



Praxeme, le sens de l'action

Initiative pour une méthode publique

'Theory without experience is mere intellectual play but experience without theory is blind.'
Immanuel Kant

Semantic model for the customer-centric enterprise

✉ dominique.vauquier@praxeme.org

☎ +33 (0) 6 77 62 31 75

† <http://www.praxeme.org>



Presentation goal

▪ Objective

Make sensible the change & stakes implied in the customer centricity and the semantic approach

▪ Topics

- Modelling
- Semantics
- Data
- Innovation

Duration: 1h

Protection des documents





- 1. Introduction**
- 2. Business perspective**
- 3. Semantic modelling**
- 4. By-products and usage**



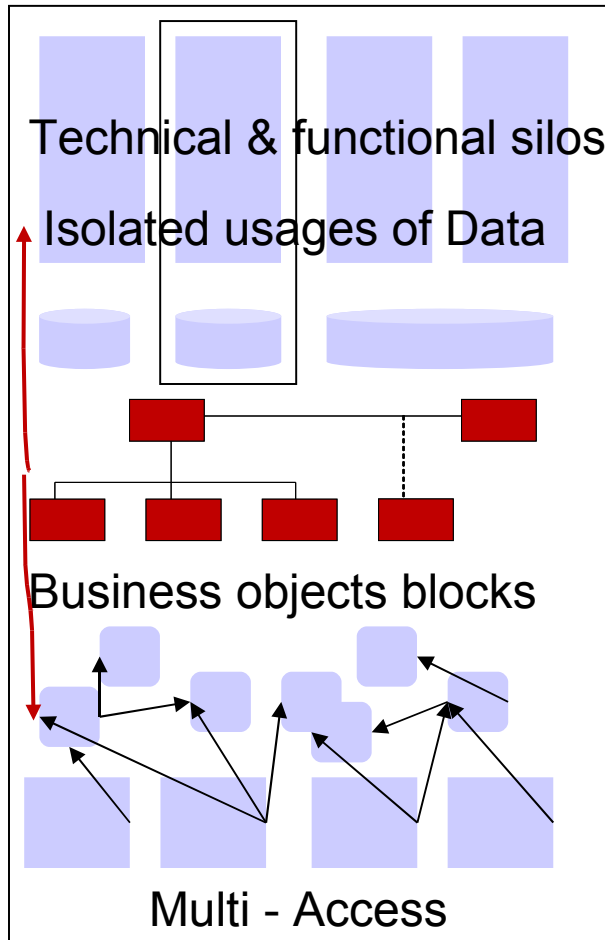
- **Semantic modelling in a snapshot**
 - Positioning against:
 - Legacy system
 - Business demand
 - New architectures



The Semantic Model

An IS response to business transversal needs

1 Legacy Systems



2 Marketing requirements

- Multi-access
- Profiling, scoring, reporting
- Client Experience Management
- Customer centricity
- Cross-function approach of data and systems

3 IS Response

- The semantic model to structure the IS and to design services
- IS Services designed from a business perspective

4 Future System



- **Work in progress with Group Marketing department**
 - MKT Managers expressed their needs regarding IT
 - Business orientations
 - General needs in terms of IT
 - Impact on IS architecture



Business orientations

- **Customer centricity**
 - A change of focus, a change of culture
 - With huge impact on IS systems
 - Need for a “single customer view”
 - Behavioural information
- **Multi-access and Internet**
 - Require to make transparent the access type
 - Stringent compliance to a stratified architecture
- **Seamless chain of activity**
 - Integration of partners’ systems
- **Better reactivity**
 - Business intelligence & reporting on a shorter basis
 - Time to market in developing new products



- **Definition**
- **Application**
 - Revealing the interpretation of customer-centricity
 - Examples



Definition of Semantic Modelling

Applied to the
“semantic aspect”
Modelling
techniques

- **Semantic modelling aims at describing the business basics, in a formal way**

A “runnable” model

Omitting organisational & technical
details or contingencies



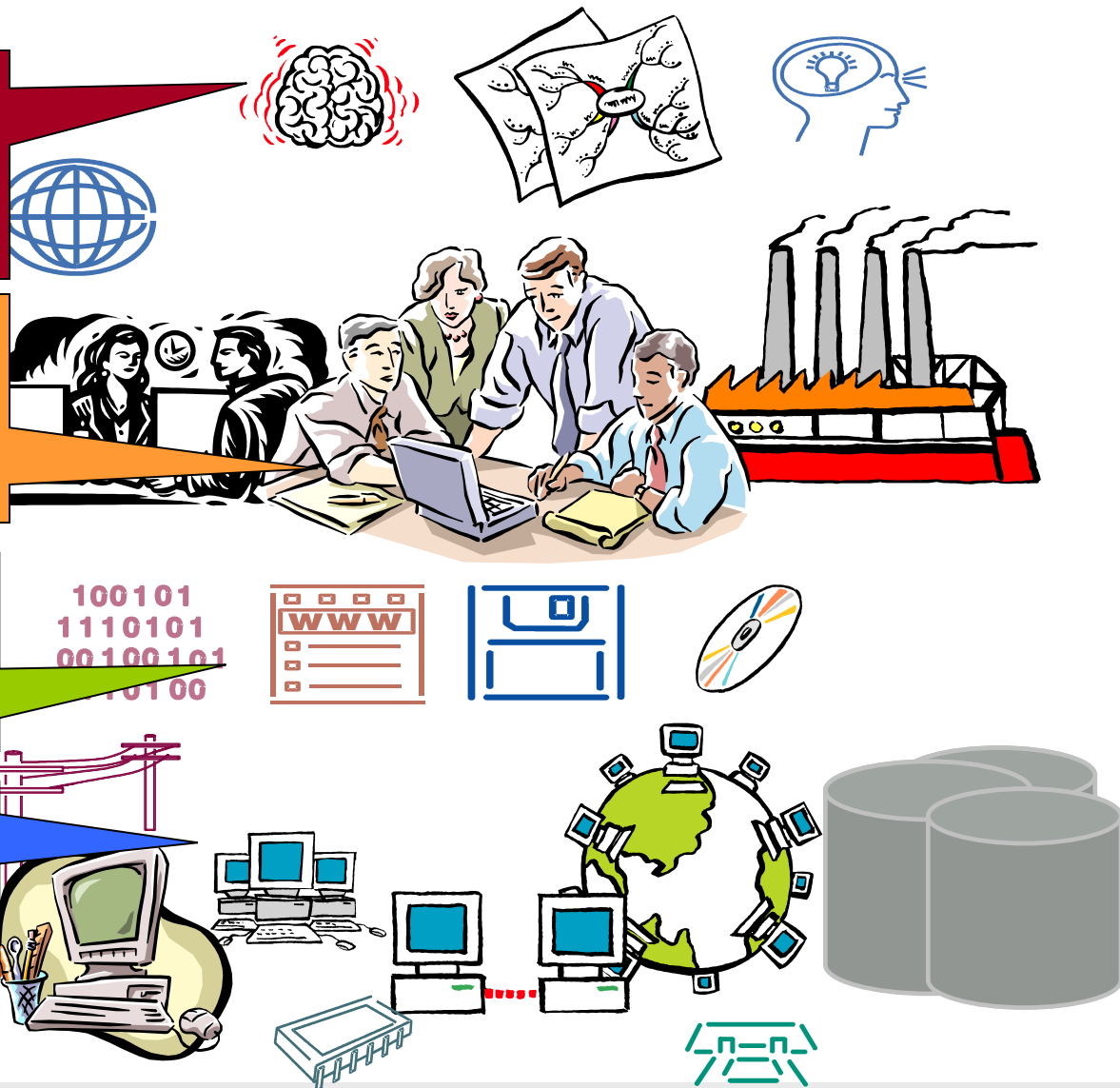
An upper level in separation of concerns

