Praxeme, meaning in action

An endeavour for a public method

« We can't solve problems by using the same kind of thinking we used when we created them. » . »
Albert Einstein

Praxeme & TOGAF

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Référence : SLB-20 Version : 14/12/07

Objective of the presentation

- **Objective**

Praxeme in the context of the TOGAF framework

- **Topics**
  - TOGAF and Enterprise Architecture
  - Entreprise Architecture Methodology
  - Components of the methodology
  - What’s at stake

Length of the presentation : 45 mins

Content of the presentation

1. **Presentation of TOGAF**
2. **The role of Methodology**
3. **Presentation of Praxeme**
4. **The interaction of Praxeme and TOGAF**

Agenda

Partie	Durée	Horaire
Presentation of TOGAF	10 mn	14h45 – 14h55
The role of Methodology	5 mn	14h55 – 15h
Presentation of Praxeme	10 mn	15h – 15h10
Interaction Praxeme/TOGAF	5 mn	15h10 – 15h15

1

TOGAF presentation

- Definition
- Content
- Methodology

Definition

TOGAF
TOGAF
TOGAF
TOGAF
TOGAF

What it is:

=> A framework for providing a starting point for EA work

=> A reference document for best practices

=> A collection of "world class" resources

=> A disciplined methodology

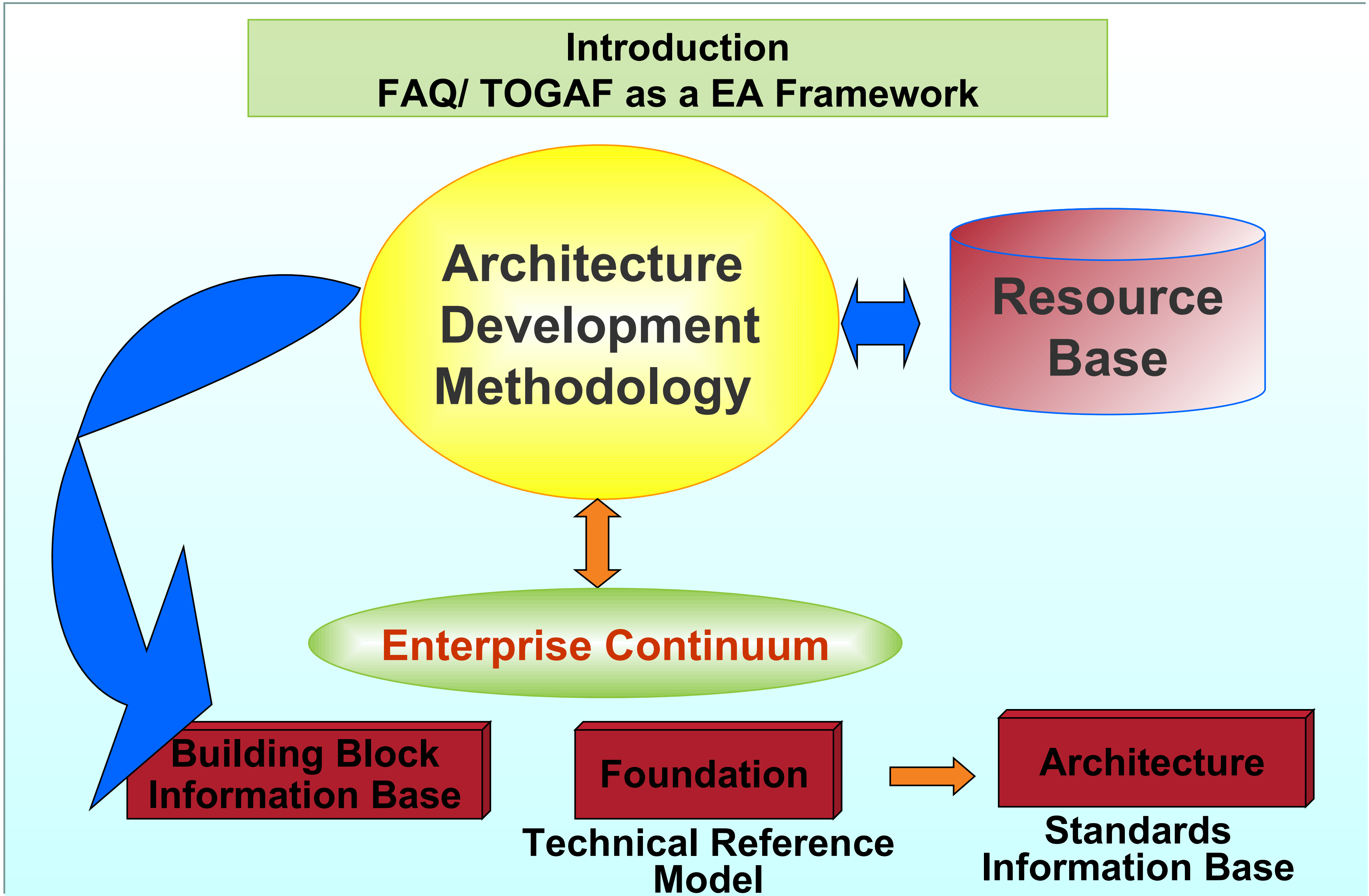
Origin: TAFIM (DOD USA)

TAFIM-Technical Architecture Framework for Information Management

Content of TOGAF

- ADM (Architecture Development Methodology)
- Principles (Rules and Guidelines)
- Enterprise Continuum
- Building blocks
- Business scenarios
- Views and Viewpoints
- Architectural Governance
- Architecture Patterns

