Global Coverage, Inc.

Project Plan

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Contents

Background

Global Coverage Inc. is a service company aimed at global reach in the specialized insurance services, established five years ago, located in Miami, Florida. Currently, we have ten dedicated employees, with yearly revenues of five million USA dollars and with plans to expand further and expected to grow of thirty million USA dollars in the next two years.

Due to our planned growth in such a niche market, the company plan to move to a new two-story stand-alone facility, where we will install state of the art technology with all possible digital transformation aimed at providing full-time coverage to our global clientele. (1)

Core Business

Global Coverage Inc. aims at providing insurance in the general market area; our target clientele consists of expatriates and international clients who cannot find the same quality of services in their own countries. We will provide a variety of insurance products around the world, ranging from international Medical, disability, and travel insurance.

Our company has, and it will continue to provide outstanding services guaranteed by our symbiosis of dedicated professionals with state-of-the-art technology, to service our client needs at any time. When needed, our company will team up with local insurance distributors to overcome local regulations.

Technology

Our employees and our partners will have access to state-of-the-art technology provided by a synergy between localized, web, and service-based software and infrastructure, detailed as follows:

i. databases. Our databases will remain hosted in our Azure IaaS (Infrastructure as service) account (2). Our databases are designed using MS SQL Server, will continue using MS SQL Server for future designs.

ii. systems analysis. If need, and if we acquire other companies using another commercially available database server like Oracle, we will not migrate them, we will, instead, implement data integration using Micro Soft Data Integration Tools (3).

iii. security. The new building has a state-of-the-art security system, for perimeter, and internal access. Access to the building is monitored via digital access control equipment and software; each employee is provided with an electronic access card. The internal access will be stratified, allowing internal access according to each employee access configuration. All laptops and desktop have and will continue to have the latest antivirus and hard disk encryption software. Remote access to the office will be allowed via a VPN and or Remote Desktop.(4)

iv. networking. The building network is an expanded version of our small business network, and it will allow us to share documents, computers, printers, voice over IP (VoIP), and other services and peripherals. The network will be based on business-grade Cisco switches, routers, and firewalls, allowing connection of our local and remote servers.

v. computer infrastructure, most of our infrastructure is based on our Azure Iaas account, but we will have a local server as a backup in case of service interruption. Every user will use a laptop with a docking station in the office and at home, ready for remote working when necessary.

vi. human computer interaction. High levels of usability bring as direct consequence high levels of productivity with less effort. Tanking that into consideration, the selection of equipment, software, peripherals, and any device used by our employees, partners, and clients, will be selected, taking in high consideration their levels of human-computer interactivity.

vii. Web design. To keep our service and technological edge over the competition, we will continue enhancing our existing service portals used by our employees, partners agents, and customer. Emphasis on reactive design will continue so to provide an enhaced user experience continuously.

1 Business Requirements

1.1 Project Overview

Global Coverage Inc. is a service company aimed at global reach in specialized indemnities services. We plan to expand further and expect to grow to thirty million USA dollars revenues in the next two years. Due to such expected growth in our niche market, this document details the needed requirements to reach our target successfully, by providing a smooth path to guarantee the same or better quality of services to our global clientele.

1.2 Background including current process.

This project is to establish the required strategy needed for our business growth and the required software and needed equipment to maintain our business edge against potential competition.

The project goal is to delineate a clear plan for our successful growth in the coming years, which will establish our business as the leader in the industry.

The IT role for this project is, as expected, the traditional tasks of selecting, supporting, and successfully implementing a) the Employee Resources Planning system (ERP); b) the Client Relations Management System (ERM), c) the Local Area Network (LAN) and Wide Area Network (WAN); accordingly to our business growth. But besides those traditional roles, we expect from the IT department to engage in researching and providing the technology that will give our company the competitive advantage, as well as providing the required backend systems to maximize productivity and quality of services. (5)

1.3 Scope

1.3.1 Scope of Project

The scope of this project includes several areas. For each area, there should be a corresponding strategy for incorporating these areas into the overall plan.

Applications

Only the following applications will be implemented, to avoid any delay and meet our target date:

Core Indemnities Management Application: This off-the-shelf application allows us to create and maintain our indemnities products, in this area, we have several pending enhancements which are essential for smooth operation and related to our business growth

Accounting Application: This off-the-shelf software, guarantee the management of unlimited partners as well l as smooth commissions calculation and distribution process

Sites:

These sites are considered part of the implementation and essential elements which provide a competitive edge:

Partners Web Site: This site will allow all our partners to view in real-time their business performance and provide all needed information for them to guarantee an excellent service to each customer, so to maintain the current clientele. Also, it provides mechanisms for them to increase their portfolio.

Products Web Site: This tool will give the partners, electronic and dynamic visibility of all the indemnities products they are entitled to sell to the clients, the site allows the partner to process indemnities proposals directly from this sites, and our underwriting department to take the required process to approve or deny the application, without the need to interchange paper documents

Client's Web Site: Once a person or corporation becomes our client; this web site will allow them to view the latest information about the indemnities product they obtained; it will enable them to perform required periodic payments and process renewals or adjustments, an nd also to see the status of claims as needed.

Process Re-engineering

Customizations will be limited to interfaces no provided by the off-shelf indemnities management software with our proprietary web sites and the accounting software.

Interfaces

The interfaces included are:

- Off-the-shelf Indemnities Management with Partner's Web Site
- Off-the-shelf Indemnities Management with Products Web Site
- Partners Web Site to Accounting

Architecture

Application and Technical Architecture. We will continue using our existing software for Indemnities Product Management and Accounting with the addition of strategic web sites, which will give us the expected competitive advantage edge. When it comes to our technical architecture, when working in the office, we will use the building cabled network. Still, all our employees, including executives, are assigned with their respective laptops, ready to work

from home, as necessary. Our remote servers and software are designed and implemented to allow remote working at any time in short notice.

Improving existing interfaces and creating new ones will enable our core applications to work efficiently and minimize the need for human intervention on repetitive tasks and, at the same time, provide an efficient workflow. We will continue with a hybrid architecture with distributed computing for databases, file, and application servers as well, making good use of Microsoft Infrastructure as a Service (IaaS). (6)

Conversion

At the moment, there is no need for significant data migration or data conversions. But we plan to design and develop the needed web services, which will allow us to easily accept data from external sources, enabling such exchange dynamically and smoothly.

Testing

We have the corresponding testing labs for each one of the in-house developed websites projects, where all unit tests are performed by our contracted developers, and the user acceptance tests are performed by the corresponding users based on their relation to the business problem being resolved by the software.

Funding

Successfully executing this project, is an essential and strategic move, as the vision to our future growth, so the project has approval from our top executives. Therefore all needed funding is being guaranteed by our financial department.

Training

Training for new software, when adopted, will be organized with the vendor following up with each head of the corresponding department. Also, for existing software use and new employees, we provide a knowledge base site with online lessons for each topic concerning the new employee.

1.3.2 Constraints and Assumptions

Herein our assessment of the possible constraints we may face:

Time: there is the possibility that some tasks are not done on time if a provider finishes their tasks later than expected. Or if new external rules are enacted, which may have an impact on our existing and future software, in such cases, we will reevaluate our milestones and targeted time accordingly.