Knowledge:
basics,
objects&concepts

Activity:
processes, use-
cases

Software,
tools

Hardware,
infrastructure





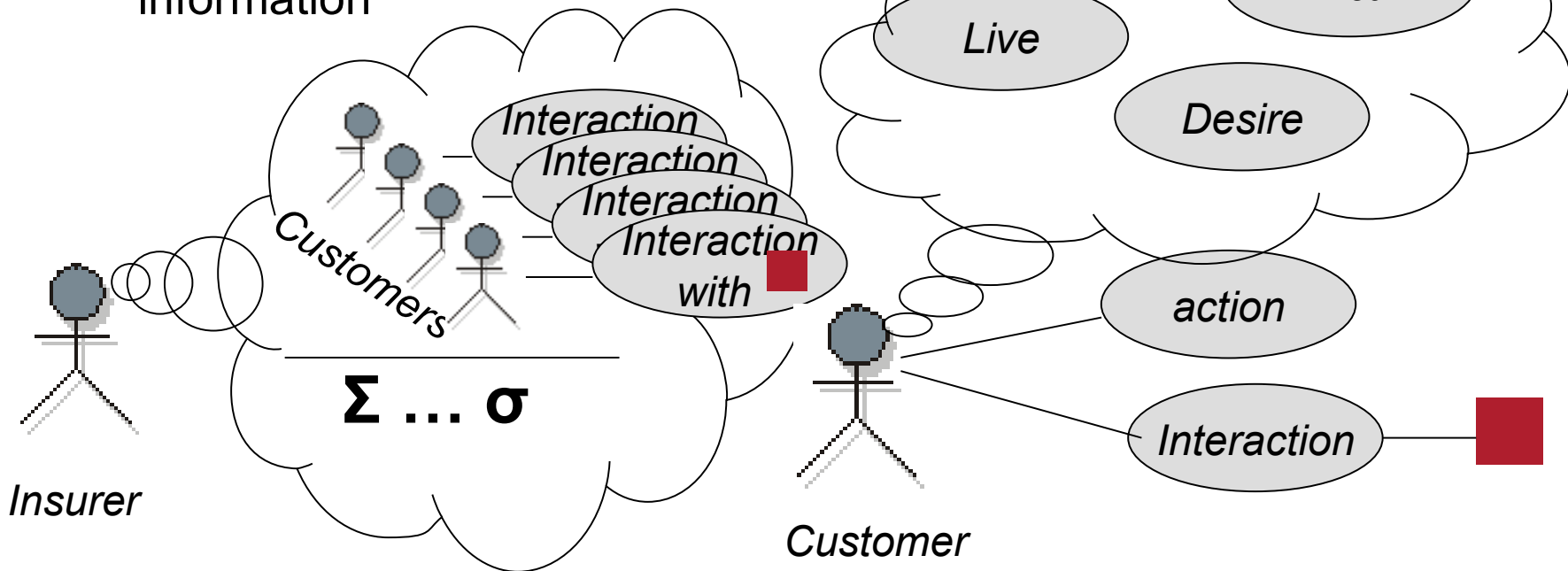
What does “customer centricity” mean ?