Structure



Introduction
FAQ/ TOGAF as a EA Framework

Architecture Development Methodology

Resource Base

Enterprise Continuum

Building Block Information Base

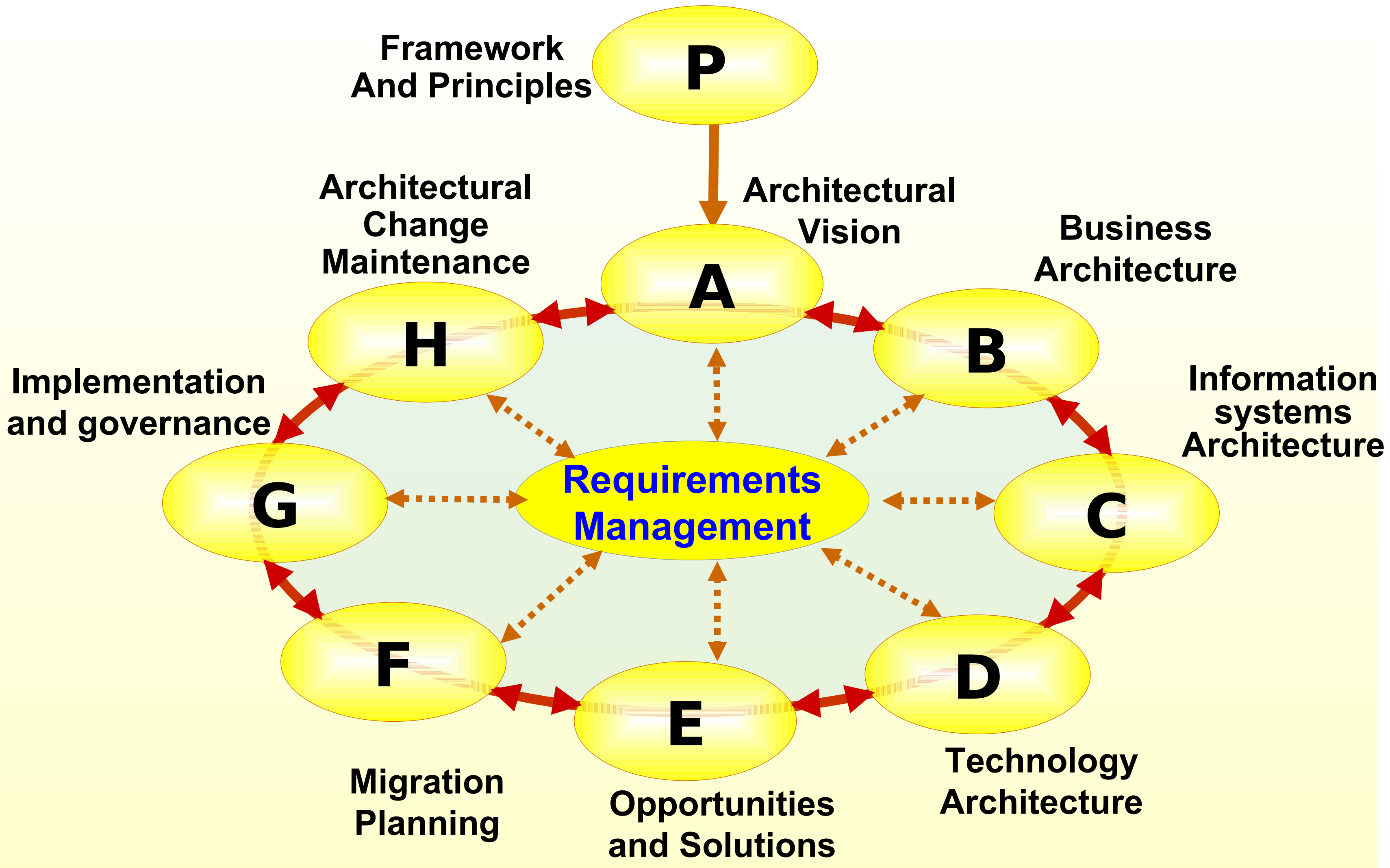
Foundation

Technical Reference Model

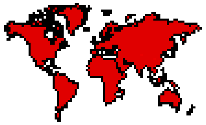
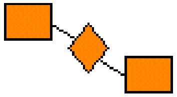
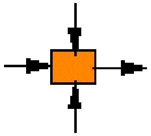
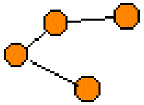
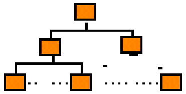
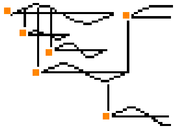
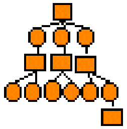
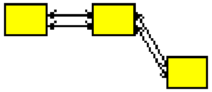
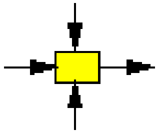
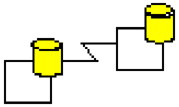
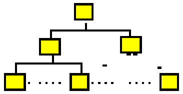
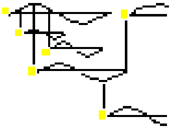
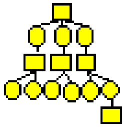
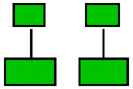
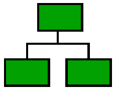
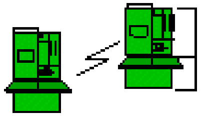
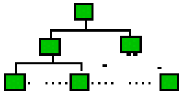
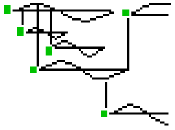
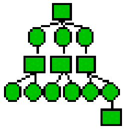
Architecture

Standards Information Base

Architecture Development Methodology



ENTERPRISE ARCHITECTURE - A FRAMEWORK ™

	DATA *What*	FUNCTION *How*	NETWORK *Where*	PEOPLE *Who*	TIME *When*	MOTIVATION *Why*	
SCOPE (CONTEXTUAL) *Planner*	List of Things Important to the Business ENTITY - Class of Business Thing	List of Processes the Business Performs Function - Class of Business Process	List of Locations in which the Business Operates  Node - Major Business Location	List of Organizations Important to the Business People - Major Organizations	List of Events Significant to the Business Time - Major Business Event	List of Business Goals/Strat Ends/Means-Major Bus. Goal/ Critical Success Factor	SCOPE (CONTEXTUAL) *Planner*
ENTERPRISE MODEL (CONCEPTUAL) *Owner*	e.g. Semantic Model  Ent - Business Entity Reln - Business Relationship	e.g. Business Process Model  Proc. - Business Process I/O - Business Resources	e.g. Logistics Network  Node - Business Location Link - Business Linkage	e.g. Work Flow Model  People - Organization Unit Work - Work Product	e.g. Master Schedule  Time - Business Event Cycle - Business Cycle	e.g. Business Plan  End - Business Objective Means - Business Strategy	ENTERPRISE MODEL (CONCEPTUAL) *Owner*
SYSTEM MODEL (LOGICAL) *Designer*	e.g. Logical Data Model  Ent - Data Entity Reln - Data Relationship	e.g. "Application Architecture"  Proc .- Application Function I/O - User Views	e.g. "Distributed System Architecture"  Node - I/S Function (Processor, Storage, etc) Link - Line Characteristics	e.g. Human Interface Architecture  People - Role Work - Deliverable	e.g. Processing Structure  Time - System Event Cycle - Processing Cycle	e.g., Business Rule Model  End - Structural Assertion Means -Action Assertion	SYSTEM MODEL (LOGICAL) *Designer*
TECHNOLOGY MODEL (PHYSICAL) *Builder*	e.g. Physical Data Model  Ent - Segment/Table/etc. Reln - Pointer/Key/etc.	e.g. "System Design"  Proc.- Computer Function I/O - Screen/Device Formats	e.g. "System Architecture"  Node - Hardware/System Software Link - Line Specifications	e.g. Presentation Architecture  People - User Work - Screen Format	e.g. Control Structure  Time - Execute Cycle - Component Cycle	e.g. Rule Design  End - Condition Means - Action	TECHNOLOGY CONSTRAINED MODEL (PHYSICAL) *Builder*
DETAILED REPRESENTATIONS (OUT-OF-CONTEXT) *Sub-Contractor*	e.g. Data Definition Ent - Field Reln - Address	e.g. "Program" Proc.- Language Stmt I/O - Control Block	e.g. "Network Architecture" Node - Addresses Link - Protocols	e.g. Security Architecture People - Identity Work - Job	e.g. Timing Definition Time - Interrupt Cycle - Machine Cycle	e.g. Rule Specification End - Sub-condition Means - Step	DETAILED REPRESENTATIONS (OUT OF CONTEXT) *Sub-Contractor*
FUNCTIONING ENTERPRISE	e.g. DATA	e.g. FUNCTION	e.g. NETWORK	e.g. ORGANIZATION	e.g. SCHEDULE	e.g. STRATEGY	FUNCTIONING ENTERPRISE