Scope: our scope of the project is well defined and realistic, so we do not see any risk in this aspect.

Cost: all funds for the project are guaranteed, and we already included in the budget a margin of error, we are covered for the possibility that we exceed the actual estimated costs. (7)

The assumptions we have is that all tasks delegated to external suppliers as well as the Internal tasks will be delivered on time.

1.3.3 Risks

The following risks have been identified as possibly affecting the project during its progression:

- Delayed delivery by one the services suppliers responsible for installing all network services may put as at risk, but this will be mitigated if we put ourselves to work in remote mode, either in the new offices or from home.
- Failures found during the testing and certifying of the network.
- The need for code rework if the user's acceptance test is not passed or if new regulations are enacted during the development process.

1.3.4 Scope Control

The control of changes to the scope identified in this document will be managed through the Change Control, with business owner partner approval for any changes that affect the cost or timeline for the project.

1.3.5 Relationship to Other Systems/Projects

It is the responsibility of the business unit to inform IT of other business initiatives that may impact the project. The following are known business initiatives:

- Partners Web Site,
- Client's Web Site, and
- Products Web Site

Designed to provide our company with a competitive edge in the times of digital transformation.

1..3.6 Definition of Terms (if applicable)

Partner: this can be a corporation or an individual licensed and authorized by their local governments to sell our products.

Tables

Entities Table

This table holds data related to persons or institutions. The foreign key CategoryID links to the Category table, use to define if the row belongs to a person or an institution. It contains indexes as follows: Non-Unique indexes on fields: FirstName, LastName, and CetegoryID

Unique indexes on: EntityID, Name + FirstName + LastName, the fields Name, FirstName and LastName accept null values. If the Entity if of the Institution category, the filed Name is required, when the Entity is of Person category, the FirstName and LastName are required, these rule could be enforced via trigger and a store procedure or in the presentation layer.

Entities	
PK,U2	**EntityID**
U1,I3 U1,I1 U1,I2 FK1,I4	Name FirstName LastName CategoryID

Category Table

The foreign key CetegoryID in Entities table is linked to the Category table and is used to define if the row belongs to a person or an institution. It contains only one index on the primary key CategoryID. Examples of Category: Person, Institution

Category	
PK,U1	**CategoryID**
	CategoryName

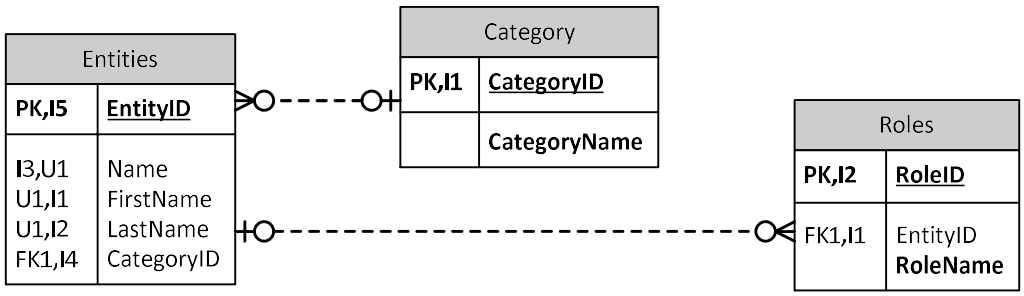
Roles Table

It contains data to define the role of the person or institution held in the Entities table. The foreign key EntityID is used to link the table to the Entities table. An Entity can have more than one role, but the combination must be unique. The table has unique indexes on RoleID and the combination of RoleID with EntityID. Example of Roles: Customer, Employee,

Roles	
PK,U1	**RoleID**
FK1,I1	EntityID **RoleName**

Entities Core relations ER

Here in the chart showing the Core relations for the Entities table.



By using the combination of Category and Roles, we can have the following combinations:

Category	Role	Notes
Person	Customer	Individual who buy our products
Person	Employee	An individual who works for our company
Person	Agent	Individual who sells our Product
Institution	Bank	Financial transactions
Institution	Customer	An institution that buys group benefits
Institution	Partner	Sells our products

Entities Contact Mechanisms

The following are the tables needed to configure contact mechanisms for each Entity; one group is for postal addresses, and the other group if for telecommunications contact.

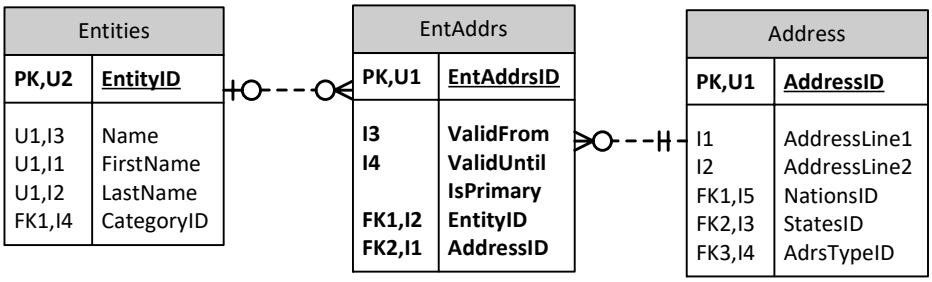
Address Table

This table holds several addresses for the entities. Foreign keys and related tables: a) NationsID link to Nations table, b) SatesID link to States table, c) AdrsTypeID link to AddrsType table, used to different classified types of addresses. It contains five non-unique indexes which are indicated with the legend I1…I5, and one unique index denoted with the legend U1

Address	
PK,U1	**AddressID**
I1	AddressLine1
I2	AddressLine2
FK1,I5	NationsID
FK2,I3	StatesID
FK3,I4	AdrsTypeID

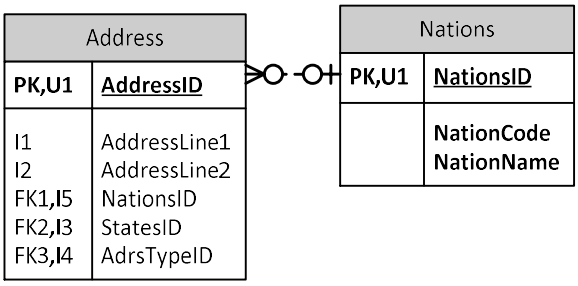
EntAddrs Table

Entities Address, each Entity can have more than one Address either because of different types of addresses or because of an address change. The Address and the entities are referenced through the union table named EntAddrs. In such a table, we hold the address validity range. The relation from Address to EntAddrs has the ON DELETE CASCADE constraint, if a record in the referencing table is deleted all child records in the referenced table will be removed as well.



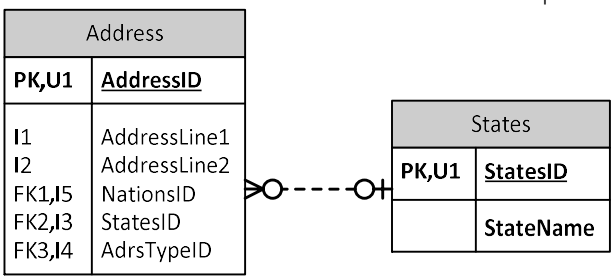
Nations Table

This table is used to decode the nation used in the Address.