- **1st interpretation**

- CC = considering the customer & extracting knowledge from information

- **2nd interpretation**

- CC = training to see things the same way the customer does

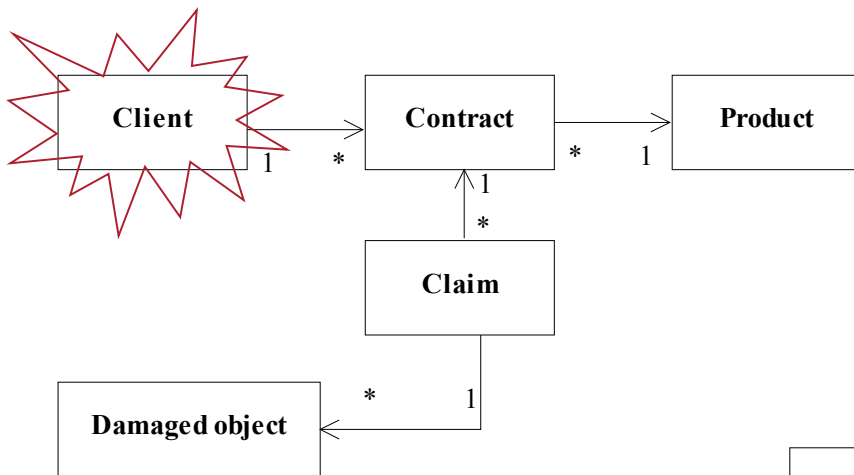




Consequences on CC-model

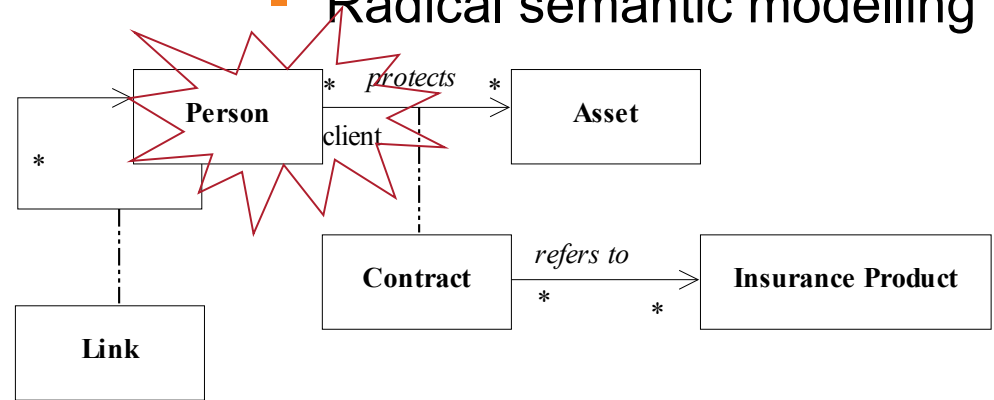
- 1st interpretation

- Classical data modelling



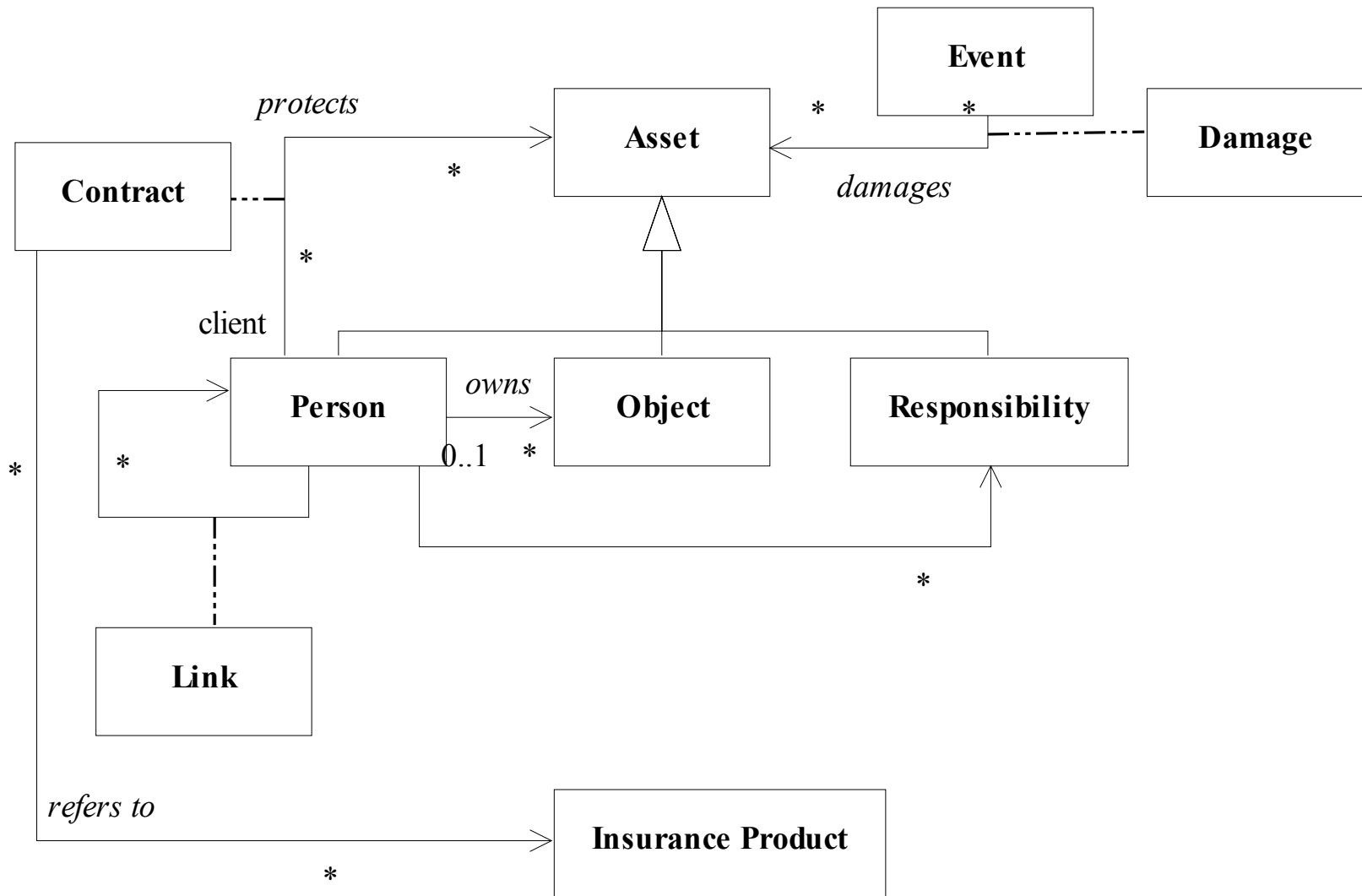
- 2nd interpretation

- Radical semantic modelling





A matter of structure... and agility





Content of the deliverables

- **Pre-modelling**
 - Terminology
 - Thesaurus
- **Model**
 - Documented classes
 - State machines
 - Rules
 - Comments
 - Objects domains
 - Modelling decisions



By-products and usage



- **Position in the activity chain**
- **Assistance with selecting tools (conceptual compliance)**



Positioning of semantic modelling

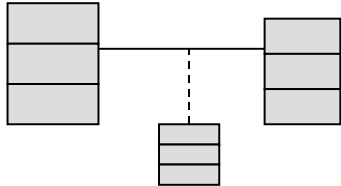
- **The starting point should not be the IT systems**
- **A semantic model expresses, in a formal way, the business knowledge**
 - It addresses questions such as:
 - “What is a client?” (sic)
 - Which information, actions and transformations does a concept convey?
 - How do concepts and objects naturally relate to one another?
- **A semantic model stands above organisational specificities**
 - It provides the optimum conditions for convergence



Business: the good description

Semantic aspect

Objects



*Business objects, real objects
(Information+Transformation+Action)*

Pragmatic aspect

Activities



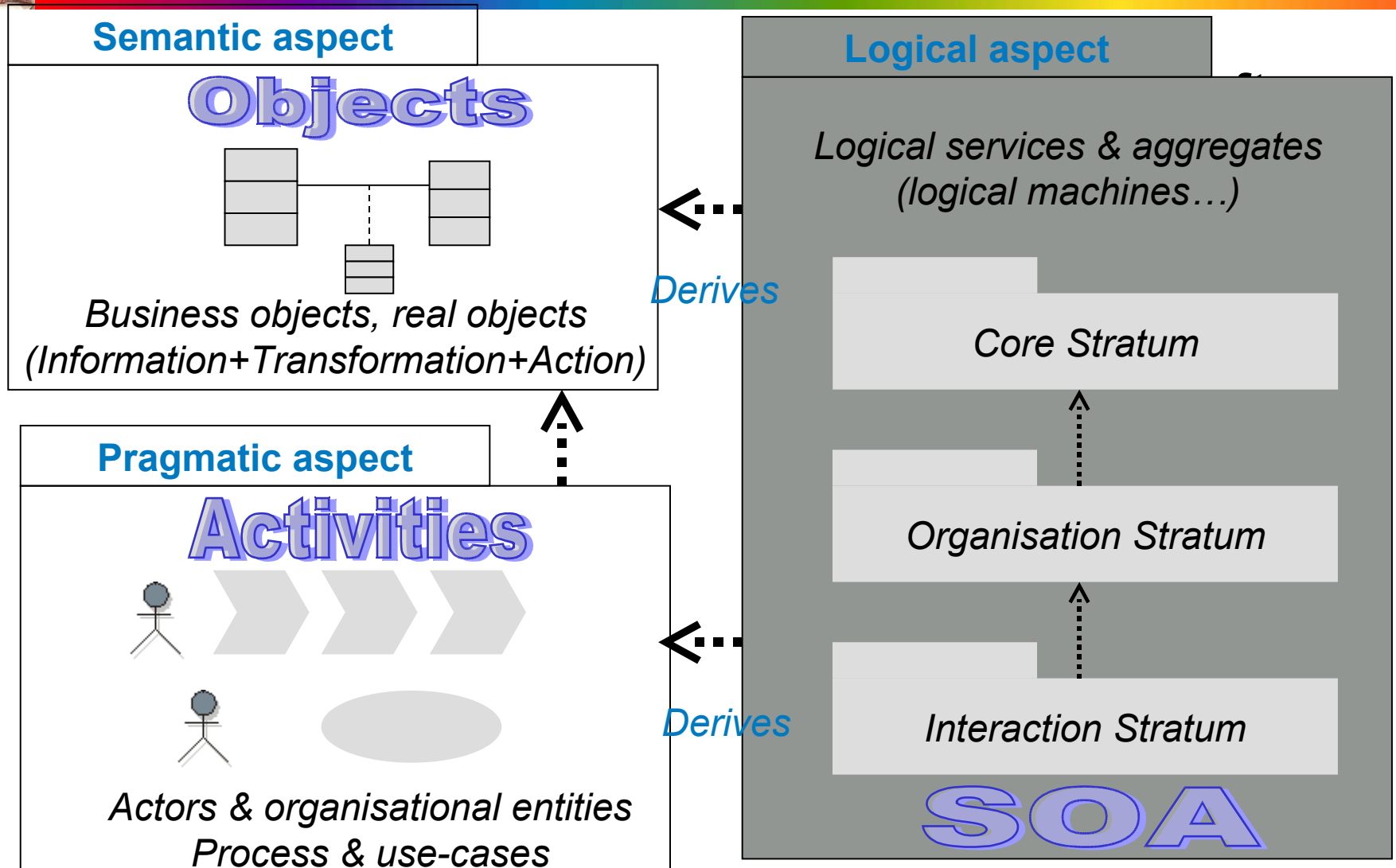
*Actors & organisational entities
Process & use-cases*

Refers to

- **Approach by activities**
 - Classical approach
 - Flawed with local variation
 - Functional & hierarchical breakdown structure
- **Semantic modelling**
 - Additional approach
 - Move to genericity
 - New solution to cope with complexity



