

Telecom Express (TE) – Business Description

This is a telecommunication network where vast majority of the population opt out for a mobile plan of their choice from sim only, phone contracts, and mobile broadband plans and much more for different type of customers between a small business and a consumer account.

The telecommunication network runs individual type of plans such as Pay As You Go and Bill Pay. The network deals with queries relating to troubleshooting with network errors such as voice, calls and texts messages.

Business Rules

New TE customers must provide details such as their name, email address, date of birth and a valid source of ID to support GDPR compliance of prevention of cloning numbers.

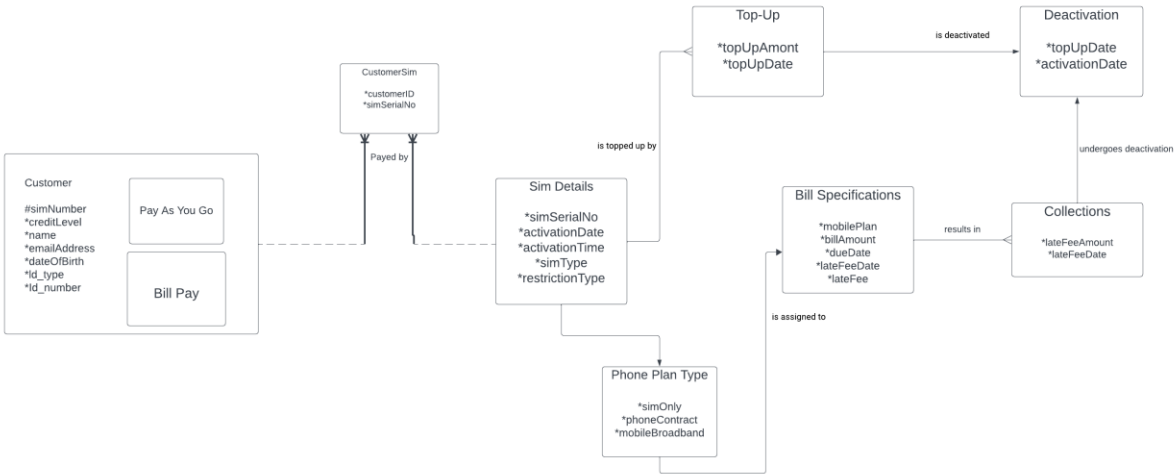
All customers of TE must choose at least one type of plan such as Pay As You Go or BillPay. The network will conduct a background check for bank credit rating of their account level ranging from 100 – 700 (Rebuilding Credit, Below Average, Poor Credit, Moderate, Average, Good and Excellent).

The network carries out a background check of some sort to verify all their customers so the customer must verify their identity with proof such as a Driving License, Passport or registered home address. The driver number and the Passport PPS number is noted provided by the government body.

Each customer must at least make their first top up in PAYG (Pay As You Go) or first direct debit payment on BillPay to activate their account. The minimum top-up must be 5 euros. A sim that is not topped in the last 90 days (3 months) will be suspended and deactivated after a year. Bill pay customers who do not pay their bills will be sent to collections. This department will charge customers late fee of 10 euro per week that payment is late by from the due date. The network organises assistance for their customers to obtain their sim cards through local postal service in Ireland such as An Post and DPD.

In conclusion, this document will outline the major relationship that structures Telecom Express such as storing Customer data and other entities.

The diagram below outlines all entities in relation to the SQL code provided in another document such as: Customer, CustomerSim, SimDetails, PhonePlan Type, Top-Up, Bill Specifications, Collections and finally the Deactivation Entity.