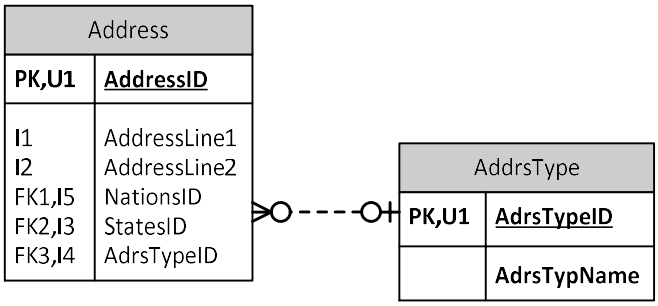
States Table

This table is used to decode the state or province used in the Address



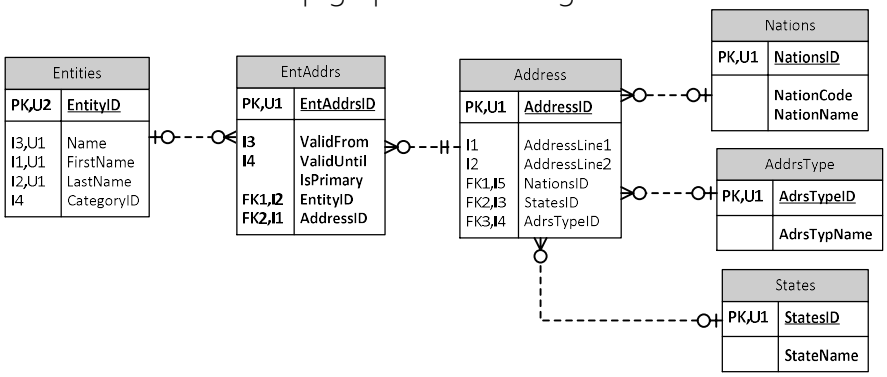
AddressType Table

The table named AddrsType is used to classify the type of Address for the Entity. Example of address types: Home Address, Delivery Address, Secondary Address. When an entity has more than one Address, the primary Address is indicated in the EntAddrs table.



Postal address contact mechanism ER

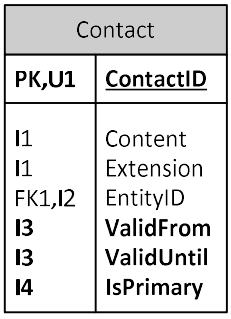
This Entities relationship graphic is showing the Postal address contact mechanism.



Electronic Contact Mechanisms

Contact Table

To held electronic contacts like phone numbers and electronic email addresses. The table allows the capacity to keep more than one connection for each Entity, because of different types of contact, change of contact preserving the history, or because the Entity has more than one contact, the structure allows to define the primary or preferred contact mechanism.



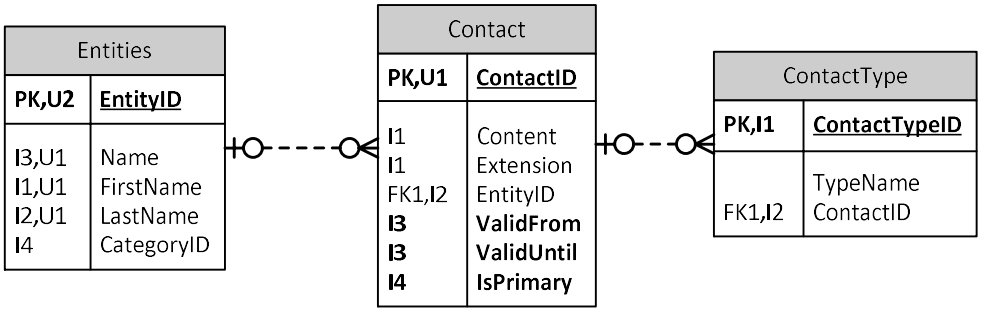
ContactType Table

Use to classify the type of electronic contact mechanism types. Such types can be: a) Home phone, b) Mobile phone, c) Toll-free phone, d) Email address

ContactType	
PK,I1	**ContactTypeID**
FK1,I2	TypeName ContactID

Electronic Contact Mechanisms

This Entities relationship graphic is showing the Electronic Contact Mechanisms.

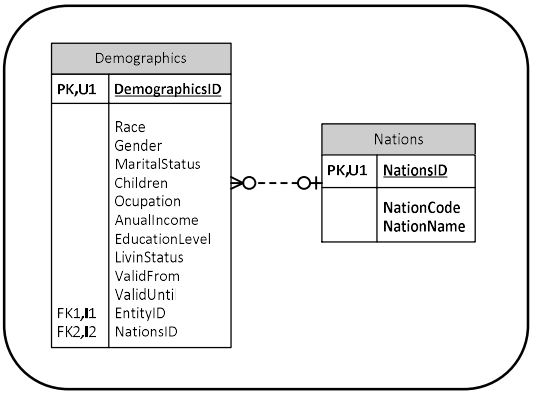


Other Data

Demographics Table

This table holds data for entities of type Person. The information is valuable for marketing purposes and the enrollment approval process. More than one row can be added for each person because the demographics can change over time.

Demographics	
PK,U1	**DemographicsID**
	Race Gender MaritalStatus Children Ocupation AnualIncome EducationLevel LivinStatus ValidFrom ValidUntil
FK1,I1	EntityID
FK2,I2	NationsID

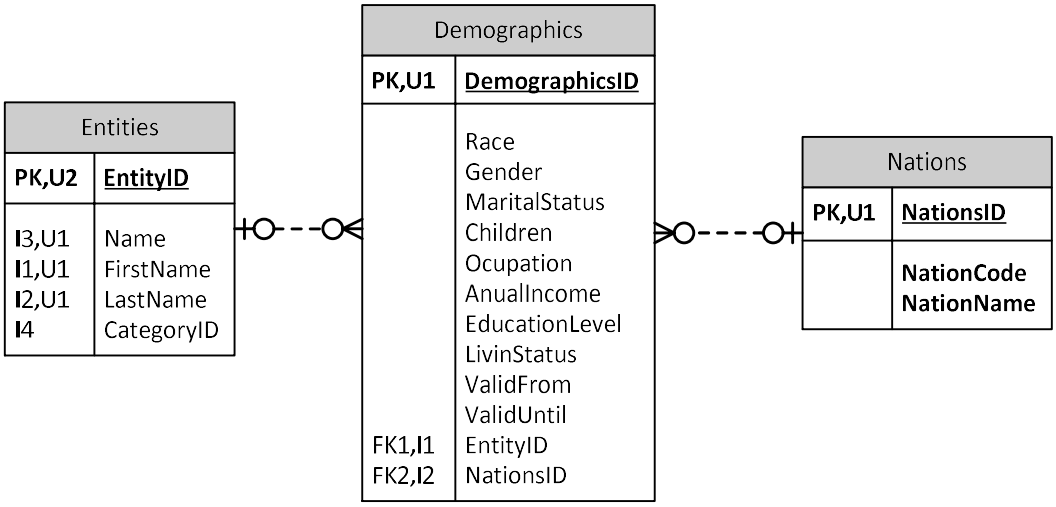


Nationality Table

The nationality in the demographics is fetched from the Nations table through the relation with the Nations table.