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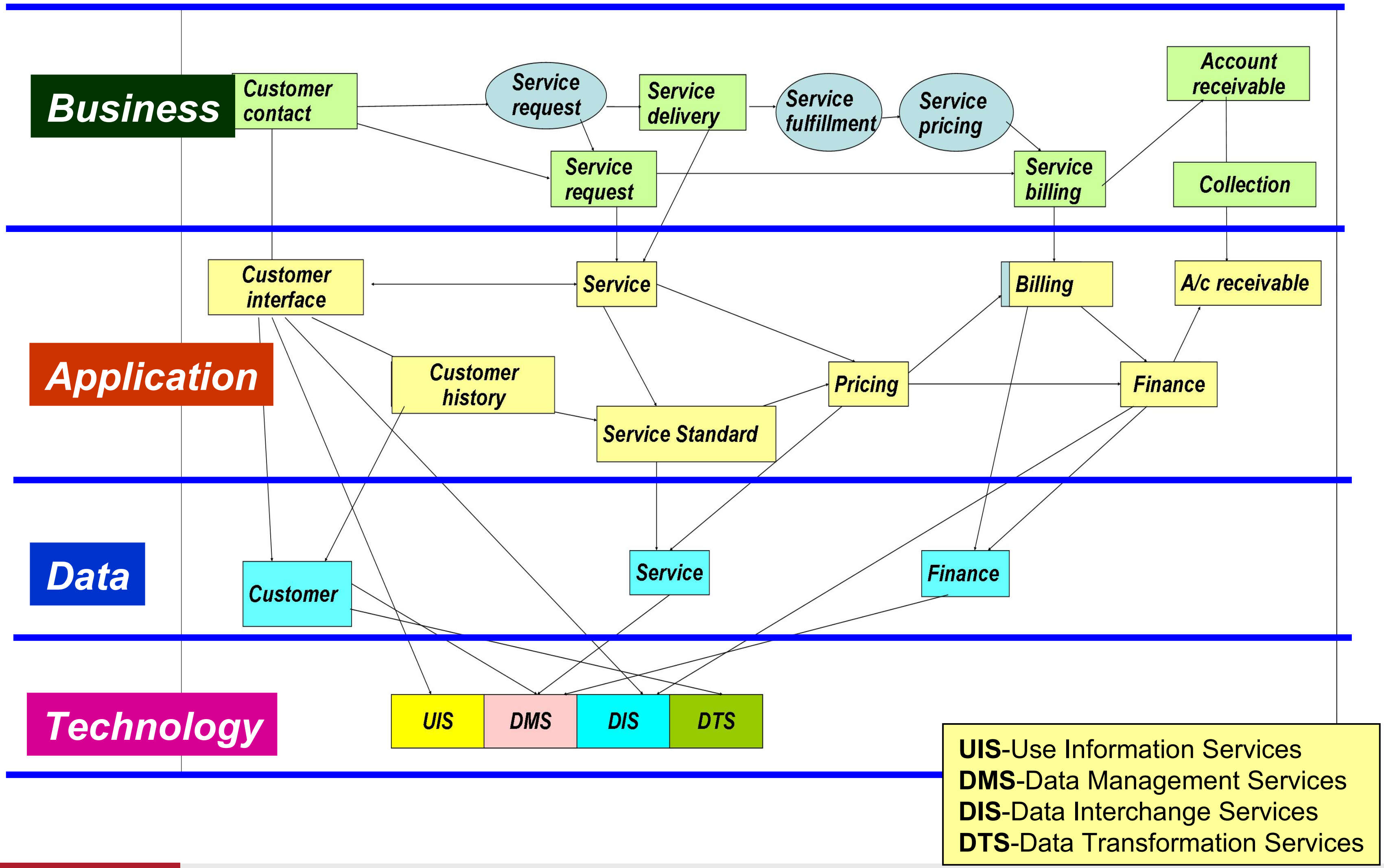
Levels of representation