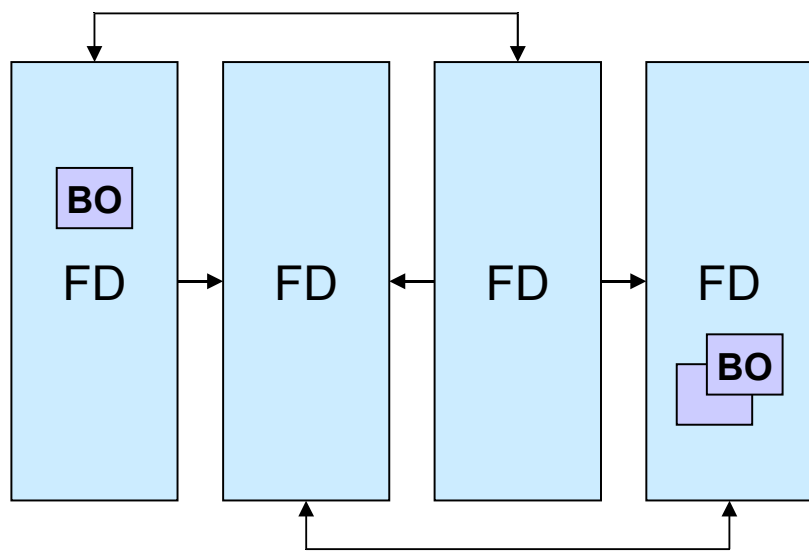
Software: the good structure





Logical architecture: the change

Caricature of an architecture based upon functional approach

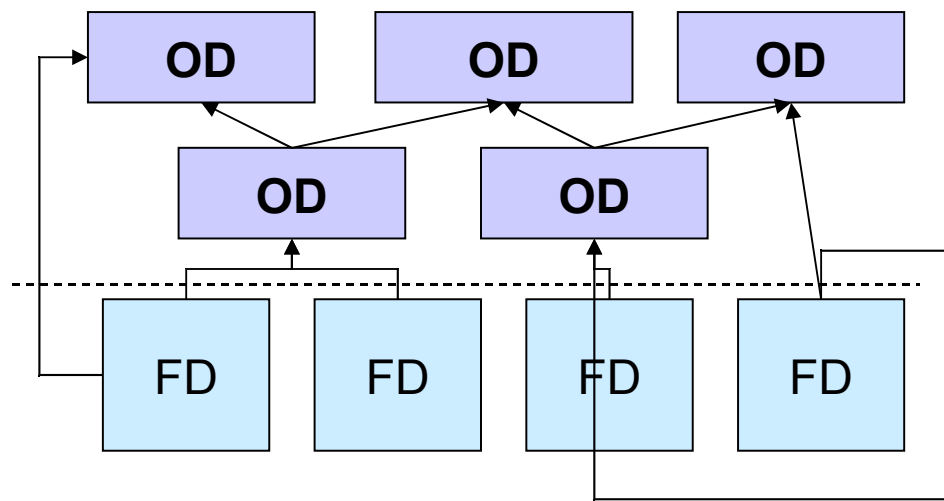


Logical blocks take in charge functional domains
 Which structure the pragmatic model
 It stems from that important dependencies or
 redundancies since same business objects are used
 inside many functional domains

FD: functional domain

BO: business object

Outlined logical architecture according to Praxeme method



Several logical blocks match with the objects domains
 from semantic model.

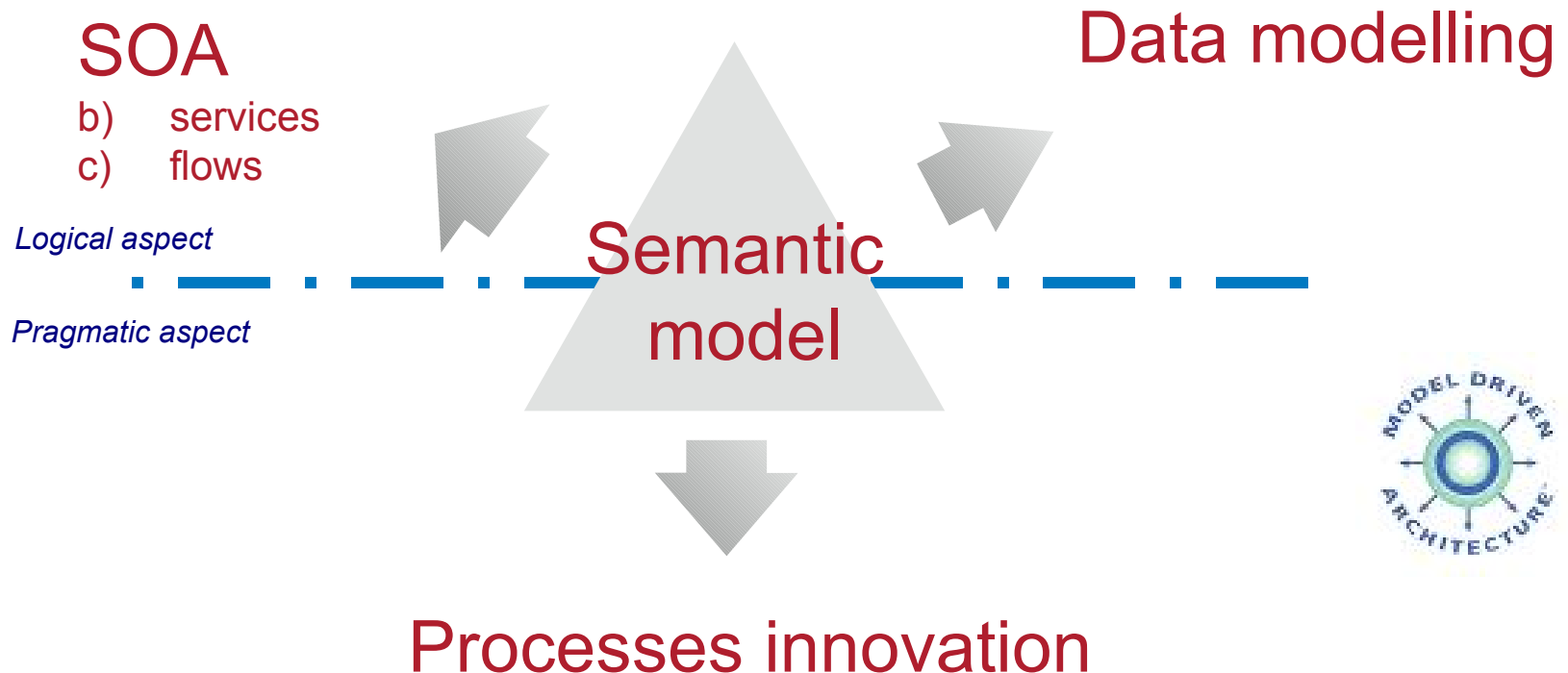
Dependencies obey topological constraints

- Between strata (“Business Core”, “Organization”, “Interaction”)
- Coupling reducing,
- No dependency between FD, unless special cases,
- etc.