Demographics Data ER

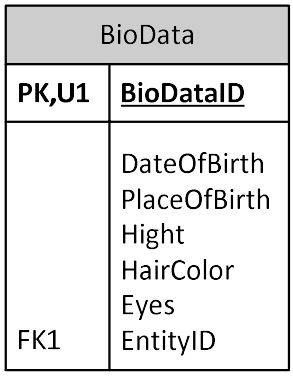
This Entities relationship graphic is showing the Demographics data.

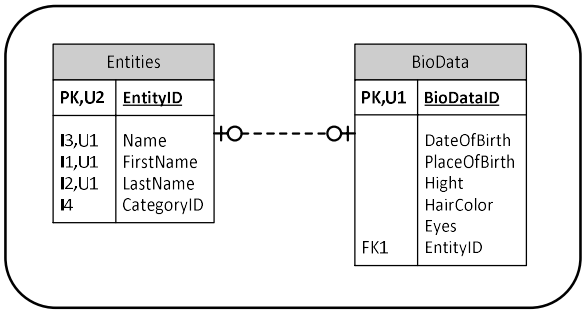


Biographic Data

BioData Table

It contains extended demographic data, which does not change so often over time. Thus, only one record per Entity is allowed.





Products Definition

Products Table

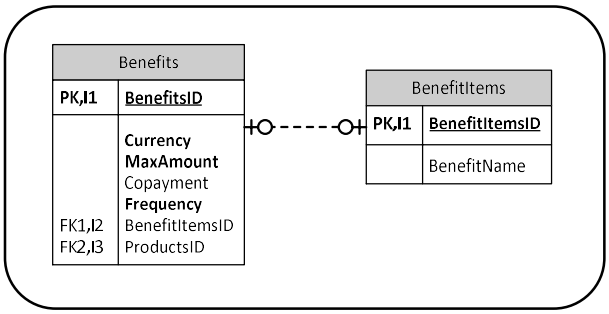
This table holds data related to the services being offered. The products are categorized by the ProdutCategoryId foreign key. A validity date ranges allow establishing the time the Product is available.

Products	
PK,U1	**ProductsID**
I1	ProductName
I2	ValdidFrom
I3	ValidUntil
FK1,I4	ProductsCategoryID

Benefits Table

The Products are a complex entity that is configured by setting several benefits each Product provides. The table Benefits will contain many rows associated with the Product. The bonus can be of value or service, for example, a) amount to pay if the Product is Life assurance, b) hospitalization if the Product is health coverage. The benefits defined the maximum value to pay and its frequency and, when necessary, the copayment by the client. The description of the benefit is provided by the BenefitsItem table.

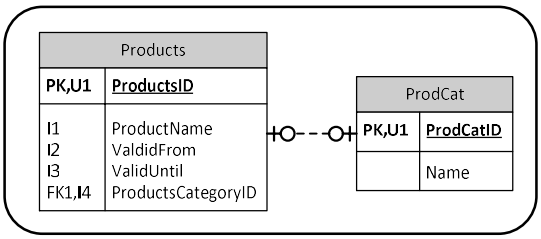
Benefits	
PK,I1	**BenefitsID**
	Currency
	MaxAmount
	Copayment
	Frequency
FK1,I2	BenefitItemsID
FK2,I3	ProductsID



Category Table

The Product can be defined in different categories, in this case, we can provide the following examples: a) health, b) life c) travel, c) auto, d) indemnity, etc. Such classification is done via the ProductsCategoryID foreign key and the ProdCat table.

ProdCat	
PK,U1	**ProdCatID**
	Name



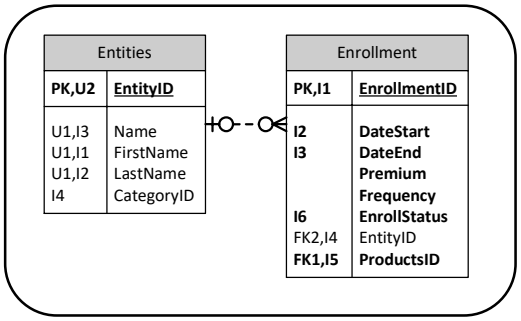
Services Sales

The services sales to customers are performed via the enrollment process, the customers look for insurance, the partner provides several proposals, and the customer selects the most convenient service and proceed to the enrollment request. The Product is sold once the application is reviewed and approved.

Enrollment Table

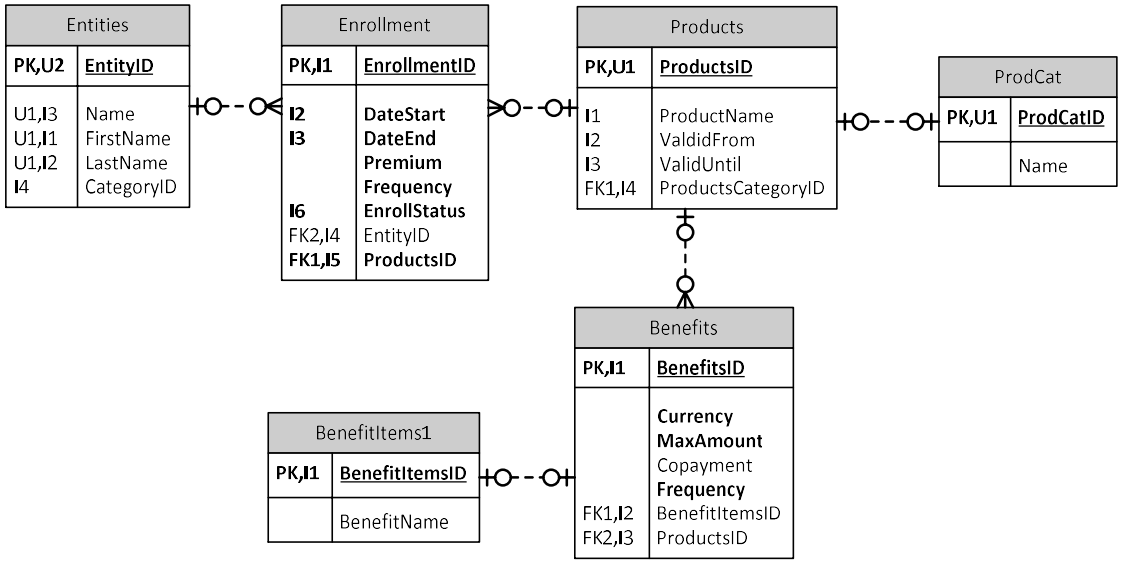
This table has the function to join the Entities with the Product related tables. Several enrollments are allowed for each Entity (person or institution) as long as the validity date does not overlap, and the Product is different. This structure allows the same client to buy different Products with the dame validity or different validity date range.
The premium is the cost for the customer for the service being purchased based on the frequency; for example, Premium 200, Frequency: Monthly, indicates the client will pay 200 every month. The currency of the amounts is the Product. The enrollment status indicates the enrollment state with can be a) Request, c) Approved, c) Denied, d) Renew.