Business

Customer contact

Service request

Service delivery

Service fulfillment

Service pricing

Account receivable

Service request

Service billing

Collection

Application

Customer interface

Service

Billing

A/c receivable

Customer history

Pricing

Finance

Service Standard

Data

Customer

Service

Finance

Technology

UIS

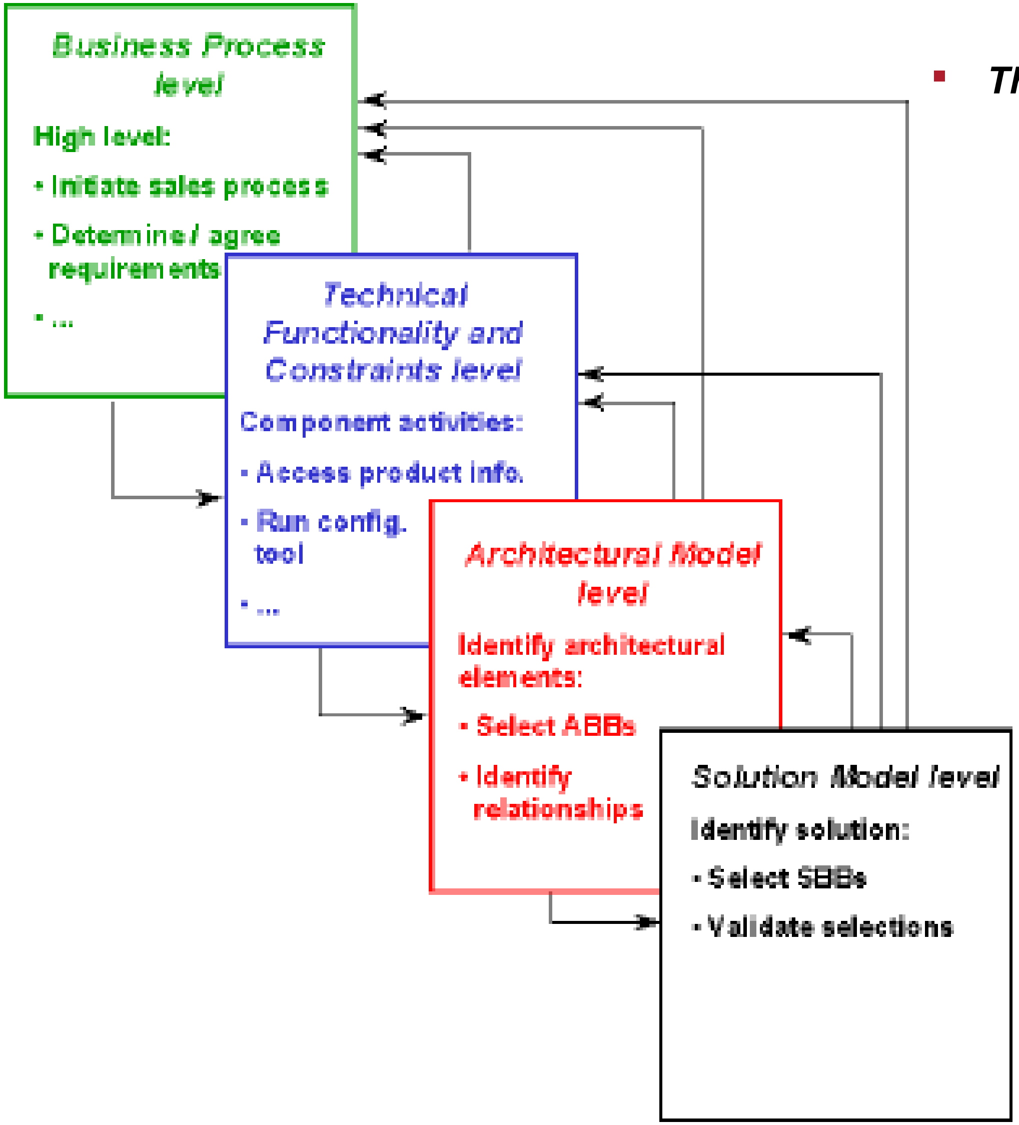
DMS

DIS

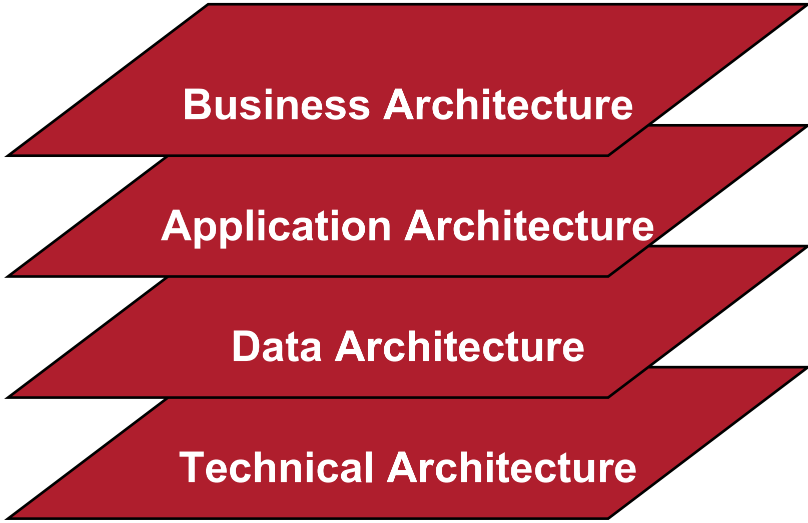
DTS

UIS-Use Information Services
DMS-Data Management Services
DIS-Data Interchange Services
DTS-Data Transformation Services

Enterprise Architecture



- ***The Open Group Architecture Framework***
  - *Iteration between the four levels of modeling*
    - Extrait de « TOGAF, version 8.1, Enterprise Edition »



2

The role of methodology

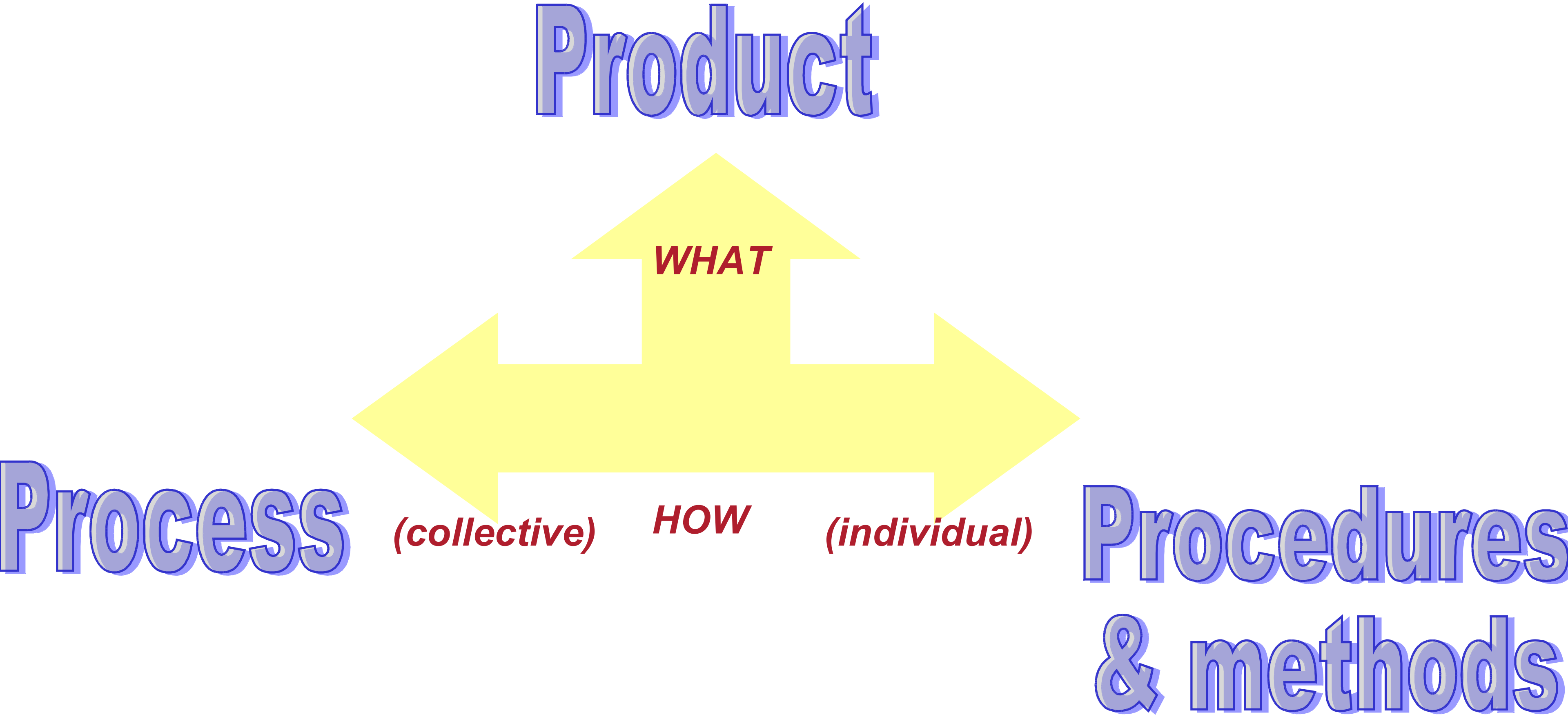
- **Methodology comprises three axes**
    - Praxeme and TOGAF are situated in this space

A universe in three dimensions

- **WHAT?**
    - What are we building or transforming?
    - What object do we want to produce or change?
    - What are the objects it consists of?
  - ➔ Product
- **HOW? (collectively)**
    - How can we organize our action?
  - ➔ Process
- **HOW? (individually)**
    - How can I proceed to do my work?
  - ➔ Procedures & methods