Benefits of semantic models

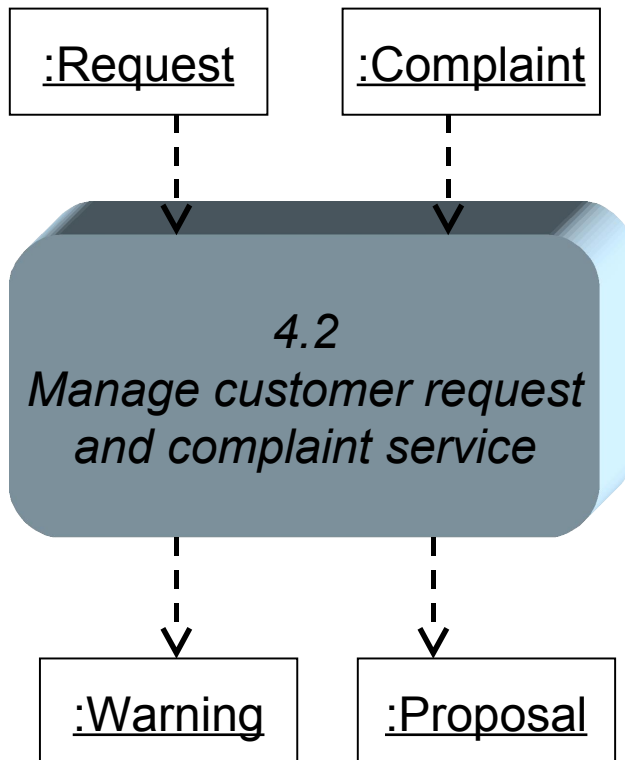
- From this core business representation we can:
 - Derive other models
 - Guide processes & IT design



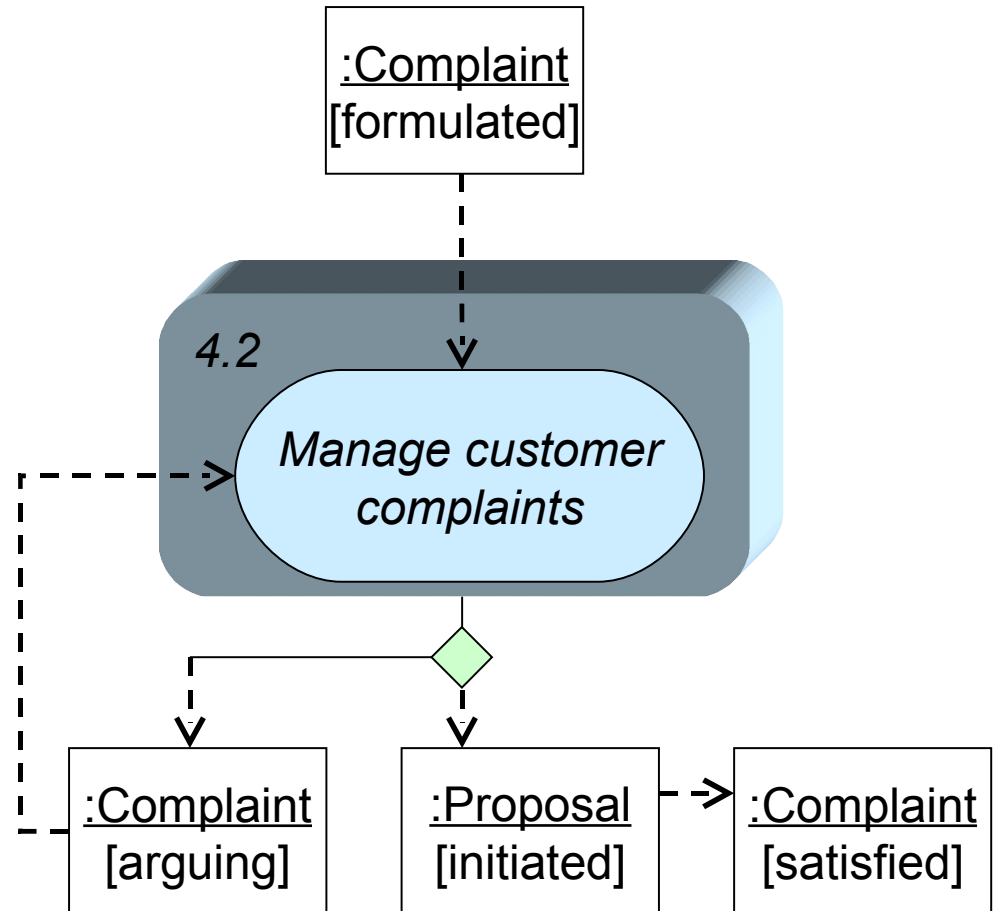


Connection between objects and activities

▪ Broad view



▪ Detailed view





Business stakes

- **A semantic model, within its limit, allows:**
 - To capture the business knowledge
 - In formal terms: accurate and operational
 - In natural categories
 - To provide insight into the “real world”
 - To help change focus
 - ➔ e.g. customer centric rather than internal focus
 - To guarantee interoperability at business & IT levels
 - By deriving a good pivot language
 - To free offer development from existing patterns
 - It's easier to think of differentiation considering business objects rather than the organisational processes



- **This approach contributes to restructuring IT systems**
 - By introducing “objects domains”
 - By shifting from functional to object approach
- **It isolates a core system**
 - Easily sharable
 - Independent from organisational specificities
- **It paves the way for services design (SOA)**
 - The services derive from operations of semantic classes
 - They populate the core layer
 - They are highly reusable

Conclusion

- **For further information**
 - *Praxeme Institute*, non-profit association
 - www.praxeme.org
 - In order to receive information, you can register
 - <http://groups.google.com/group/Praxeme-Annonces>

Meaning in
action

Help us to help you!



Praxeme, le sens de l'action
Initiative pour une méthode publique

*'Theory without experience is mere
intellectual play but experience without
theory is blind.'*
Immanuel Kant

Semantic model for the customer-centric enterprise

✉ dominique.vauquier@praxeme.org

☎ +33 (0) 6 77 62 31 75

† <http://www.praxeme.org>



Référence : CSQ-03

Version : 17/04/08



Presentation goal

▪ Objective

Make sensible the change & stakes implied in the customer centricity and the semantic approach

▪ Topics

- Modelling
- Semantics
- Data
- Innovation

Duration: 1h

Protection des documents



www.praxeme.org



Semantic model for customer-centric enterprise

CSQ-03

2/24

Ce document est protégé par une licence « creative common ».

Il peut être diffusé, reproduit, réutilisé, en tout ou en partie, à condition d'en citer l'origine et l'auteur.

Les nouveaux matériaux produits doivent s'appliquer les mêmes conditions d'ouverture et de respect de la propriété intellectuelle.



Content

- 1. Introduction**
- 2. Business perspective**
- 3. Semantic modelling**
- 4. By-products and usage**



- **Semantic modelling in a snapshot**
 - Positioning against:
 - Legacy system
 - Business demand
 - New architectures

Utilisation du modèle de présentation :


Séparateur (diapositive de changement de partie)

Il y a un masque pour ce type de pages, de façon à factoriser la présentation des séparateurs (et les graphiques).

Pour chaque nouvelle présentation : modifier le masque des séparateurs (titre et nombre de pages).

Pour créer un nouveau séparateur :

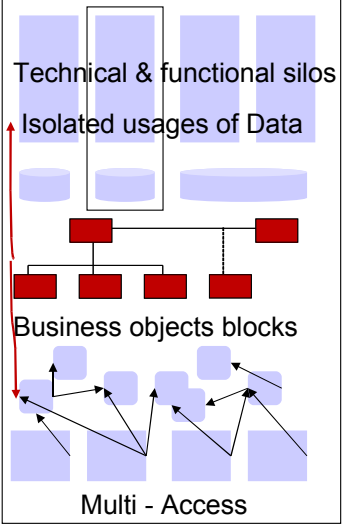
- copier cette diapositive et la coller à l'endroit approprié ;
- modifier le numéro de la partie (il est sur la diapositive, pas sur le masque).