Enrollment	
PK,I1	**EnrollmentID**
I2	**DateStart**
I3	**DateEnd**
	Premium
	Frequency
I6	**EnrollStatus**
FK2,I4	EntityID
FK1,I5	**ProductsID**



Enrollment ER

This Entities relationship graphic is showing the Enrollment tables involved.



Claims

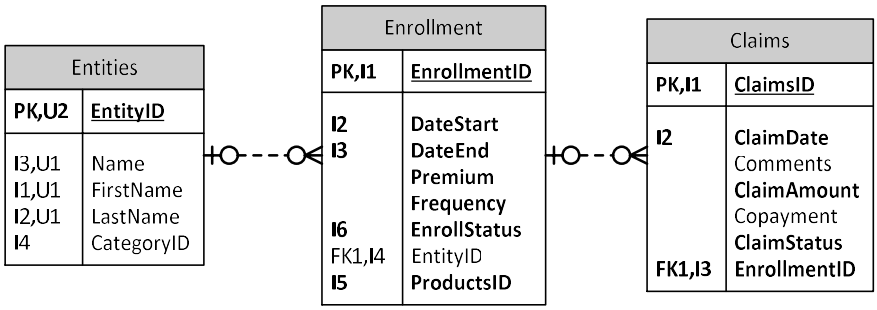
When a client fills a request for coverage or compensation of any loss which covered by the service obtained from the company we proceed to review the claim and if covered under the Product purchased, proceed to the related payment either directly to the client or the partner who presented the services, on behalf of the client.

Claims Table

This table contains customer's claims, which can be requested by themselves or by partners presenting services to the client guaranteed under the Product bought.

Claims	
PK,I1	**ClaimsID**
I2	**ClaimDate**
	Comments
	ClaimAmount
	Copayment
	ClaimStatus
FK1,I3	**EnrollmentID**

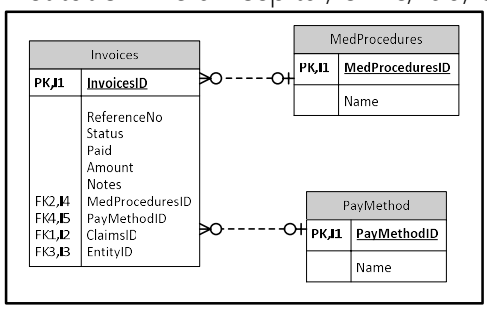
The claim status is used to approve or deny the claim request, and For a person or institution to present a claim, it must have a valid enrollment. Thus this table is linked to the Entities and Enrollment tables.



Invoices Table

To process a claim, an invoice record must be created for each claim; the invoice can have one or more documents detailing what is being paid, a total of partial refunds can be processed depending on the configuration of the benefit being paid. The invoices table is related to the MedPecedures table to associate to the medical befit when it applies. It is linked to the PayMethod table to indicate how the payment is processed. Finally, to the Entities table to connect it to an institution like a hospital, clinic, lab, or a person like a doctor.

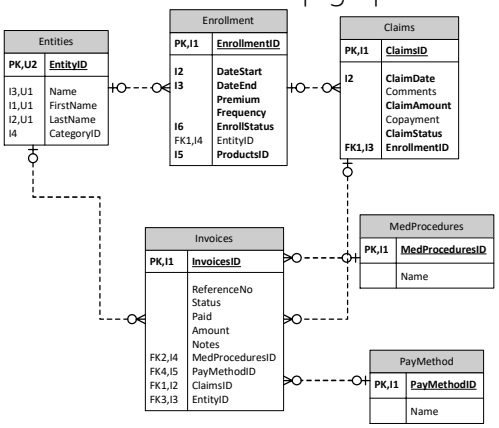
Invoices	
PK,I1	**InvoicesID**
	ReferenceNo
	Status
	Paid
	Amount
	Notes
FK2,I4	MedProceduresID
FK4,I5	PayMethodID
FK1,I2	ClaimsID
FK3,I3	EntityID



The invoicing process will validate if the invoices lines against the Enrollment, Products, Benefits path, determine if valid, how much is the copayment and if the maximum payment is being reached.

Claims Process ER

This Entities relationship graphic is showing the Claims Process tables involved.



View Example

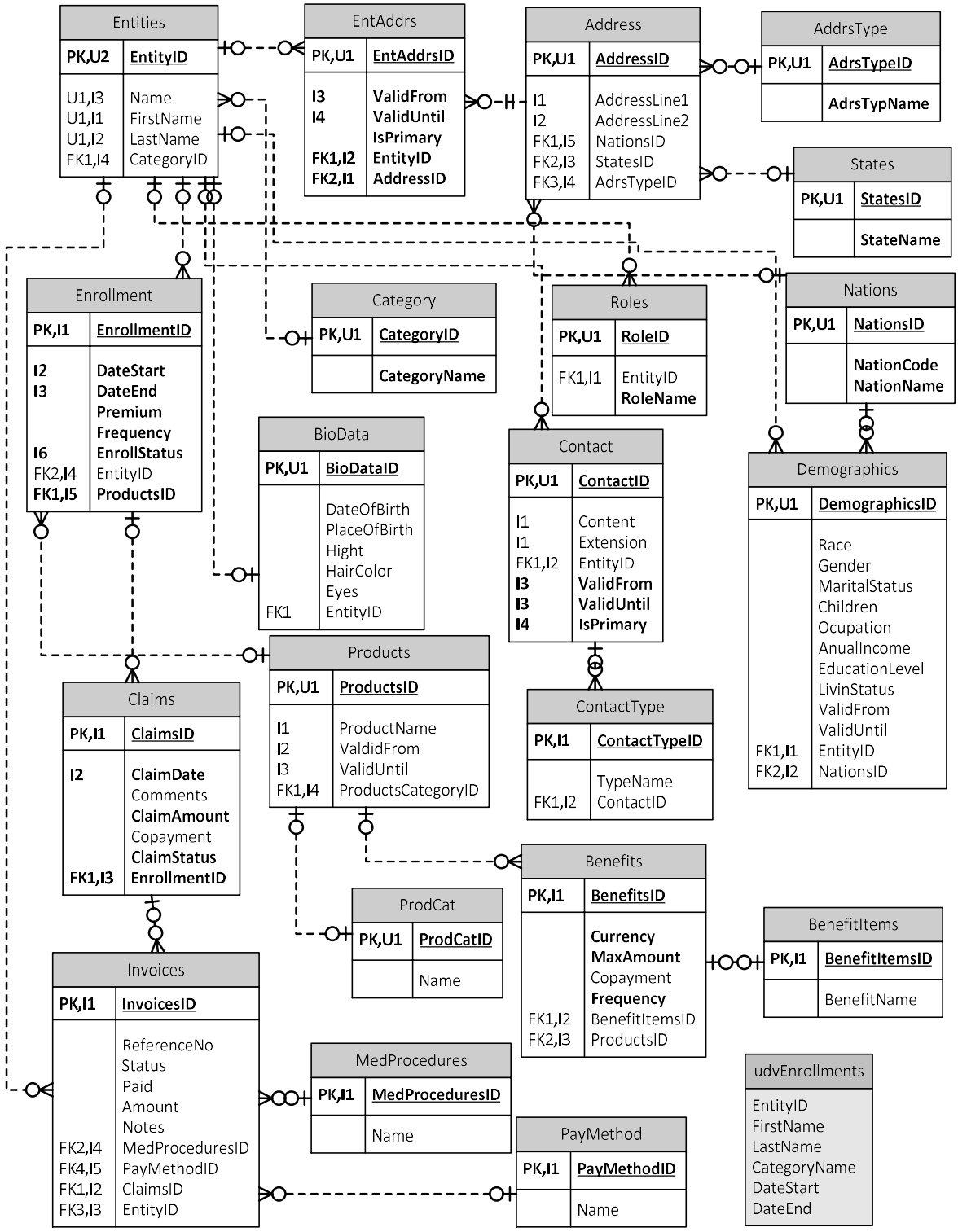
udvEnrollments View

This View provides the list of customers of category person.