PRO3

The three dimensions of methodology



Product

WHAT

Process

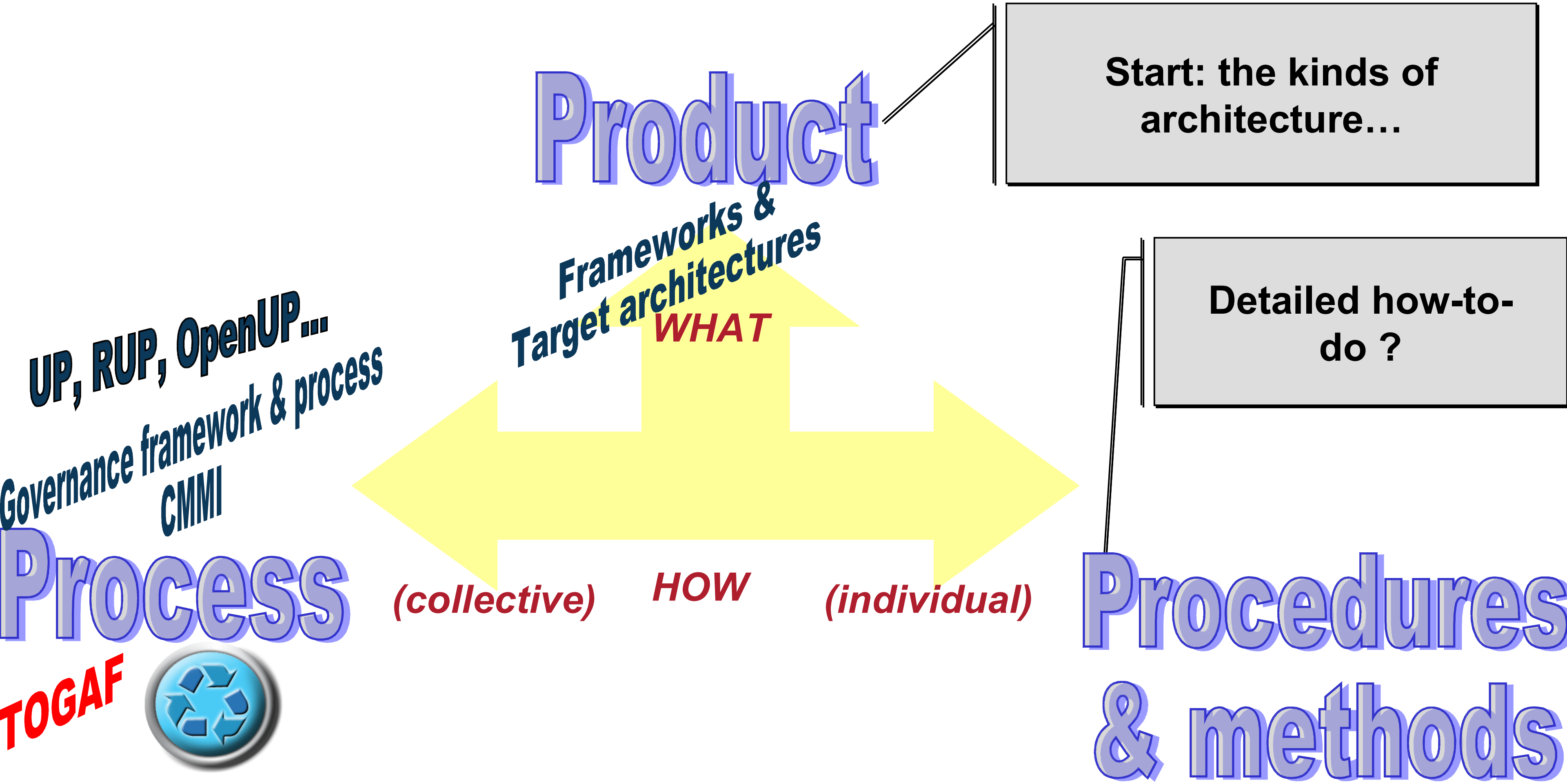
(collective)

HOW

(individual)

Procedures & methods

Position of current assets



Start: the kinds of architecture…

Product

Frameworks & Target architectures

WHAT

Detailed how-to-do ?

UP, RUP, OpenUP…

Governance framework & process

CMMI

Process

(collective)

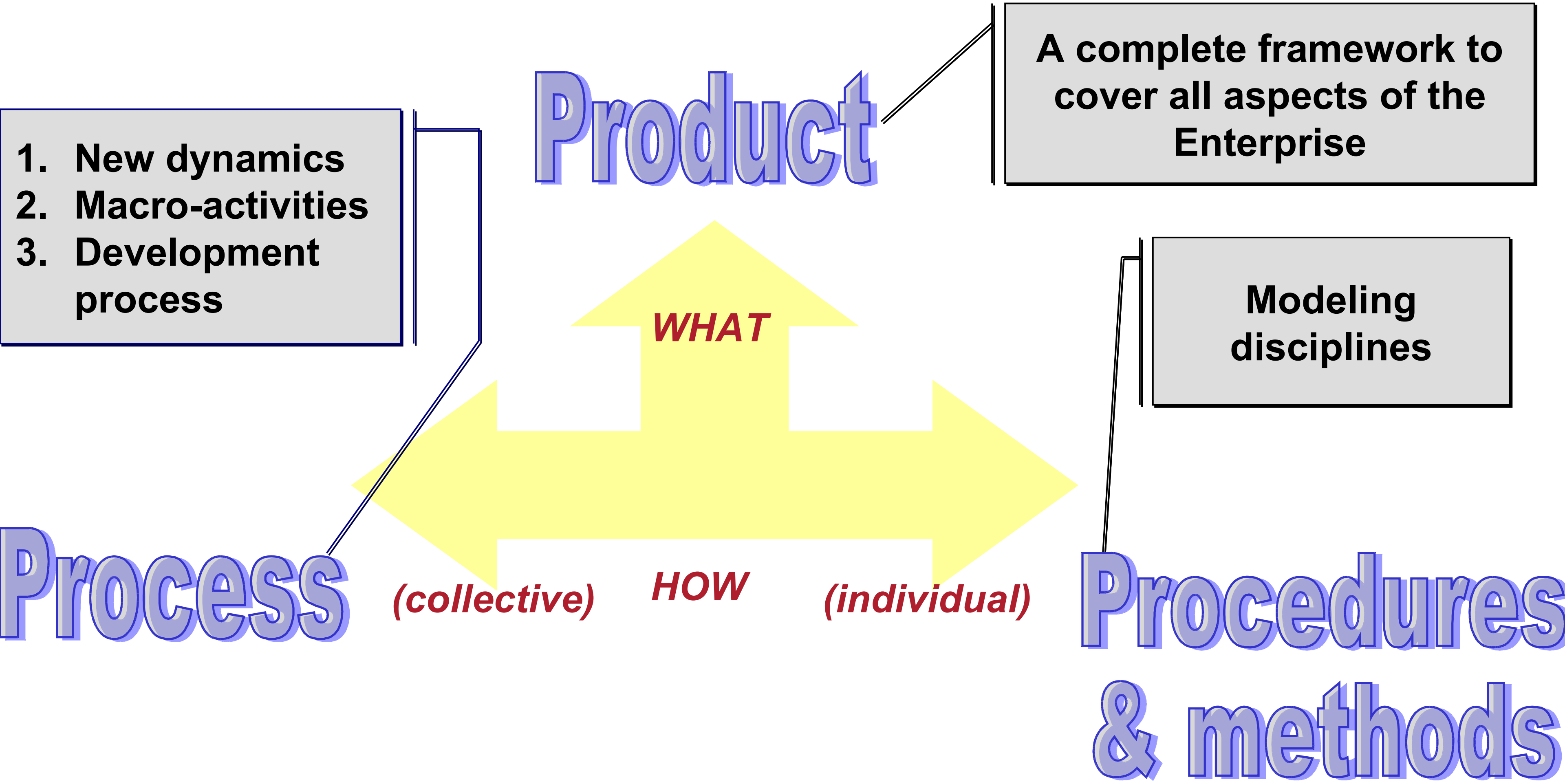
HOW

(individual)