The Semantic Model

An IS response to business transversal needs

1 Legacy Systems



Technical & functional silos
Isolated usages of Data

Business objects blocks

Multi - Access


2 Marketing requirements

- Multi-access
- Profiling, scoring, reporting
- Client Experience Management
- Customer centricity
- Cross-function approach of data and systems

3 IS Response

- The semantic model to structure the IS and to design services
- IS Services designed from a business perspective

4 Future System

www.praxeme.org  Semantic model for customer-centric enterprise CSQ-03 5/24

On the semantic model

Focus on the “Person”

Rather than the “Customer”

New structure from an external point of view

The semantic of the Business objects is expressed

Information (data, computed values)

Action (function, rules, behaviour)

Transformation (constraints, life cycle)

On the pragmatic model

Focus on the interaction with the customer

Activities and processes related to the customer relationship



- **Work in progress with Group Marketing department**
 - MKT Managers expressed their needs regarding IT
 - Business orientations
 - General needs in terms of IT
 - Impact on IS architecture



Business orientations

- **Customer centricity**
 - A change of focus, a change of culture
 - With huge impact on IS systems
 - Need for a “single customer view”
 - Behavioural information
- **Multi-access and Internet**
 - Require to make transparent the access type
 - Stringent compliance to a stratified architecture
- **Seamless chain of activity**
 - Integration of partners' systems
- **Better reactivity**
 - Business intelligence & reporting on a shorter basis
 - Time to market in developing new products



- **Definition**
- **Application**
 - Revealing the interpretation of customer-centricity
 - Examples



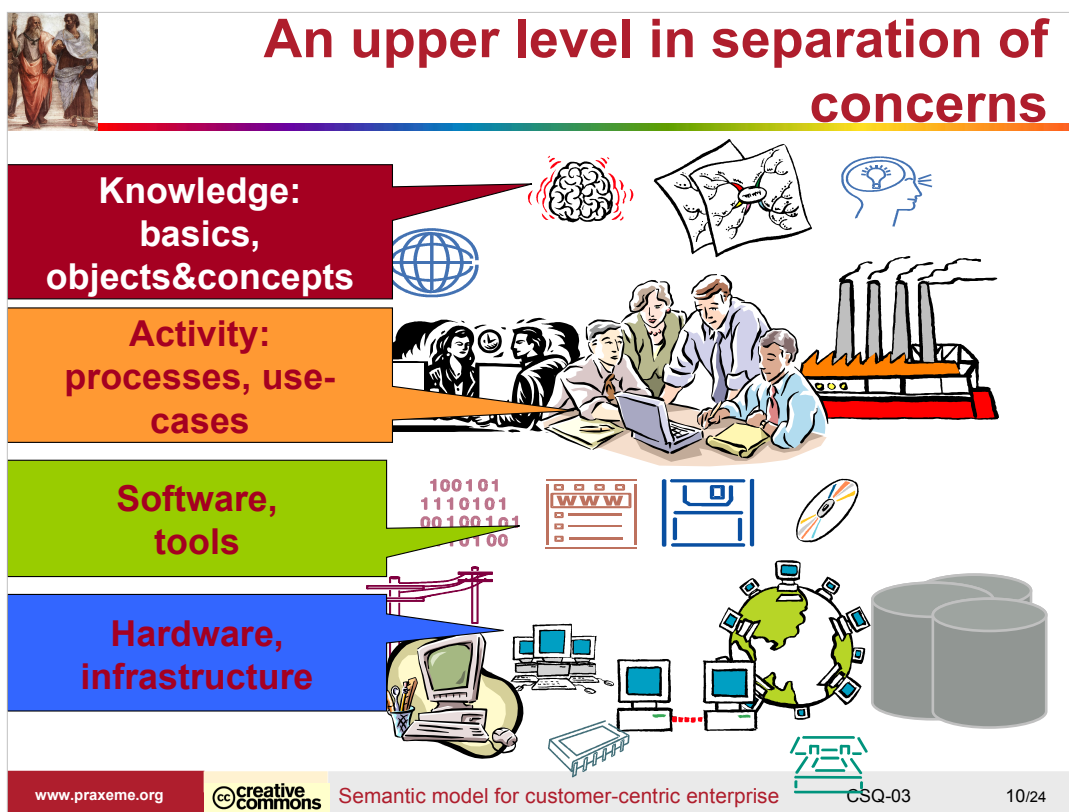
Definition of Semantic Modelling

Applied to the
"semantic aspect"
Modelling
techniques

- **Semantic modelling aims at describing the business basics, in a formal way**

A "runnable" model

Omitting organisational & technical
details or contingencies



Le Système Entreprise

Les éditeurs d'outils d'optimisation ou de mesure d'infrastructure façonnent un discours qui cherche à « remonter » leur offre vers l'aspect processus. En filigrane, le destinataire doit comprendre qu'optimiser l'infrastructure c'est optimiser les processus !

Cette attitude, aux motivations évidentes, conduit à relier les différents plans de la réalité des entreprises.

Ce schéma vise le même objectif.


Il constitue une 1ère approche, intuitive du « Système Entreprise », sur lequel nous voulons agir.

Une 2ème approche, plus systématique, est formulée par la Topologie du Système entreprise (voir plus loin).

Dans une 3ème approche, l'analyse détaillée des aspects permet de distribuer les objets et notions sur les aspects.

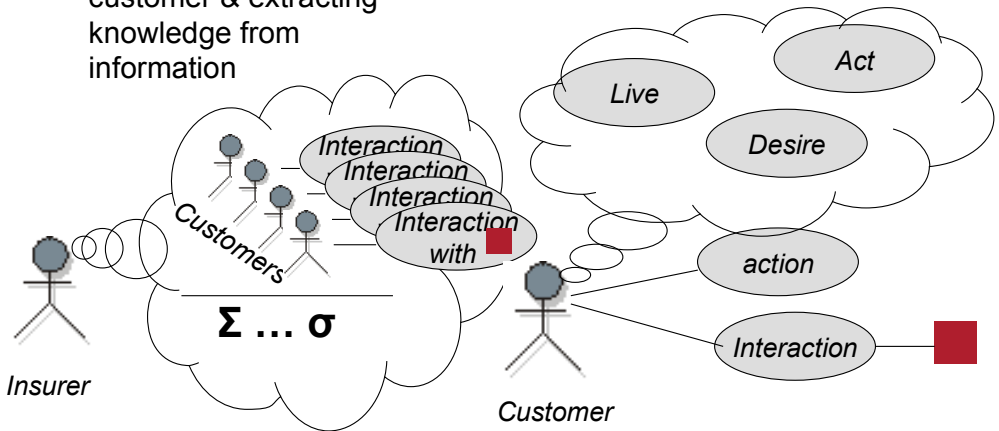
Le souci est de relier les différents éléments d'information et les décisions, à travers tous les aspects : de la connaissance métier à l'infrastructure matérielle, en passant par les processus et la localisation.


Cette clarification des aspects constituant le Système entreprise est un préalable à l'action. On ne saurait optimiser sans connaître l'objet entreprise dans toutes ses dimensions.



What does “customer centricity” mean ?

- **1st interpretation**
 - CC = considering the customer & extracting knowledge from information
- **2nd interpretation**
 - CC = training to see things the same way the customer does



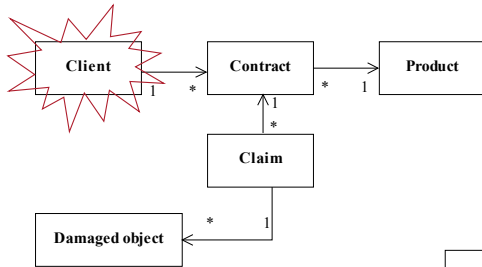
www.praxeme.org  Semantical model for customer-centric enterprise CSQ-03 11/24

“What means” – how about: “ CC – the meaning”
 Suggestions for the picture...