udvEnrollments
EntityID
FirstName
LastName
CategoryName
DateStart
DateEnd

```
CREATE VIEW udvEnrollments ( EntityID, FirstName,
LastName, CategoryName, DateStart, DateEnd)
AS SELECT c1.EntityID, c1.FirstName, c1.LastName,
c2.CategoryName, c3.DateStart, c3.DateEnd)
FROM Entities c1 JOIN Category c2
ON c1.CategoryID = c2.CategoryID
JOIN Enrollment c3 ON c1.EntityID = c3.EntityID
JOIN Roles c4 ON c4.EntityID = c1.EntityID
WHERE c2.CategoryName = 'Person'
AND   c4.RoleName = 'Client'
```

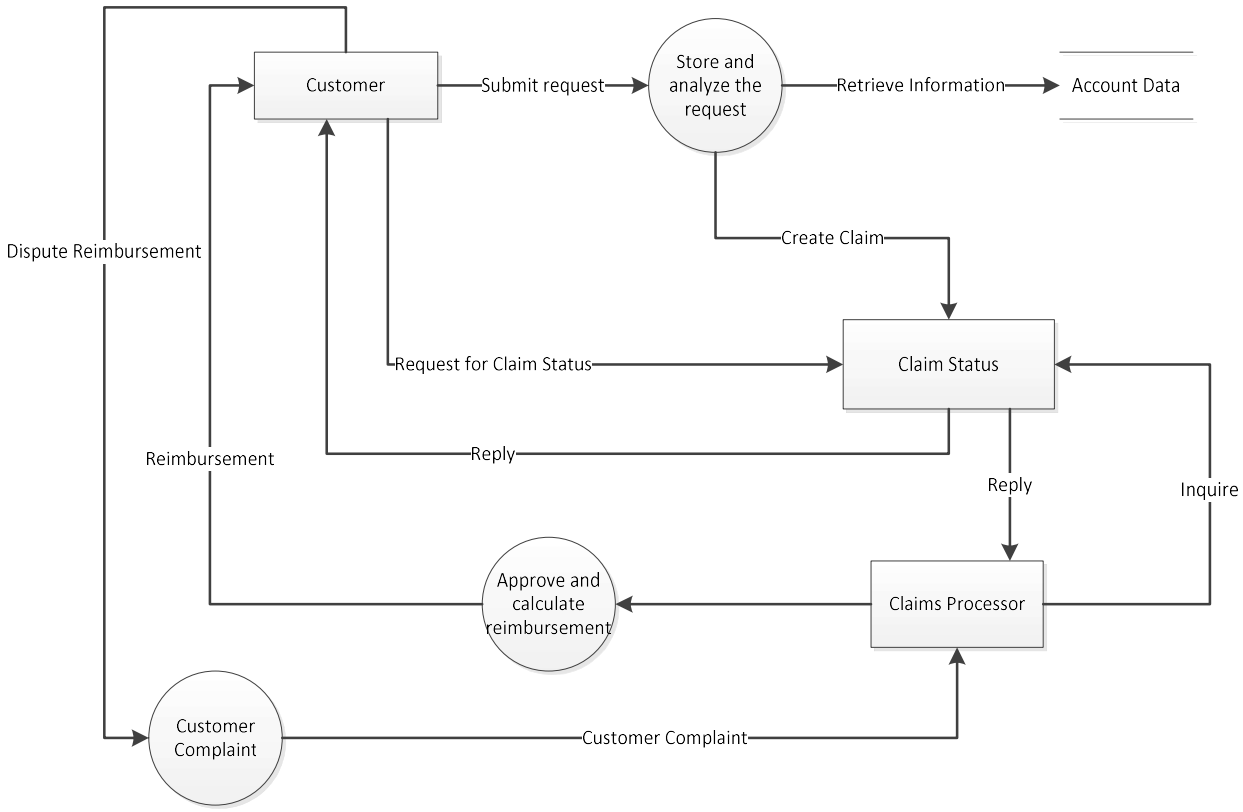
Full Entity-Relationship (E-R) Diagram


Entities
PK,U2 EntityID
U1,I3 Name
U1,I1 FirstName
U1,I2 LastName
FK1,I4 CategoryID
EntAddrs
PK,U1 EntAddrsID
I3 ValidFrom
I4 ValidUntil
IsPrimary
FK1,I2 EntityID
FK2,I1 AddressID
Address
PK,U1 AddressID
I1 AddressLine1
I2 AddressLine2
FK1,I5 NationsID
FK2,I3 StatesID
FK3,I4 AdrsTypeID
AddrsType
PK,U1 AdrsTypeID
AdrsTypName
States
PK,U1 StatesID
StateName
Enrollment
PK,I1 EnrollmentID
I2 DateStart
I3 DateEnd
Premium
Frequency
I6 EnrollStatus
FK2,I4 EntityID
FK1,I5 ProductsID
Category
PK,U1 CategoryID
CategoryName
Roles
PK,U1 RoleID
FK1,I1 EntityID
RoleName
Nations
PK,U1 NationsID
NationCode
NationName
BioData
PK,U1 BioDataID
DateOfBirth
PlaceOfBirth
Hight
HairColor
Eyes
FK1 EntityID
Contact
PK,U1 ContactID
I1 Content
I1 Extension
FK1,I2 EntityID
I3 ValidFrom
I3 ValidUntil
I4 IsPrimary
Demographics
PK,U1 DemographicsID
Race
Gender
MaritalStatus
Children
Ocupation
AnualIncome
EducationLevel
LivinStatus
ValidFrom
ValidUntil
FK1,I1 EntityID
FK2,I2 NationsID
Products
PK,U1 ProductsID
I1 ProductName
I2 ValdidFrom
I3 ValidUntil
FK1,I4 ProductsCategoryID
ContactType
PK,I1 ContactTypeID
TypeName
FK1,I2 ContactID
Claims
PK,I1 ClaimsID
I2 ClaimDate
Comments
ClaimAmount
Copayment
ClaimStatus
FK1,I3 EnrollmentID
Benefits
PK,I1 BenefitsID
Currency
MaxAmount
Copayment
Frequency
FK1,I2 BenefitItemsID
FK2,I3 ProductsID
BenefitItems
PK,I1 BenefitItemsID
BenefitName
ProdCat
PK,U1 ProdCatID
Name
Invoices
PK,I1 InvoicesID
ReferenceNo
Status
Paid
Amount
Notes
FK2,I4 MedProceduresID
FK4,I5 PayMethodID
FK1,I2 ClaimsID
FK3,I3 EntityID
MedProcedures
PK,I1 MedProceduresID
Name
PayMethod
PK,I1 PayMethodID
Name
udvEnrollments
EntityID
FirstName
LastName
CategoryName
DateStart
DateEnd

Data Flow Diagrams

Claims Data Flow

When a customer needs to request coverage under the acquired Product, it will proceed to fill a claim request. The claim request will be revised by a claims processor who will determine if the offer is valid or not and proceed to deny or approve it accordingly. If approved, the corresponding compensation based on the terms of the Product will be disbursed. The client has the opportunity to accept or reject the disbursement when, in disagreement, the client submit a complaint which will cause the reevaluation of the claim.



