Most common Entities

Updated February 2009

1 Abstract

Objectives
Provide a **first list** of Entities to help companies which decide to define their own Entities.
Most of these definitions are available for **any Industry,** focusing on the service Industry.
Service
The objective of the **Service** Industry is to deliver **Business-Services** to **Beneficiaries**.
CEISAR uses 3 terms: **Offered** Service (defined by Marketing), **Subscribed** Service (used by Sales People), and **Delivered** Service (for Beneficiaries).
Contract
Before obtaining Benefit, a Contract must generally be subscribed. The Contract relates to Product, Actors, and Contacts.
Product
Rules and Parameters for Contract Management and Service Management are defined by Marketing people. They can be grouped together inside a Business Entity called "**Customer Product**", so that Product defines how Contract and related Services are managed.
This Product then defines what can be sold to customers, and how services will be Delivered.
By extension, we suggest to use Product Entity to define Parameters and Rules for other domains than sales to end customer. For example, the "**Distribution Product**" defines rules and data for relations with distributors (like commissions).
Group contracts
Some Contracts are dependent on other Contracts. Try to design these Group Contracts reusing Entities already defined.
Account
An Account is a way to group accounting movements to give a consistent view of financial information on one item.
For example an Account may measure Contract activity.
Actor and Role
An Actor is A Person or a Legal entity or an Automate.
An Actor may play one or several **roles.**
Roles are classified as **Business Role** or **Organization Role**
Business Role: played by people who are not part of the Enterprise Organization

- Prospect
- Subscriber (or customer)
- Decider
- Payer
- Beneficiary
- Provider of Goods or Service

Organization Role is played by people who are part of the Enterprise Organization. The Organization Role is defined as the **Role of the Position** related to the Actor (see § on Organization).

- Sales man
- Assistant
- Accounting Manager

Organization Structure
An **Organization Unit** is a node of a hierarchical structure.
An **Organization** is a hierarchy of Organization Units which all depend from the same Organization Unit (also includes Partenr structure when needed).
The **Organization Actors** are Employees or external People.Most of the Organization Actors are also **IT Users.**
A **Position** is an Organization Unit for just one Actor.
The **Organization Role** of the Position applies to the Organization Actor who is related to the Position.
Rights and Duties
All IT Users cannot use all the offered IT Services. They require **Rights**.
All IT Users must do their assigned work. They require **Duties**.

Business intelligence domain

Management requires accurate data generally organized according to several dimensions like: Product, or Product Domains, Service or Service Domain, Customer or Customer Segment, Time, Geographic Scope or Organization Scope, **Indicator Nature,** Measure, Real or budget.

Input

By “Input” we define what enters inside the Enterprise System either by external Systems or by direct entry done by IT Users.

An **Operation** is a Business Entity which has a standard life-cycle: an Operation is **Prepared** in one or several tasks by one or successive IT users. When an Operation is executable (validity of data and authorized), it can be **Executed**, which means that the updates to other Entities (like stocks) can be performed. If a Business Process has several sets of irreversible actions, it means that there are as many Operations: it is a Multi-Executions Process.

Output

Output is what is produced by the Information system to inform people or to feed other systems.

2 Objectives

Provide a **first list** of Entities to help companies which decide to define their own Entities.
Most of these definitions are available for **any Industry**.

On this first version of White paper, CEISAR focuses on the Service Industry (like Administration, Banks, Edition, Health System, Insurance, Knowledge, Software, Telecom, Tourism, Transport …). All these Entities are also useful for the Good Industry.
But the Entities which define the Goods and how to produce them are not defined in this first version.
In future version, CEISAR will deliver more information on specificities of the “Good” Industry.

CEISAR did not try to be exhaustive. A lot of work must be done by each Enterprise to adapt this example to its context.
More, CEISAR does not try to define all data and rules which could be useful for each Business Concept.
CEISAR prefers a **light approach** in which CEISAR just helps to define the **empty boxes** (Entity definitions), leaving each reader fill each box with useful (and not only “interesting”) data and rules.

3 Define Entity domains

The first task is to define Entity Domains.
Service Domain: the objective of the Service Industry is to **deliver Services** to **Beneficiaries**.
Contract domain: but before getting Delivered Services, a **Contract** must be **subscribed**.
Product Domain: parameters and Rules applied to Delivered Services and Subscribed Contracts are generally filed by **Product**.
Accounting Domain: the activity of a Contract is generally stored inside **accounts**.
Actor Domain: different Business **Actors** are active during these processes: prospects, clients, Organization Actors, distributors, and partners.
Organization Domain: Organization actors belong to an **Organization**.
Business Intelligence Domain: objectives and results are managed according to different dimensions like Product Family, Customer Segment, geographical scope, organization Scope, period, nature, …

Input-Output domain: for all these domains exist inputs and outputs.

- **Inputs** allow data creation or data updates, they can be human or automatic
- **Outputs** allow to provide information to users or to send data to another System.

Remark: the Business Intelligence Domain owns Outputs which are delivered to management; but it also has Inputs like Budget Entry

4 Service

The objective of the **Service** Industry is to deliver **Business-Services** to **Beneficiaries**.
(Companies which provides **goods**, also provide Business Services like credit, maintenance, assistance …).
Remark on the word "Service": we use

- **"Business Service"** to define the Service Delivered by the Service Industry (like "pay a claim in the Insurance Industry"),
- **"Software Service"** the piece of software which can be called via an interface (like "am I authorized"),
- **"IT Service"** the Service delivered by IT Operations to the IT User (like "give access to customer accounts").