Description Of All Mentioned Entities & Table Mapping

Customer

- **simNumber:** UID for the sim card number
- **creditLevel:** Customer affordability level
- **name:** customers name
- **emailAddress:** contact email for customer communication
- **dateOfBirth:** age validity
- **id_type:** Identification to verify the age (Drivers Licence, Passport)
- **id_number:** ID number from the id_type

Attribute	Data Type	Size/Length	Constraints
simNumber	VARCHAR	20	PRIMARY KEY, NOT NULL
creditLevel	INT		NOT NULL
name	VARCHAR	100	NOT NULL
emailAddress	VARCHAR	100	NOT NULL
dateOfBirth	DATE		NOT NULL

id_type	VARCHAR	50	NOT NULL
id_number	VARCHAR	50	NOT NULL

CustomerSim

- **customerID:** links to simNumber in Customer
- **simSerialNo:** used for sim activation.

A foreign key that

Attribute	Data Type	Size/Length	Constraints
customerID	VARCHAR	20	FOREIGN KEY (Customer)
simSerialNo	VARCHAR	20	PRIMARY KEY, NOT NULL

SimDetails

- **simSerialNo:** Linked with CustomerSim as a Primary Key
- **activationDate:** Date the sim was activated.
- **activationTime:** Time the sim was activated
- **simType:** type of sim (trio, micro or nano sim)
- **restrictionType:** capped speed on the sim

Attribute	Data Type	Size/Length	Constraints
simSerialNo	VARCHAR	20	PRIMARY KEY, FOREIGN KEY (CustomerSim)
activationDate	DATE		NOT NULL
activationTime	TIME		NOT NULL

simType	VARCHAR	50	NOT NULL
restrictionType	VARCHAR	50	

Phone Plan Type

- **simSerialNo:** Ties with SimDetails
- **simOnly:** Indicates whether the plan is a sim only deal (Boolean)
- **phoneContract:** Indicates whether the plan is a phone contract (Boolean)
- **mobileBroadband:** Indicates whether the plan is a mobile broadband (Boolean)

Attribute	Data Type	Size/Length	Constraints
simSerialNo	VARCHAR	20	PRIMARY KEY, FOREIGN KEY (SimDetails)
simOnly	BOOLEAN		
phoneContract	BOOLEAN		
mobileBroadband	BOOLEAN		

Top-Up

- **topUpAmount:** The amount of credit topped up in customer's account.
- **topUpDate:** The date the credit was added to the customer's account.
- **simSerialNo:** Links with SimDetails

Attribute	Data Type	Size/Length	Constraints
topUpAmount	DECIMAL	10, 2	NOT NULL
topUpDate	DATE		NOT NULL

simSerialNo	VARCHAR	20	FOREIGN KEY (SimDetails)
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Bill Specifications

- **mobilePlan:** The type of mobile plan whether it is pay as you go, or bill pay.
- **billAmount:** The amount that is paid for the bill.
- **dueDate:** The date the bill is due.
- **lateFeeDate:** The date the bill went into collections.
- **lateFee:** The amount paid for each delayed day in collections when bill is overdue.
- **simSerialNo:** Links with SimDetails

Attribute	Data Type	Size/Length	Constraints
mobilePlan	VARCHAR	100	NOT NULL
billAmount	DECIMAL	10, 2	NOT NULL
dueDate	DATE		NOT NULL
lateFeeDate	DATE		
lateFee	DECIMAL	10, 2	
simSerialNo	VARCHAR	20	PRIMARY KEY, FOREIGN KEY (SimDetails)

Collections

- **lateFeeAmount:** The amount of the late fee that is due.
- **lateFeeDate:** The date bill enters collection due to late payments.
- **simSerialNo:** Links with Bill Specification

Attribute	Data Type	Size/Length	Constraints
lateFeeAmount	DECIMAL	10, 2	
lateFeeDate	DATE		
simSerialNo	VARCHAR	20	FOREIGN KEY (BillSpecifications)

Deactivation

- **topUpDate:** Date that the sim was topped up.
- **activationDate:** Date that the sim was activated.
- **simSerialNo:** Links with SimDetails

Attribute	Data Type	Size/Length	Constraints
topUpDate	DATE		
activationDate	DATE		
simSerialNo	VARCHAR	20	FOREIGN KEY (SimDetails)