Queries Example

Get a list of Institutional Clients.

```
SELECT c1.EntityID, c1.Name, c2.CategoryName, c3.DateStart, c3.DateEnd
FROM Entities c1 JOIN Category c2
        ON c1.CategoryID = c2.CategoryID
JOIN Enrollment c3
        ON c1.EntityID = c3.EntityID
JOIN Roles c4
        ON c4.EntityID = c1.EntityID
WHERE c2.CategoryName = 'Institutions'
AND   c4.RoleName = 'Client'
```

List of all payments Group by Clients

```
SELECT c1.EntityID, c1.FirstName, c1.LastName, c2.CategoryName,
c3.DateStart, c3.DateEnd, SUM(I.Amount)
FROM
Entities c1 JOIN Category c2
        ON c1.CategoryID = c2.CategoryID
JOIN Enrollment c3
        ON c1.EntityID = c3.EntityID
JOIN Roles c4
        ON c4.EntityID = c1.EntityID
JOIN Enrollment E
        ON c1. EntityID = E.EntityID
JOIN Claims C
        ON E.EnrollmentID = C.EnrollmentID
JOIN Invoices I
        ON C.ClaimsID = I.ClaimsID
WHERE c2.CategoryName = 'Person'
        AND   c4.RoleName = 'Client'
        AND   I.Paid = 1
GROUP BY EntityID, FirstName, LastName, CategoryName,
DateStart, DateEnd
```

Screen Layouts

Claim Filling

Claim Filling

Policy Nymber | Enter Text

Search

Policy Retrieved

Last Name | **Corea**

Name | **Fredy**

Valid from | **01/01/2020**

Valid Until | **06/30/2020**

Coverage Type | **Auto Extended Warranty**

Claim Data Entry

Description | **Alternator Replacement**

Date | **05/27/2020**

Provider | **The Best MechShop. Inc.**

Parts and Labor Amount | **175.00**

Proceed

Claim Number | AEW-0517-3030

Client Claim Status Check

Claim Status Check

Policy Nymber	Enter Text
Claim Number	Enter Text

Search

Policy Retrieved

Last Name	**Corea**
Name	**Fredy**
Valid from	**01/01/2020**
Valid Until	**06/30/2020**
Coverage Type	**Auto Extended Warranty**

Claim Data

Description	**Alternator Replacement**
Parts and Labor Amount	**175.00**
Copayment	**0**
Status	**Approved**
Payment Form	**To service Provider**

Network infrastructure

At Global Coverage, Inc we have a physical network which allows the interconnection of different types of servers with all the user's laptops and other peripherals like multifunction devices (printer, copiers, scanner), fax machines, building security, WIFI network, the Internet, exchange data, files and to allow for digital voice communication. Our network allows remote access to data, commercial software, and custom web portals to all our employees and partners locally and around the world. (8)

Network Diagrams

Network diagrams are essential tools for the management of the network and IT infrastructure. If kept updated, diagrams help us to plan for network capacity, avoid clutter, have a clear picture of the network security and compliance. There two types of network diagrams: a) Logical and b) Physical. (9)

Logical Model

This diagram shows how the flow of information in the network:

Subnets:

There is a subnet for the Executives Group with a range from 10.10.0.1 – 10.10.0.4. Another subnet for the General Group with a range from 10.10.1.1 – 10.10.1.6. The ranges can be extended as the users per group grow

Network objects:

We have two firewalls to separate the Militarized and Demilitarize Zones
Specific routing protocols, we have four routers configured to use the EIGRP: IGP, distance vector, a classless protocol developed by Cisco

Routing domains

Since our network is new and we do not have any legacy system, we opt for using the single source, so that all computers and routers in the network will be administered from a single point.

Voice gateways

The network has one Telecom Server, and an ATM Router used to provide voice over the internet to our employees.

Network segments

We have three network segments, a) executives, b) general group and c) WIFI clients

Physical Model

This diagram shows how physical devices are interconnected, thus depicting the physical topology of the network. (9)

Scalability

All the equipment and cabling we selected is designed to guarantee that the network performance will not deteriorate when we start to add more staff and more customers.

Security

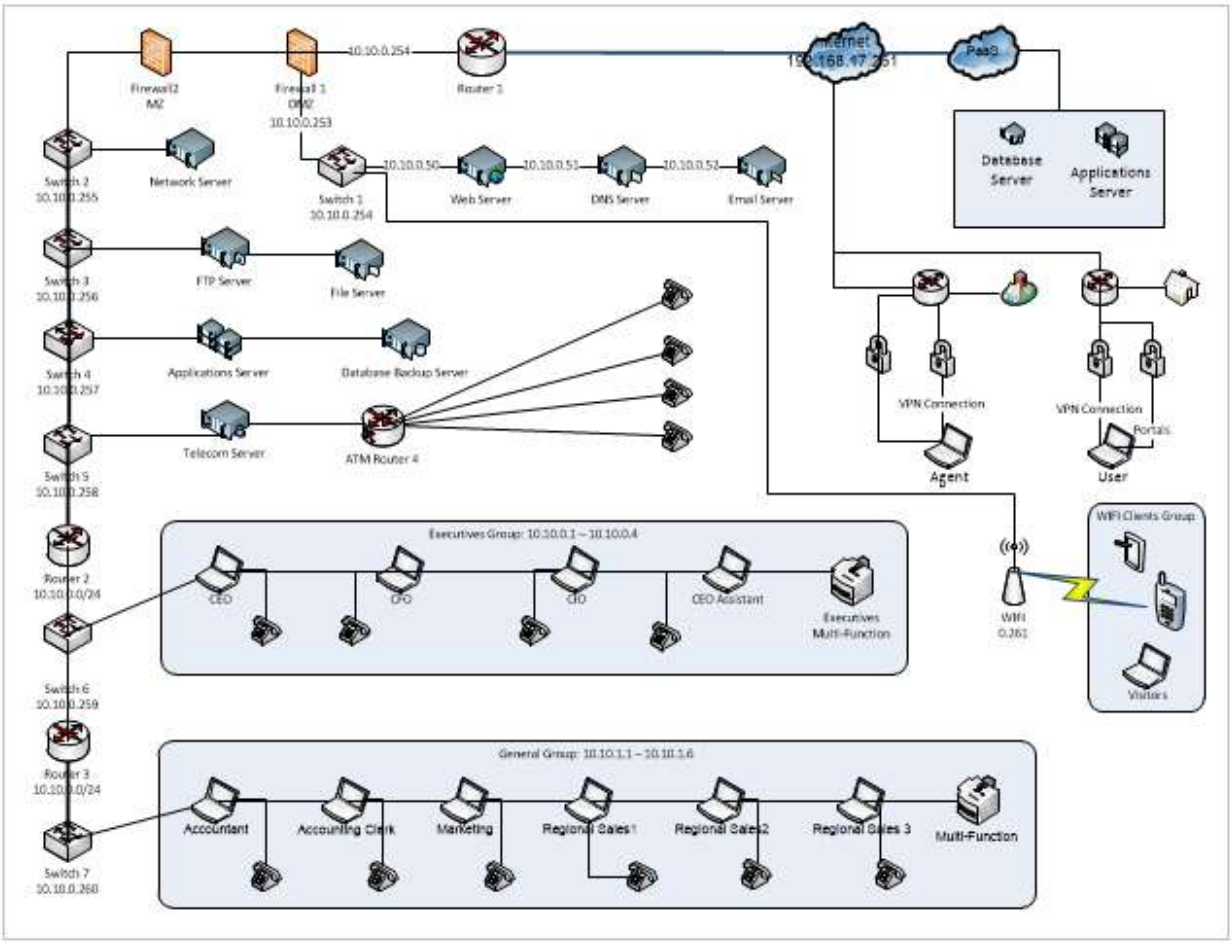
The following rules regulate access to the network and data:

- We have two firewalls which to attend to zones: a) Militarize Zone (MZ) and b) Demilitarized Zone (DMZ), which take care of the respective access accordingly.
- In the DMZ, we have the Web Server, DNS Server, and Email Server, as well as the WIFI access.
- All the rest of the servers are in the MZ, the FTP and File Server are in this zone because they contain private personal information.
- All applications and web portals will be accessed via secure port and with SSL certificates to guarantee our network security.
- Employees and partners who need access to our network will do so only via the Virtual Private Network (VPN).
- All laptops will have full-disk encryption enabled.
- Credentials must never be shared.
- The granting of VPN access needs to be approved by the corresponding manager.
- All devices that connect to the network via network must have the latest official antivirus, antimalware software installed.
- All Company's servers are stored in the computer's room.
- The computer's room must is equipped with electronic locks that register each access.
- Access to the computer's room is permitted only to authorized personnel.
- The third-party technician who is authorized to access the computer's room can do so only when accompanied by an authorized employee, and their access has to be logged.
- All data must be erased using the recommended software to clear all data completely when a sever is replaced.
- All desktops and laptops must be chained to the desk when in the office.
- It is required to get proper authorization and update a log of its exit when any server or workstation that exits the office must.
- Only to authorized personnel have back and front access to the office
- An electronic key presented to each employee as security badges is the only mean to access the offices.
- The security badge must be carried visibly by all employees when in the office.
- Authorized visitors are provided with a temporary security badge, and they must always visibly bring them.
- The security badge provides access only the authorized levels and rooms
- All main entrances and computer rooms have security cameras
- The system password is to be changed every month

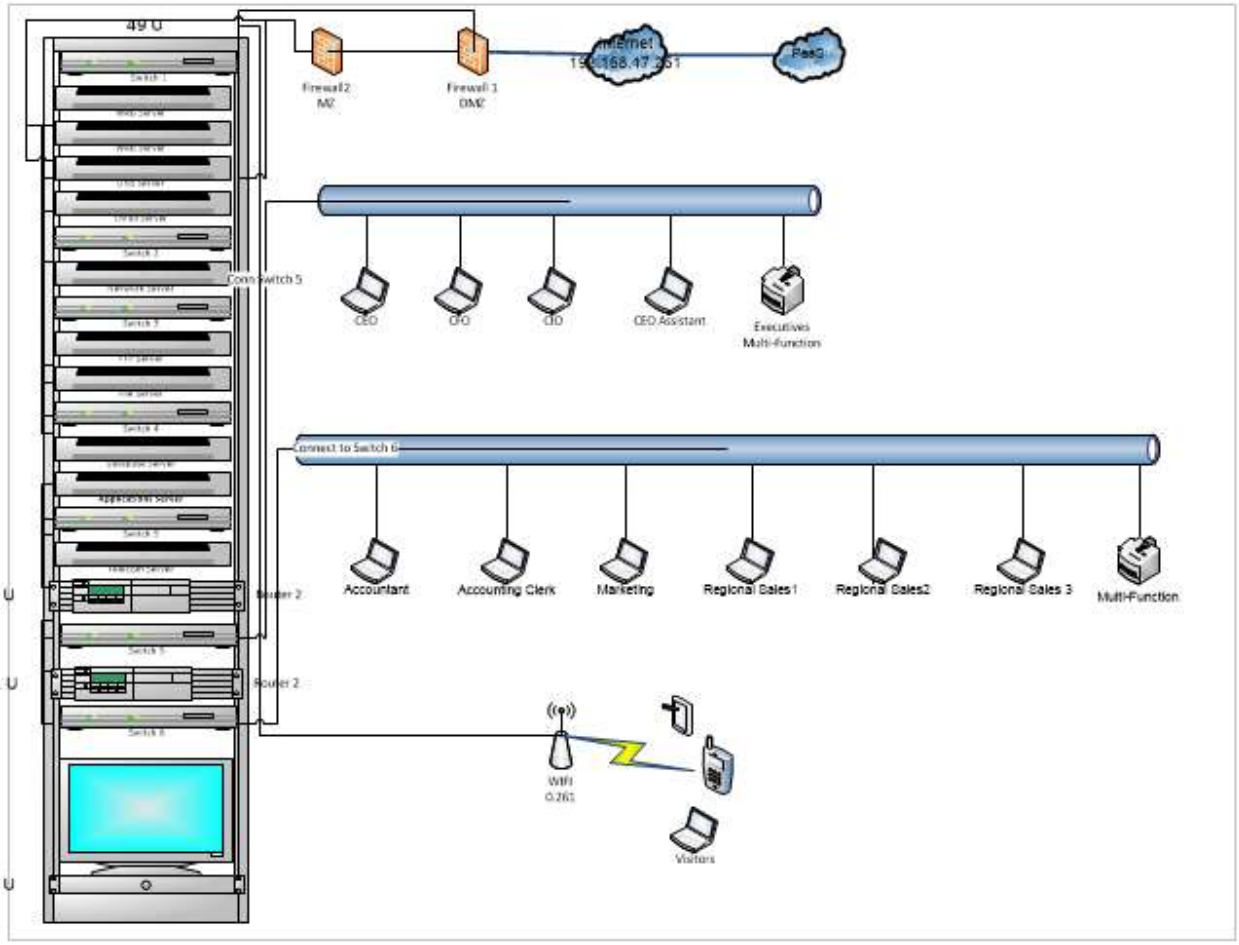
- User-level password must be changed every six months.
- Users with Administrative privileges must use a separate password for the regular access of account and the administrator-level account.
- All passwords must follow these rules:
    Contain at least one of the following type of characters:
        Lower case
        Upper case
        Number
        Special chargers like @,#,$,&
        Contain a minim of 10 alphanumeric characters.

Diagrams

Logical Diagram



Physical Diagram



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