In this document when we just use the term "Service", it means "Business Service".
Examples:

- a **Bank** delivers Services like "send money", " buy a stock ", or "obtain money to buy a House"
- a **Distribution Store** offers Services like "buy a good" or "deliver goods"
- an **Hospital** delivers Services like "make a surgery to a Person", "provide a bedroom", …
- an **Insurance Company** delivers Services like « reimburse a loss », « pay for health expenses »
- a **Software editor** delivers Services like « download a software », « execute an application », « answer an hot line »
- a **Telephone Company** delivers Services like « make a call », receive emails », …
- a **Transport company** delivers Services like « transport a Person » or « transport goods »
- a **Travel Agency** delivers Services like "provide a Hotel room", or "provide a car"

The Business-Service Domain is the domain which is the **most specific** to each Service Industry, which means that

- there are few Business-Service data and Business-Service Functions which are common to the different Service Industries,
- while there are many data and functions common to Contract Domain, Commission Domain, Billing Domain, Actor Domain, Organization Domain.

4.1 Service structure

We need to use **3 terms**: Offered Service, Subscribed Service, and Delivered Service.
The marketing staff defines **Offered Services** which are described inside "Product" to be presented to Prospects so that they are informed of the Service offer.
When a prospect subscribes a Contract for a given Product, the Contract includes **Subscribed Services**. *If Subscribed Services are exactly the Offered Services because they cannot be customized at subscription time, the Subscribed Services are not implemented in the Contract*.
When the beneficiary gets Services, they represent **Delivered Services**.

4.2 Service Attributes

The Service Attributes are specific to each Service Industry.

4.3 Service rules

- CDMS (Create, Delete, Modify, Search by id, name…) Delivered Service
- Find authorized Services
- **Control conditions** to obtain Delivered Services: like "check contract validity"
- Compute **Delivered Service price** if necessary
- **Deliver Service (**which is specific to each Industry).

5 Contract

Before obtaining Benefit, a Contract must generally be subscribed.

- For **Banking** Services, you must subscribe a Bank Contract (often people say "**open an account**" or "obtain a loan").
- For **Distribution** Services, you can buy goods in a shop without any Contract: you just pay the Service "Get goods", and Service "Deliver Goods". You can also subscribe a Distribution Contract which will allow to receive benefits like "miles", "priority", "credit", … each time you buy.
- For **Health Care** Services, you generally require to subscribe a Contract with Social Security system or a Mutual company, or a private Insurance company.
- For Car **Insurance**, you get Reimbursement Services if you have subscribed a Contract (generally called a **Policy**)
- For **Software Edition**, you get services "download a software", or "call hot line" if you first subscribe (generally "buy a **software licence**")
- For **Telephone** Company, you get Services "make a call", "receive emails" if you first subscribe.
- For **Transport Services**, you can directly get Services « transport a Person » or « transport goods » without any contract. You can also subscribe a Contract to get complementary Services or price reductions
- For **Travel Agency** you get Services like "provide a Hotel room", or "provide a car", after subscribing to a more global Contract.

Remark: an Agreement defines relations between 2 Actors for a period of time. A Guarantee and a Contract are Agreements (they inherit from Agreement).

5.1 Contract structure

A Contract includes a general part which defines Subscriber, Product, dates, …
If Subscribed Services can be customized at Subscription time, the Contract must also include customized part.

5.2 Contract Attributes

Identifier and Version, because a Contract may evolve by renewal or modification.
Contract **Status**: Proposed, Quoted, Active, Cancelled, Suspended, …
Relation towards the **Product** (or Product**s** if it is possible to distribute several Products in the same Contract).
Relations towards **Actors**: Subscriber (s), Beneficiaries of Services, Distributor, Organization Contacts (who takes care of the Contract for Front Office or Back Office purpose).
Relations towards **Contacts** inside the Organization: these contacts define who has the responsibility for managing the Contract. Define it via a **Position** rather than an **Organization Actor**: if an Organization Actor changes his Position, you do not have to update all Contracts.
Several Contacts may be defined: for Front Office and Back Office, for example.

5.3 Contract rules

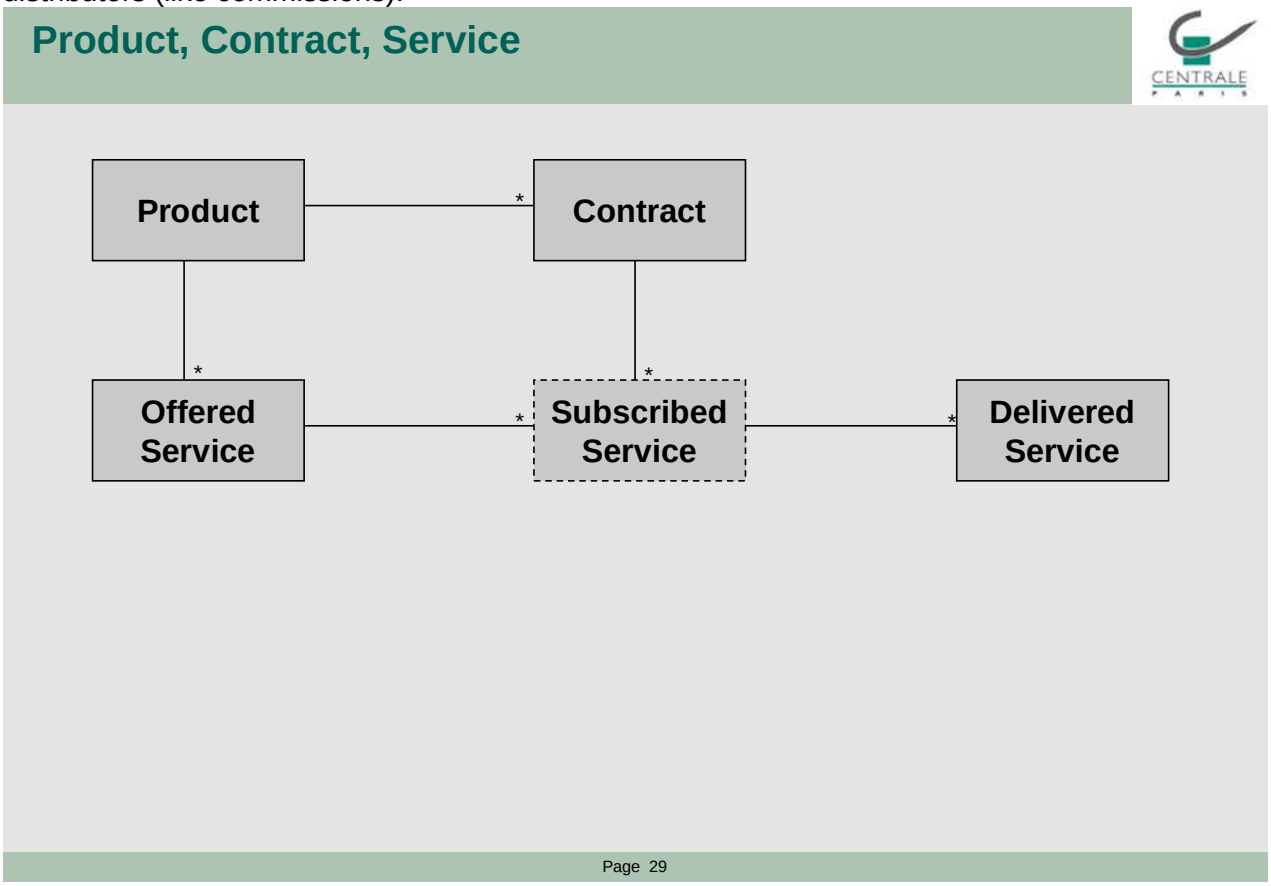
- CDMS (Create, Delete, Modify, Search by id, name…) Contract
- Status Rules to determine change of status
- Compute Price: entry price, or periodic price
- Check Contract Data