Procedures & methods

TOGAF

The main contribution from Praxeme methodology



1. New dynamics
2. Macro-activities
3. Development process

A complete framework to cover all aspects of the Enterprise

Modeling disciplines

“Product”: What is to be represented?

- **We want to model the “Enterprise System” before acting on it**
  - Which models do we need?
  - How can we ensure a comprehensive description of this complex system?
  - How to build a check-list of information to seek for and decision to make?
- **First questions in order to lay the groundwork**
  - Also: how to interassociate, link, trace and so forth all the artefacts?

"Product": the shift of paradigm

- What must change in our mindset?
- How should we perceive things in order to facilitate our work?

1. **Separation of concerns as an inescapable principle**
   - An upper level of abstraction
     - …/…
   - An intermediate level
     - …/…
2. **New categories are used to perceive the real and design the solutions**
     - …/…

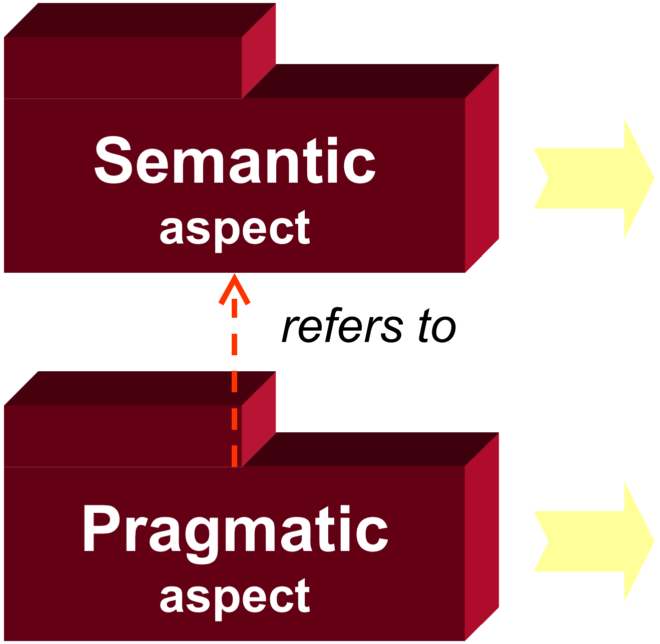
Présentation de Praxeme

- **The « Product » dimension**
  - Reference framework
    - Aspects
    - The information system Topology

An upper level of abstraction

- **Current state**
  - The highest description of the business is in terms of process, activities…
    - This aspect of the business is prone to variation
    - Organization changes frequently
    - So, it's hard to converge on this aspect
- **Next step**
  - There is an aspect above the organization and processes
  - We call it the semantic aspect
    - Conceptual
    - We can model the core business knowledge
    - This model will be naturally shared

An upper level of abstraction: conclusion



- **Core business knowledge**
  - “Business objects”
  - ➔ largely sharable, quite universal
- **Organizational particularities**
  - Process, use-cases, role…
  - ➔ adaptation

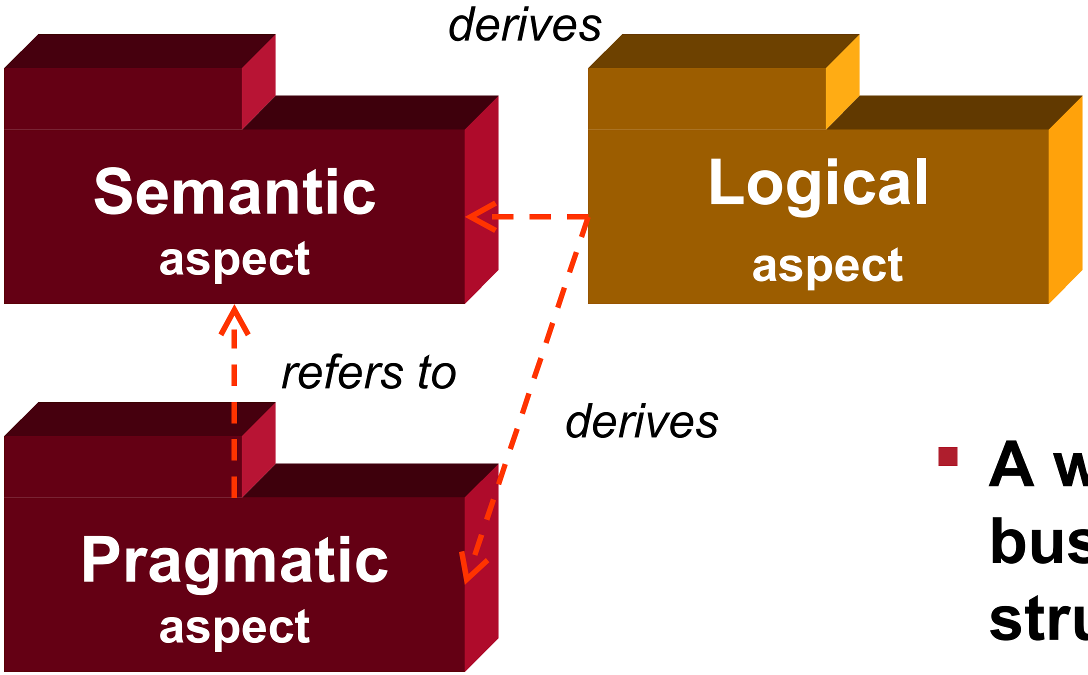
An intermediate level of abstraction

- **“Semantic” and “pragmatic” aspects describe clearly the business…**
- **…but these representations are far from the software domain**
  - Too complex
  - Too fuzzy
  - Too coupled
- **The information system must match to these upstream aspects…**
- **…but obey other kinds of constraints**

An intermediate level of abstraction (cont.)

