same call.

Relationship between the calling parties can be determined by the combination of caller identities. Calling circles will span networks if the networks belong to the same operator and a single calling circle may include both mobile and fixed-line users.

Billing , Invoicing & Payments

Billing:

Billing is the process of accumulating different type of charges, payments, adjustment of a customer for the services he used during a month and calculating the total amount due the customer is due.

Invoicing:

Invoicing is done after billing. Invoicing is requesting the customer to pay the total amount due. Invoice is a notification to the customer with the details of his service charges, usage charges, payments along with the total amount due.

Payments:

Payments are collected from the customer against the total amount due.

"Thank You"