6 Product

Rules and Parameters for Contract Management and Service Management are defined by Marketing people.
They can be grouped together inside a Business Entity called "**Customer Product**", so that Product defines how Contract and related Services are managed.
This Product then defines what can be sold to customers, and how services will be Delivered.
We suggest

- not to say "Subscribe a Product", but "Offer a Product" and "Subscribe a Contract"
- not to say "Offer Product and Services", but "Offer a Product, and "Deliver Goods or Services".

By extension, we suggest to use Product Entity to define Parameters and Rules for other domains than sales to end customer. For example, the "**Distribution Product**" defines rules and data for relations with distributors (like commissions).



6.1 Product structure

6.1.1 One Product-No Contract-one Service

Example:

- Product: offer to repair plumbery
- Contract:: no Contract
- Service: Deliver "fix defects"

The Product is simple: you pay for the Service.

One Product, No Contract, One Delivered Service

Example: plumbery repairs
No Contract: just pay for the Service when you use it.

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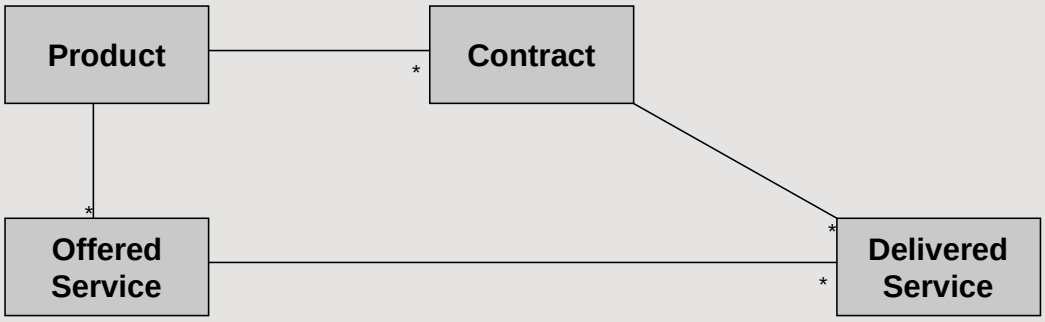
6.1.2 One Product-One Contract-One Service

Example

- Product: offer to rent a safe box in a Bank
- Contract: rent a safe box
- Service: “keep valuables safe”

One Product, One Contract, One Service



Example: rent a safe box

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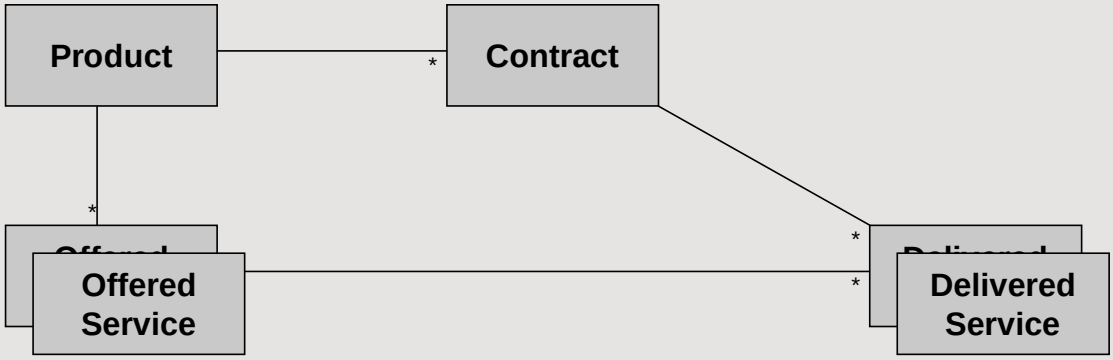
6.1.3 One Product-One Contract-Several Services

Some may be optional or mandatory.
Some are dependent or exclusive.
Example:

- Product: cell phone use
- Contract:: Subscribe for cell phone use
- Service:1: Make a call
- Service 2: Receive a call
- Service 3: send SMS
- Service 4: receive SMS

One Product, One Contract, Several Services



Example: cell phone use
Several services: make a call, receive a call, Send SMS, …