- **We must be able to discuss the system structure with business decision-makers**
  - In the context of governance, decision-makers need a clear vision of the software and its evolution
    - This vision cannot be expressed in terms of technology
- **The “logical” aspect provides all of the actors – business & IT – with an intermediate representation of the IS**

An intermediate level of abstraction: conclusion



- **A way of reconsidering the business and placing it in a structure**
  - Prefigures the software

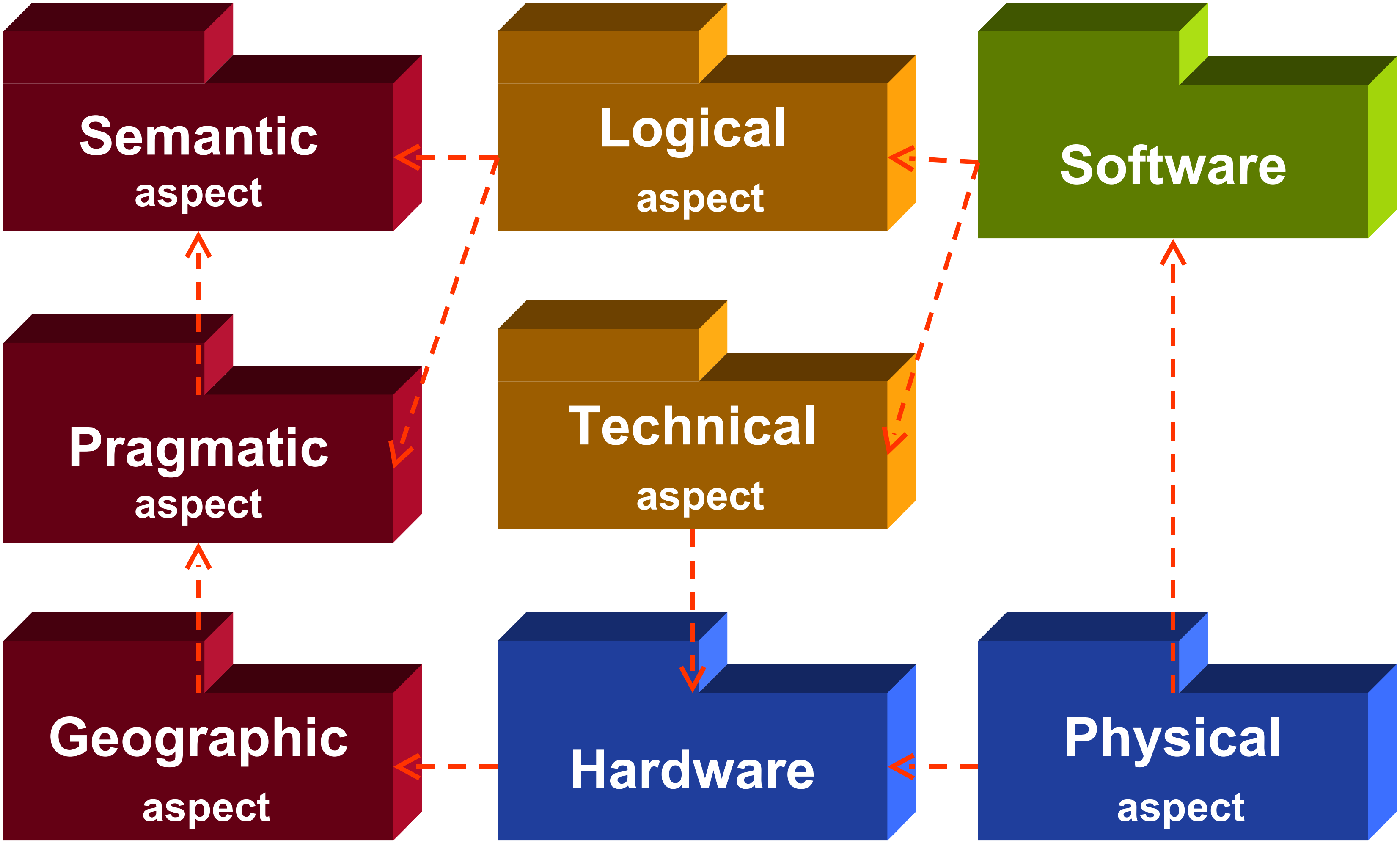
How to represent things?

  - Representation categories depend on “Aspects”
- **“Pragmatic” aspect**
  - Usual and classical approach based on action, process, use-case…
    - Nothing new except it refers to the semantic model
- **“Semantic” aspect**
  - We have to get rid of the “data *versus* process” dichotomy…
  - …and adopt the object-oriented approach
    - This approach is closer to “real life” and “natural” representation

How to represent thing? (cont.)

- **“Logical” aspect**
  - As an intermediate aspect, it can endorse different ways of seeing things, using metaphors
    - Functional architecture: a logical architecture based on functions
      - The usual way
    - City planning: a metaphor in itself
    - Component based architecture
    - SOA: a logical architecture based on the “service” metaphor

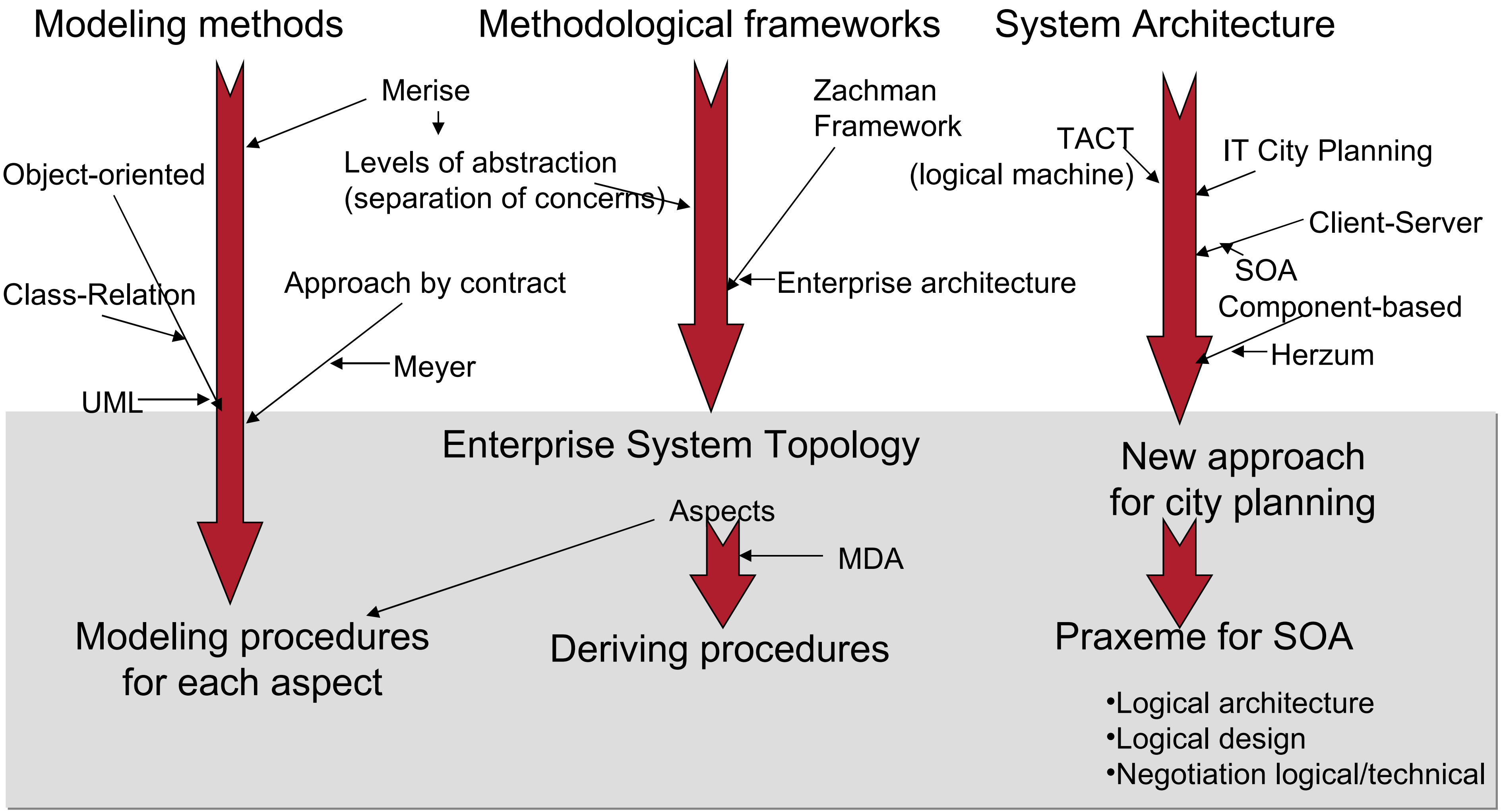
A framework of 8 aspects
a comprehensive description of the enterprise