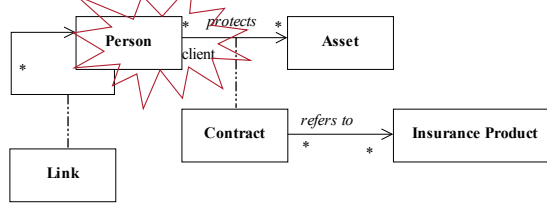


Consequences on CC-model

- 1st interpretation
 - Classical data modelling



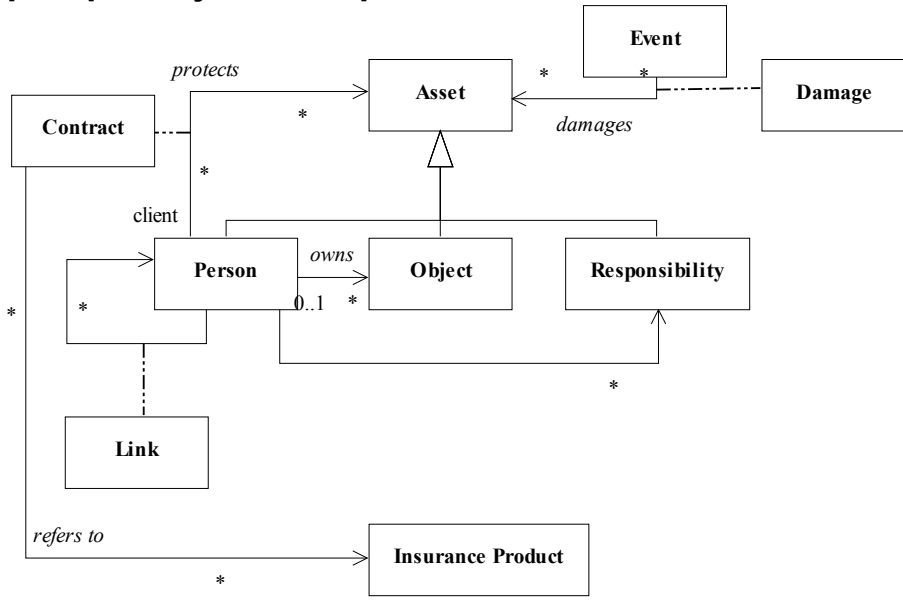
- 2nd interpretation
 - Radical semantic modelling





A matter of structure... and agility

■ Cliquez pour ajouter un plan





Content of the deliverables

- **Pre-modelling**
 - Terminology
 - Thesaurus
- **Model**
 - Documented classes
 - State machines
 - Rules
 - Comments
 - Objects domains
 - Modelling decisions



- **Position in the activity chain**
- **Assistance with selecting tools (conceptual compliance)**



Positioning of semantic modelling

- **The starting point should not be the IT systems**
- **A semantic model expresses, in a formal way, the business knowledge**
 - It addresses questions such as:
 - “What is a client?” (sic)
 - Which information, actions and transformations does a concept convey?
 - How do concepts and objects naturally relate to one another?
- **A semantic model stands above organisational specificities**
 - It provides the optimum conditions for convergence

Business: the good description

Semantic aspect

Objects

*Business objects, real objects
(Information+Transformation+Action)*

Pragmatic aspect

Activities

*Actors & organisational entities
Process & use-cases*

- **Approach by activities**
 - Classical approach
 - Flawed with local variation
 - Functional & hierarchical breakdown structure
- **Semantic modelling**
 - Additional approach
 - Move to genericity
 - New solution to cope with complexity

Refers to

L'approche spontanée du “métier” est l'approche fonctionnaliste : elle considère essentiellement les activités, quelle que soit leur maille, des processus aux cas d'utilisation.

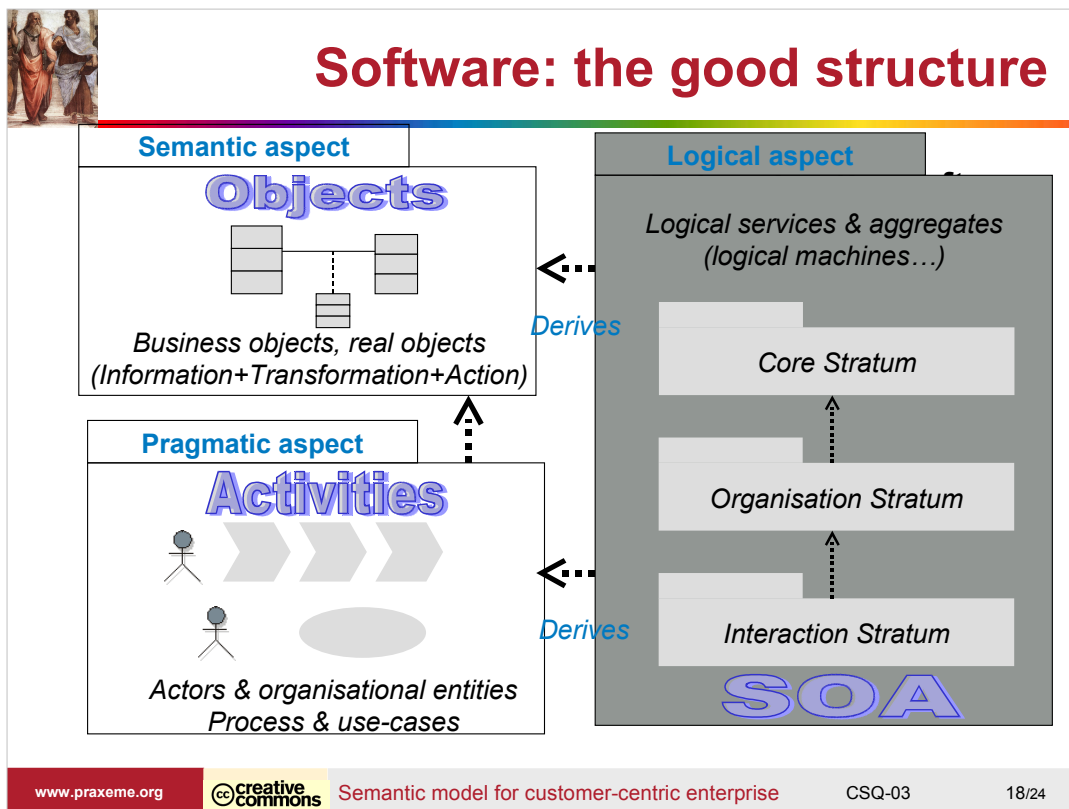
Bien sûr, les premiers niveaux de décomposition (par exemple les domaines fonctionnels) peuvent être considérés comme génériques. Mais, à ce niveau, rien n'est réutilisable : ce ne sont que des délimitations, des territoires, pas encore des composants à partager.

Quand on progresse dans la décomposition jusqu'à atteindre les actions contraintes et les outils en regard, on rencontre nécessairement les règles d'organisation, les contingences, les pratiques locales... Donc, la variation. Adieu la possibilité de réutilisation.

En revanche, ce qui est partageable car indépendant des variations locales, ce sont les objets “Métier” (“business objects”). Il importe de les dégager et de les modéliser avec suffisamment de rigueur.

“good” implies that there is a “bad” etc. How about “ for the scope of this discussion”, “formal”, “working” or at least “ a good” instead of “the good” – with “a” you imply that there are more than one and expose this one in the context that follows.

Also, this is not a business description, this is a description of a method of describing business



Le meilleur système informatique est celui qui est capable, sans heurt, de prendre en charge la description du métier et de l'automatiser.