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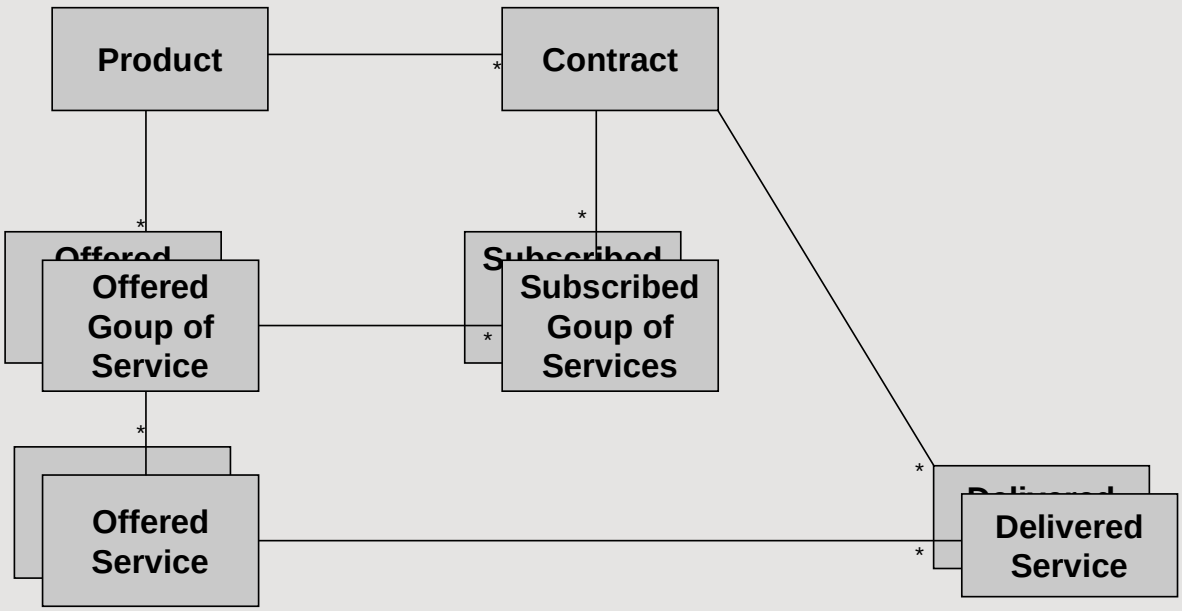
6.1.4 One Product-One Contract-Several Group of Services

When a Product includes many Services, they are presented by Groups to help customer understand, and help choices of optional groups.
Example

- Product: car insurance
- Contract:: Subscribe for a car insurance
- Group of Services 1 (called Coverage)
- Group of Services 2

One Product, One Contract, Several Groups of Services



Example: car insurance
Several group of services: liability, collision, …

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6.1.5 One Offer, several Products

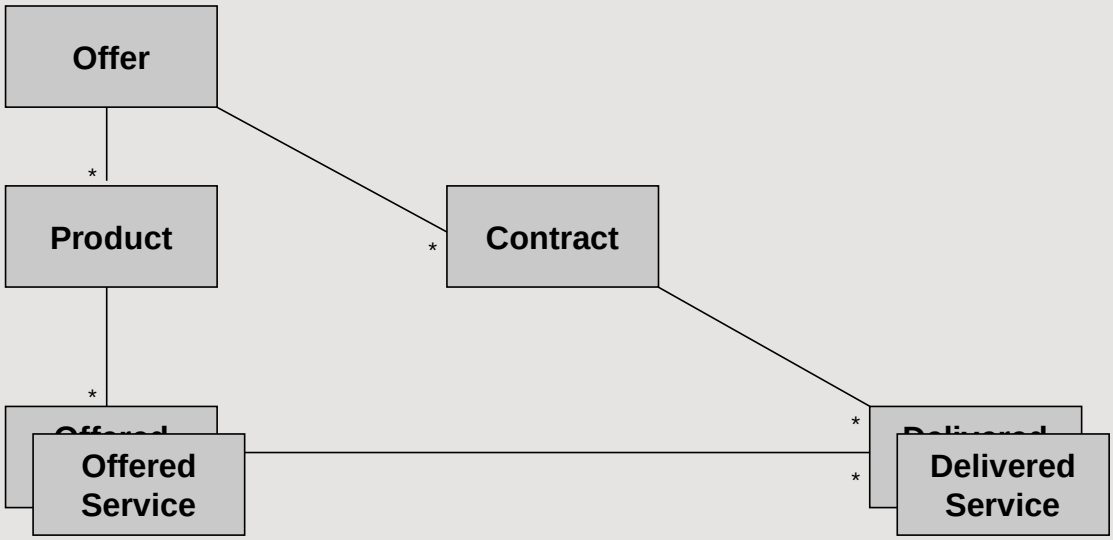
A **Product** is what is Designed and Produced.
But Products can be assembled together into **Offers** which just require one Contract for several Product subscriptions.
Ex: when a distributor sells a washing machine + 3 year maintenance, it represents 2 Products with one Offer and one Contract.
So try to split:

- What is produced: the **Product**
- What is sold: the **Offer**, which can be one Product or a set of Products

Even if Offer and Product are the same for most activities, the distinction can be useful for different business, like

- Propose to the Prospect to buy several Products at the same time, and, in exchange, lower the global price.
- In the Insurance industry, Product definition must be authorized by State authorities, definition of product for insurance company= what is declared to authorities.

One Offer, Several products



Example: car insurance
Several group of services: liability, collision, …

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6.2 Product Attributes

Id, name
Status: project, active, suspended, ended
Dates
Decomposition of Product into Services
Decomposition of Product into Options
Decide if data and rules are the same for all Contracts and Services: if not, use inheritance.

6.3 Product rules

- CDMS (Create, Delete, Modify, Search by id, name…)
- A Product can be created by **copying** another Product: allows to share common rules and parameters at **creation** time.
- A Product can also **inherit** from another Product: allows to share common rules and parameters not only at creation time but also for **evolutions** of the inherited part.

Rules for **Contract** management

- Eligibility rules for Contract.
- Pricing rules:
  - at Product or option or service level
  - for contract: one time price, or periodic price
  - for service: price based on delivered service
- Commission Rules: idem
- Rules to change status

Rules for **Service** management

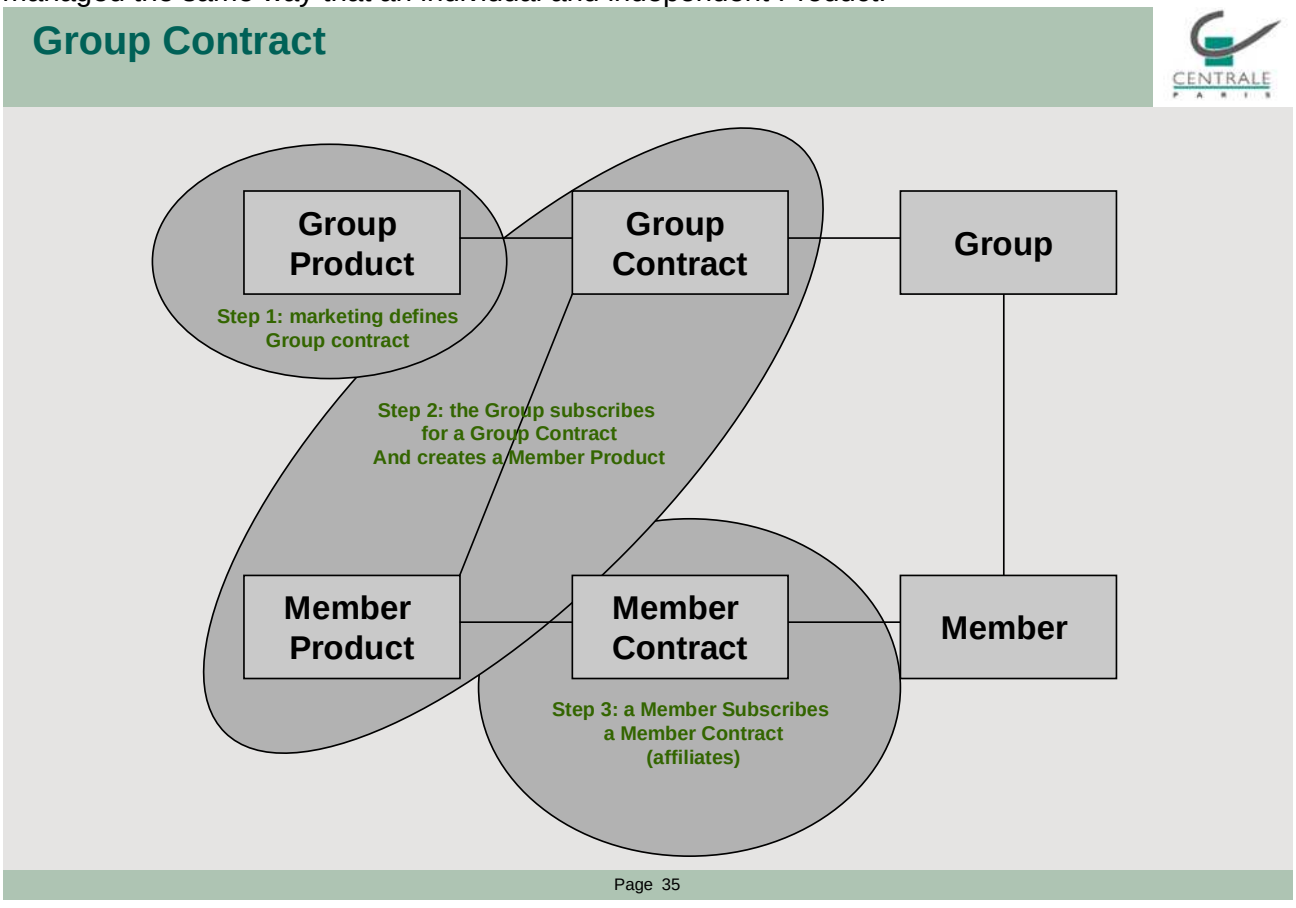
- Executability rule
- Pricing rule
- Specific service rule when delivery of service is computerized

7 Contracts dependent on other Contracts

Some Contracts are dependent on other Contracts.
Let's take an example: a Group Contrat in an Insurance company.
A Group decides to subscribe a Group Contract for its Employees, so that they can obatin Health Services, or Retirement Services, or Disability Services. The advantage is that the Group may obtain better conditions because it brings many employees as prospects to the Insurance Company, and also because the population of employees may represent a lower risk than the average population.
It means that they are 2 Contracts:

- the "**Group Contract**" between the Insurance Company and the Group
- the "**Employee Contract**" or "Member Contract" between the Insurance Company and the Member

To build a Group Contract, the Insurance Company generally starts copying a **Group Product** which defines what can be offered to a Group, and customizes it.
To subscribe a Member Contract, we also require a **Member Product**: this Member Product is not defined by Marketing people, but by Sales people at Group Subscription Time. This Member Contract is managed the same way that an individual and independent Product.



8 Account

8.1 Account structure

An Account is a way to group accounting movements to give a consistent view of financial information on one item.
For example an Account may measure Contract activity.
It is also often required to measure activity at a lower level like activity by Subscribed Service, or at a higher level like activity by Actor.
Allows to follow all interesting activity items like: consumption, number of delivered services, total price, profitability…

8.2 Account Attributes

The account attributes generally include:

- Identifier, version
- Status: project, active, closed, blocked, …
- Holder(s)
- Currency
- Balance(s)
- List of Accounting Movements which explain the Balance.