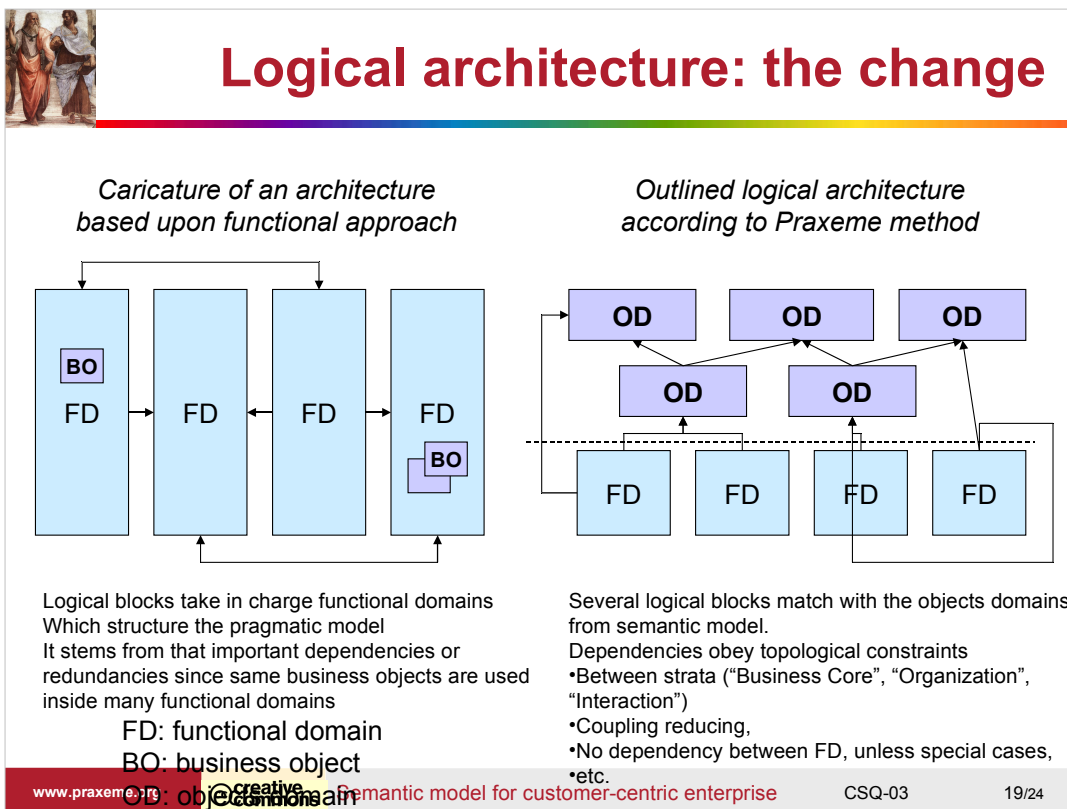
L'architecture logique se réfère donc aux modèles "amont". Elle trouve dans les modèles sémantiques et pragmatiques, la matière qu'elle doit structurer.

Par dérivation des modèles "amont", le concepteur logique trouve les "bons" services, c'est-à-dire les services à fort contenu.

Most comments from the previous slide apply

SOA is IMHO primarily a business organization concept and only secondarily a software/IT concept. The distinction is not clear for many IT executives. Exposing SOA for the first time within a software slide does not help in understanding.

The SOA box is , IMHO missing a reference to services – atomic components that interact, either among themselves, or organized in an externally defined flow.



L'application des procédés de conceptions SOA change radicalement la physionomie des systèmes informatiques.

Pour l'essentiel, le changement réside dans une décision très simple : isoler les objets "métier" dans des portions bien identifiées du système. Le coeur du système doit être structuré non plus en domaines fonctionnels mais en "domaines d'objets". La substance ainsi isolée est largement réutilisable.

Caricature is a very negative word, used to insult something. Is that what you wanted?

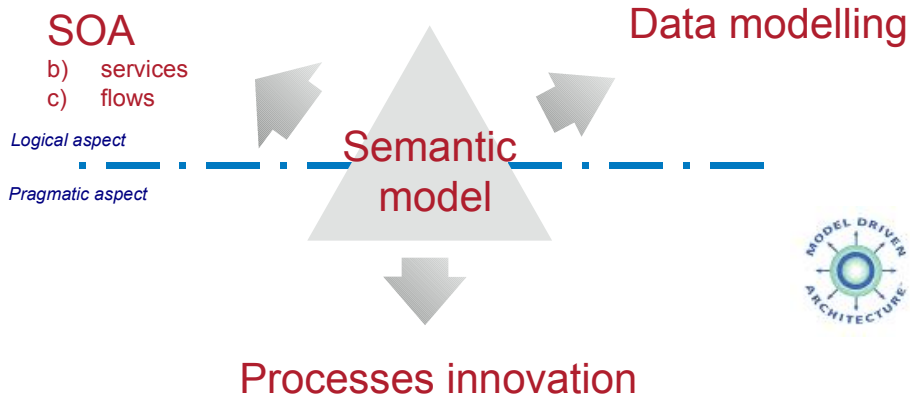
Also, the first view makes the functional approach look simpler and cleaner – in general more positive than Praxeme



Benefits of semantic models

- From this core business representation we can:

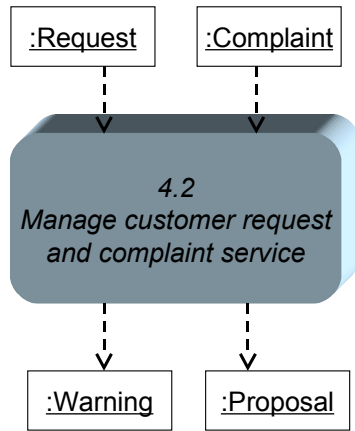
- Derive other models
- Guide processes & IT design



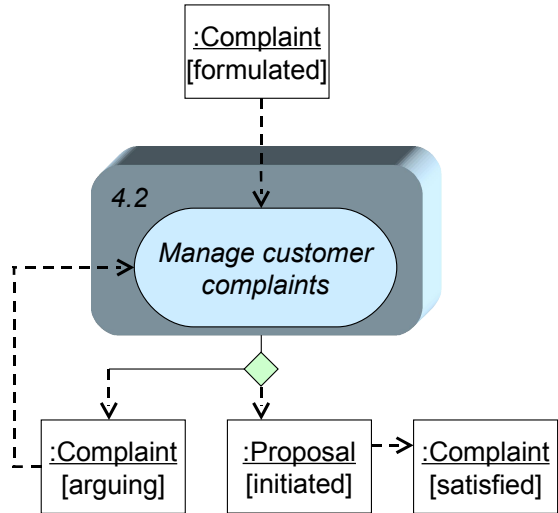


Connection between objects and activities

▪ Broad view



▪ Detailed view





Business stakes

- **A semantic model, within its limit, allows:**
 - To capture the business knowledge
 - In formal terms: accurate and operational
 - In natural categories
 - To provide insight into the “real world”
 - To help change focus
 - e.g. customer centric rather than internal focus
 - To guarantee interoperability at business & IT levels
 - By deriving a good pivot language
 - To free offer development from existing patterns
 - It's easier to think of differentiation considering business objects rather than the organisational processes



IT stakes

- **This approach contributes to restructuring IT systems**
 - By introducing “objects domains”
 - By shifting from functional to object approach
- **It isolates a core system**
 - Easily sharable
 - Independent from organisational specificities
- **It paves the way for services design (SOA)**
 - The services derive from operations of semantic classes
 - They populate the core layer
 - They are highly reusable

We want to work with the opCos and examin with them how to integrate this approach in their development plan.



Meaning in
action



Conclusion

- **For further information**
 - *Praxeme Institute*, non-profit association
 - www.praxeme.org
 - In order to receive information, you can register
 - <http://groups.google.com/group/Praxeme-Annonces>

Help us to help you!

www.praxeme.org



Semantic model for customer-centric enterprise

CSQ-03

24/24