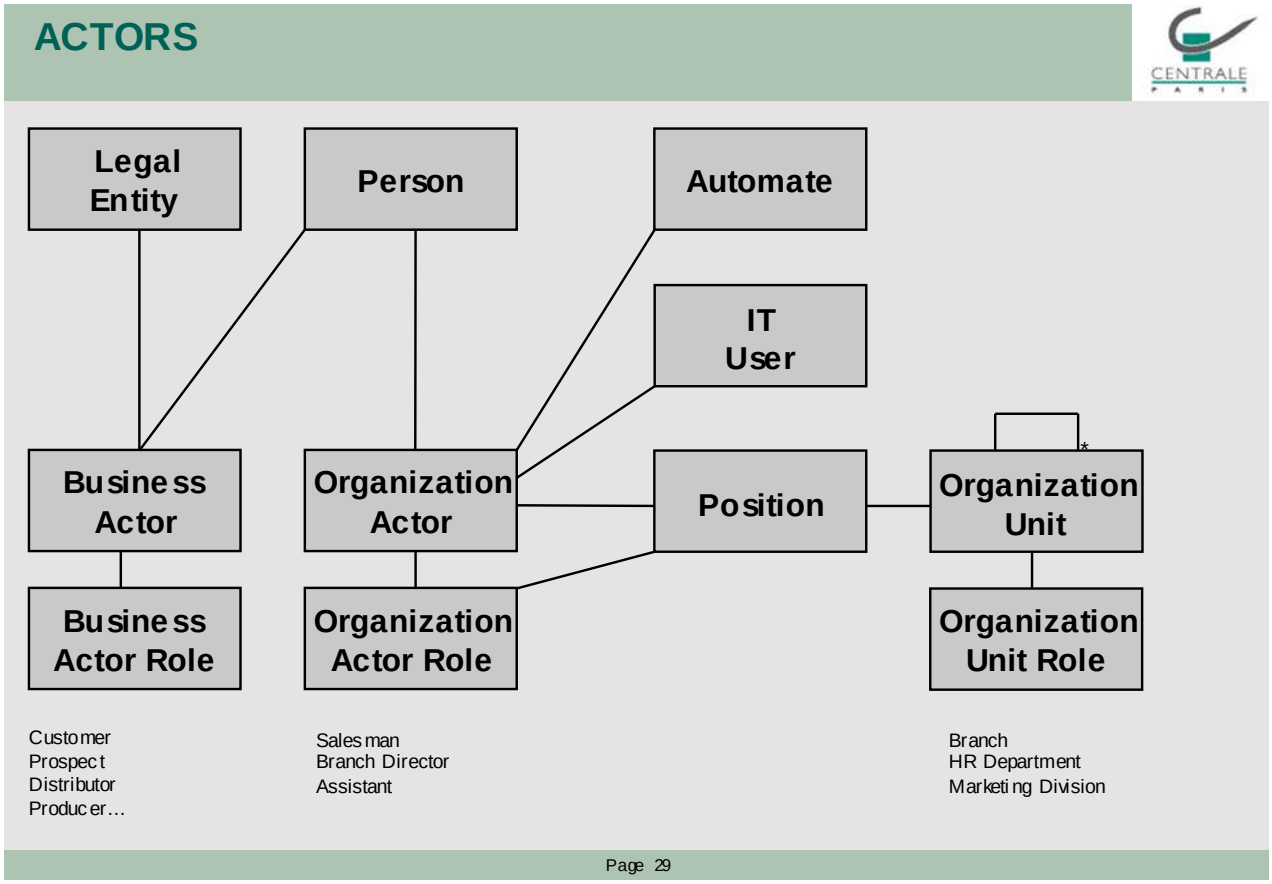
Each Accounting Movements includes

- Identifier, version
- Status
- Amount and Unit (which can be currency or any other quantified item)
- Identifier of the Operation which produced the movement (to be able to track origin of Movements).

8.3 Account rules

- CDMS (Create, Delete, Modify, Search by id, name…)
- Debit and Credit: add an Accounting Movement and update the Balance
- Purge account versions: rules which defines which versions of an Account remain persistent in the Information System (keep all, beginning of day, week, month, term, year).
- Compute average balance

9 Actor and Role



9.1 Actor

An Actor is

- A Person
- A Legal entity
- An Automate

An Actor may play one or several **roles.**

Actors defined in the Business System are **Business Actors**. A Business Actor is a **Person** or a **Legal Entity**. For example, contracts are signed with individual people or Legal entities. It cannot be an Automate which is only useful when describing the Organization System.

A Business Actor plays one or several **Business Actor Roles** if he is involved in Business Processes, like:

- Prospect
- Subscriber (or customer)
- Decider
- Payer
- Beneficiary
- Distributor
- Provider of Goods or Service

What is not a Role

- Employee or Consultant is a Resource and not a Role
- Organization Unit is part of the Organization and is not an Actor; for example, a Distributor is an Organization Unit of the extended Enterprise

Remarks:

- All these roles are defined as **relations** and not inheritance, so that the same Actor may play different Roles.

9.2 Person

9.2.1 Person structure

It is easy to define a human being.
It is more difficult to define a Family or a private Tax entity, which require relations between Persons.

9.2.2 Person Attributes

Attributes depend on Business Functions.
We just define basic attributes like

- Identifier, version
- Name, first name
- Address(es): post, internal, email, telephone, …

which will be completed according to requirements (we prefer focus on boxes rather on what is inside).

9.2.3 Person rules

- CDMS (Create, Delete, Modify, Search by id, name…) a Person
- CDMS a family
- CDMS a private tax entity

9.3 Legal entity

9.3.1 Legal Entity structure

A Legal entity has a legal existence and is not a person.
Example: corporation, administration, financial institution, association.
Legal Entities can be linked through stock participations.
Generally a Legal Entity is related to an Organization Unit.

9.3.2 Legal Entity Attributes

The Legal Entity describes the legal form, the legal address, the date of creation, the relation with general ledger, the relations with other legal entities, …

9.3.3 Legal Entity rules

- CDMS (Create, Delete, Modify, Search by id, name…) a Legal Entity

9.4 Partner

9.4.1 Structure

A Partner is a Business Actor doing Business with the Enterprise. It can be a Provider, a Distributor or even a Customer.

9.4.2 Attributes

Do not repeat Attributes which belongs to Person or Legal Entity.
Just add Attributes which are specific to the Role. In many cases, there are no Attributes or rules, and Partner is not a new Business Entity but just a Person or Legal Entity Related to a Contract.

9.4.3 Rules

Same remark.

9.5 Provider

9.5.1 Structure

A Provider is a specific Partner which contributes upstream in the value chain.

9.5.2 Attributes

Do not repeat Attributes which belongs to Partner.
Just add Attributes which are specific to the Role. In many cases, there are no Attributes or rules, and Provider is not a new Business Entity.

9.5.3 Rules

Same remark.

9.6 Customer

9.6.1 structure

A Customer or “Client” is not easy to define: generally it is the Subscriber.
But some sales people explain that it is the Decider they must convince, who is not always the Person who signs.
As we cannot give a general definition of Customer, we suggest to use the Roles “**Subscriber**”, “**Decider**”, “**Payer**”, “**Beneficiary**”. If we use the word Customer or “Client”, it means “Subscriber”.
If there is no Attribute or Rule attached to a Role, then the Role will only be implemented as a Relation between the Contract and the Person.
For example, the Decider can just be a Relation from Contract to Person.
A **Prospect** is a future Customer.
A Customer who has no more active Contracts is an **old Customer**.

9.6.2 Attributes

Do not repeat Attributes which belongs to Person or Legal Entity.
Just add Attributes which are specific to the Role. In many cases, there are no Attributes or rules, and Client is not a new Business Entity but just a Person or Legal Entity Related to a Contract.

9.6.3 rules

Same remark.

9.7 Distributor (or producer)

9.7.1 Structure

A Distributor can be a Person or a Legal entity who distributes Products.
The **Business Actor** “Distributor” does exist, because we must manage define specific Business Processes for Distributor Management like manage the distribution Contract, or manage commissions.
Sales management defines Attributes and Rules which apply to Distributor like:

- which Product can be sold,
- to which segment of prospects,

- for which commissions and which responsibilities.

So there exist;

- Distribution Product: defines what is proposed to potential distributors. Several Products may exist depending on distribution network or level of responsibility.
- Distribution Contracts define data and rules for each Distributor.
- Distribution Account concentrate distribution activity for each distributor
- Distribution Service describes the Service delivered to each distributor (like training Services, or assistance Services, or commission payment).

But the Distributor is also an **Organization Actor** who plays an **Organization Role** of Distributor, and participates in Organization Processes.

9.7.2 Attributes

Distribution perimeter:

- List of Products he can distribute.
- Customer segments
- Geographic perimeter.

9.7.3 Rules

CDMS Distribution Product.
CDMS Distributor
CDMS Distribution Contract
CDMS Distribution Services
Compute commissions.

10 Location

Geographical Space used to define different levels of territories: country, town, district, campus, building, offices... A Location may or not have a Postal Address.

11 Organization Structure

11.1 Organization Structure

An **Organization Unit** is a node of a hierarchical structure.
An Organization Unit can be the **father** of several Organization Units (hierarchical structure).

An **Organization** is a hierarchy of Organization Units which all depend from the same Organization Unit.
Example:

- a region composed of the regional headquarters plus regional branches is an organization,
- as the whole company composed of the different regions is also an organization

Generally there is one **main hierarchy** which defines who manages what: this is the decision structure.
Sometimes, companies like also to define complementary organizations on another dimensions linked to: family of products, or customer segment, …They can also be represented and managed.

As “extended Enterprise” gains success, a company often require to manage not only its own Organization Structure, but also have a view on **external Organization Structure** of its partners.
Business Concepts are the same, but level of precision is not: the view only describes the part of the Structure which is useful for partnership relations.

An **Organization Actor** is a Person who works for a Legal Entity. Most of the Organization Actors are employees of the Legal Entity, but not all of them: some are consultants, or external Organization Actors, like Distributors.
Most of the Organization Actors are also **IT Users**: they can use IT Services offered by the IT System.
If the Enterprise offers to its Business Actors (like Partners, distributors, prospects, clients) to use IT Services, then they become part of the organization Processes and so become Organization Actors and IT Users, with Rights and Duties.

A **Position** is the smallest Organization Unit: it only contains one Organization Actor.
We can also present the Position as the arm-chair in which is seated an Organization Actor (except that some Organization Actors do not seat in arm-chairs..)
An Organization Unit generally owns several Positions.

Actors defined in the Organization System are **Organization Actors**. An Organization Actor is a **Person** or an **Automate**. It cannot be a Legal Entity.
An Organization Actor plays one or several **Organization Actor Roles** if he is involved in the Organization Processes, like:

- Sales man
- Assistant
- Accounting Manager

The **Organization Actor Role** of the Position applies to the Organization Actor who is related to the Position.
Ex: the Organization Actor Mrs Smith has the Position “Assistant for Branch 18”, means that Mrs Simth has the Organization Role “Assistant”.

11.2 Organization Attributes

Organization Unit Attributes includes:

- Identifier, version

- Name
- Status: Project, active, closed, being reorganized…
- the parent Organization Unit,
- the sub Organization Unit (s), …
- category of the Organization Unit (department, division, branch, …),
- relation with Location
- the position which is the leader of the Organization Unit,

11.3 Organization rules

CDMS Organization Unit.
Attach Organization Actor to position.
Present an Organization tree

12 Profile: Right and Duty

12.1 Profile Structure

All IT Users cannot use all the offered IT Services.
Each IT User generally uses an Identifier and a password, or any other way to ensure he is the right guy who uses the current IT Service.
To help control **Authorizations** (what he **can** do) the IT User must get a Profile for all his Rights.

A **Right** describes one authorized Functional Domain inside a profile.
As the number of IT Services can be huge, it is very painful to define his rights IT Service by IT Service.

This is why we prefer to use "**Activity Domain"** which is a way to group different Activities.
For example you can define Activity Domains like:

- Manage Rights of other IT users
- Transfer money outside the company (to pay providers, distributors, customers, …)
- Define Products
- Subscribe a Contract for a customer
- …

The list of Activity Domains must be precise enough to represent your organization, but simple enough to help defining Rights: experience shows that if Rights are too complex, they are not used.

A **Profile** is a list of Rights.

The same profile can be used by different IT users who occupy same type of Position: it helps manage Profile.
A Profile can be attached to a User or a Position or a larger Organization Unit.

We suggest to use the same mechanisms to define **Duties.**
A Duty defines not what a User could do, but what he **should** do.
Using Duties help share work load, not only for call centres but also for all activities.

12.2 Profile Attributes

According to Security policy, the Activity Domain can be completed by other items like:

- Level of **risk** (like amount of money)
- Level of **confidentiality** (all users cannot access the salary of the CEO)
- **Geographic** scope (some people are only authorized for a region)
- Action: which can be more sophisticated than yes or no, like :
    - Limit amount 1: above it, the operation cannot be applied
    - Limit amount 2: above it the IT user must be re-authentifed
    - Limit amount 3: above it, a report is automatically sent

If you use Business Patterns like Descriptors and Operations, you can use

- **Descriptor Right**: describes authorized action kinds for Descriptors (create, modify, delete, consult) in one Activity Domain inside a profile.
- **Operation Right**: describes authorized action kinds for Operations (create, modify, delete, consult, apply, suspend) in one Activity Domain inside a Profile.

12.3 Profile Rules

CDMS Functional Domains
CDMS Rights
CDMS Duties
CDMS Profile

Am I authorized?
What is my next task?

13 Business intelligence domain

13.1 Business Intelligence Structure

Business Intelligence must satisfy Management requirements and Research requirements.

- Management
  - It uses a restricted list of **analysis dimensions** like
    - Product or Product Domains
    - Service or Service Domain
    - Customer or Customer Segment
    - Time: period (if flow) or instant (if stock)
    - Geographic Scope or Organization Scope
    - **Indicator Nature**: not only the Accounting Natures, but any sort of Nature like: number of employees, surface of offices, number of new customers, …
    - Measure: quantity, dollars, % …
    - Real or budget
  - Business processes feed the Business Intelligence System or data wharehouse by standard entries which respect these dimensions.
  - The Business Intelligence System keeps entries and builds aggregations
  - Different presentation models can be defined, as long as they use the list of predefined dimensions
- Research
  - Requests are not predictable: they apply to all data and require a specific tool to be able to access data, formalize request and dynamically present results

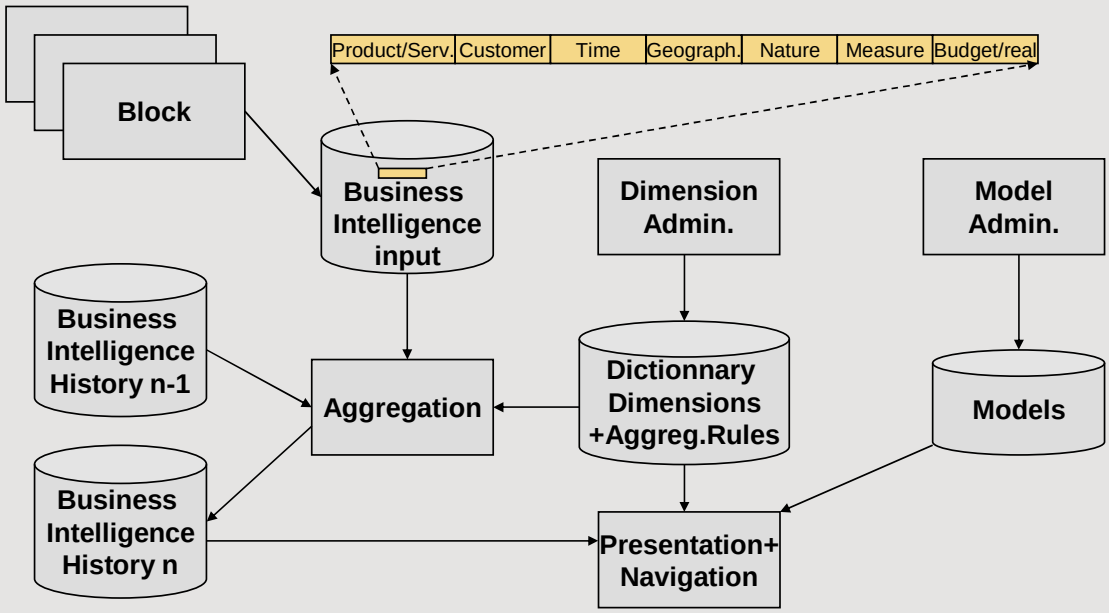
13.2 Business Intelligence Attributes

A dictionary of dimensions must be kept alive: product, customer segment, organization Scope, Nature. The most difficult part is “Indicator Nature” which requires precise definitions accepted by all Business Processes which feed the System.

13.3 Business Intelligence Rules

- Generate entry
- Compute aggregations and ratios
- Keep history

Business Intelligence for Management



14 Input

14.1 Input Structure: Operation

By “Input” we define what enters inside the Enterprise System either by external Systems or by direct entry done by IT Users.
An **Operation** is a Business Entity which has a standard life-cycle: an Operation is **Prepared** in one or several tasks by one or successive IT users. When an Operation is Executable (validity of data and authorized), it can be **Executed**, which means that the updates to other Entities (like stocks) can be performed. An Operation can be applied just once. After being applied, the Operation can be kept persistent or archived.
If a Business Process has several sets of irreversible actions, it means that there are as many Operations: it is a **Multi-Executions Process**.

14.2 Attributes

Identifier
Input type
Who, when.
Status: suspended, cancelled, authorized, executed.

14.3 Rules

Prepare: capture, control
Apply (or “Execute”): irreversible actions when controlled, authorized, on time
Authorize: an Operation should be authorized by one User. We suggest to avoid several users together responsible for the same Operation.

15 Output

15.1 Output Structure

Output is what is produced by the Information system to inform people or to feed other systems.
Generally an Output is a list of data presented inside a model.
To allow isolation of reporting production, we suggest to split data and models.

15.2 Output Attributes

Model, target IT Users, list of data.

15.3 Output Rules

Find receiver
Send to
Edit