The value-added of the Enterprise System Topology

- **Integrate many approaches and heritage**
  - Object, function, process, component, SOA
    - Each one in the right place
- **Establish an overall mindset addressing the whole Enterprise System**
  - A framework detailed in a real metamodel
    - Which pays a great attention to the links between all the categories
    - Which provides a clear specification to customize the tools
- **Theoretical foundation of the public method**
  - Providing many disciplines with procedures and guidelines

Origins of Praxeme



Modeling methods

Methodological frameworks

System Architecture

Merise

Levels of abstraction
(separation of concerns)

Object-oriented

Class-Relation

UML

Approach by contract

Meyer

Zachman
Framework

Enterprise architecture

TACT
(logical machine)

IT City Planning

Client-Server

SOA

Component-based

Herzum

Enterprise System Topology

Aspects

MDA

New approach
for city planning

Modeling procedures
for each aspect

Deriving procedures

Praxeme for SOA

- Logical architecture
- Logical design
- Negotiation logical/technical

4

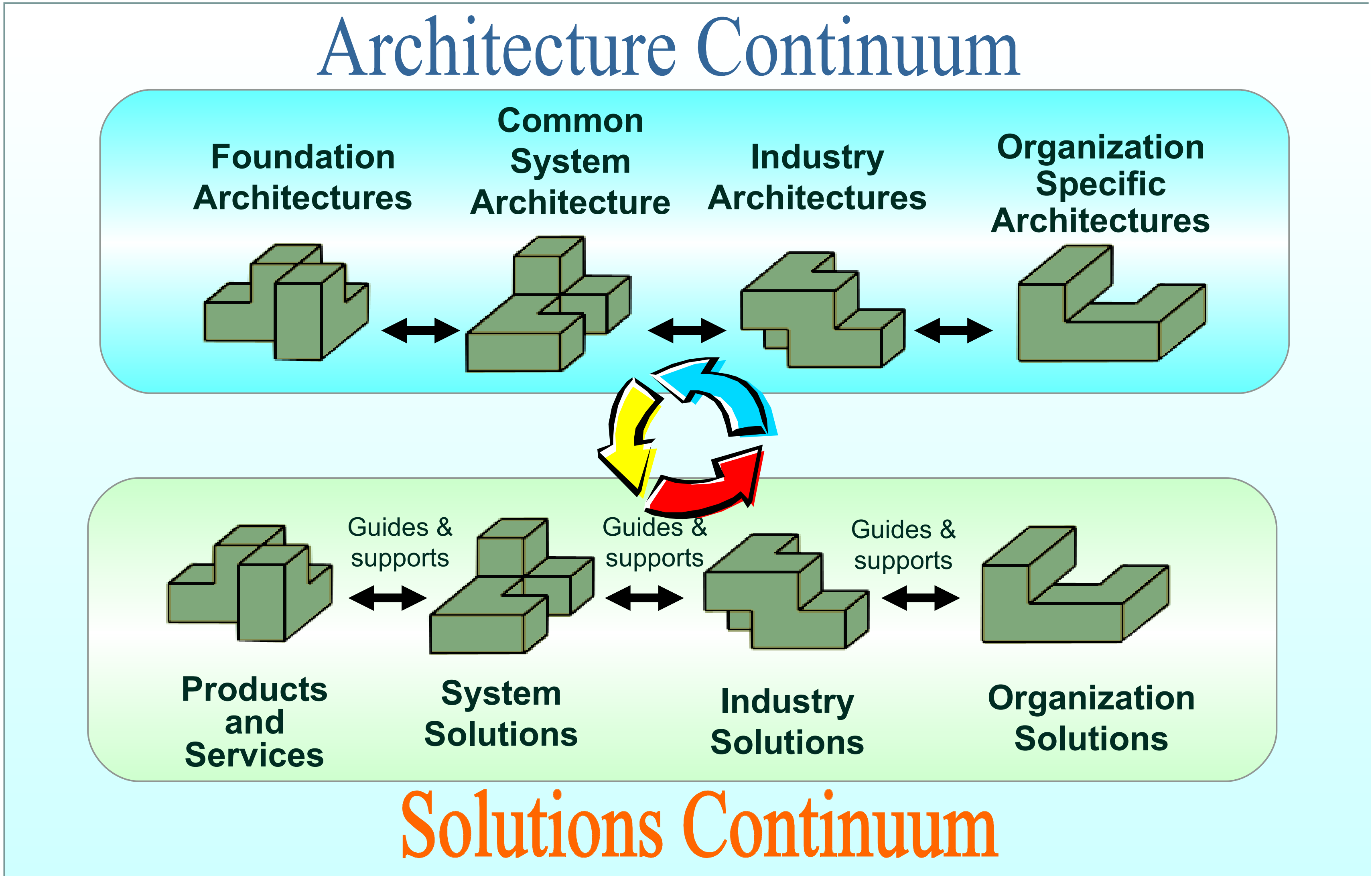
Interaction Praxeme / TOGAF

- **General interaction**
- ***Enterprise Architecture & Solution Architecture***
- **Reference framework**
- **In practice**

Overall articulation

- **Principals**
  - TOGAF in essence is a set of structured activities
    - It applies to the process dimension
    - It gives little guidance to how to proceed
  - Praxeme’s methods integrate simply with TOGAF
    - Proto modeling, modeling
  - Praxeme’s meta-model rigidifies the operational approaches

Enterprise and solution



Architecture Continuum

Foundation Architectures

Common System Architecture

Industry Architectures

Organization Specific Architectures

Products and Services

Guides & supports

System Solutions

Guides & supports

Industry Solutions

Guides & supports

Organization Solutions

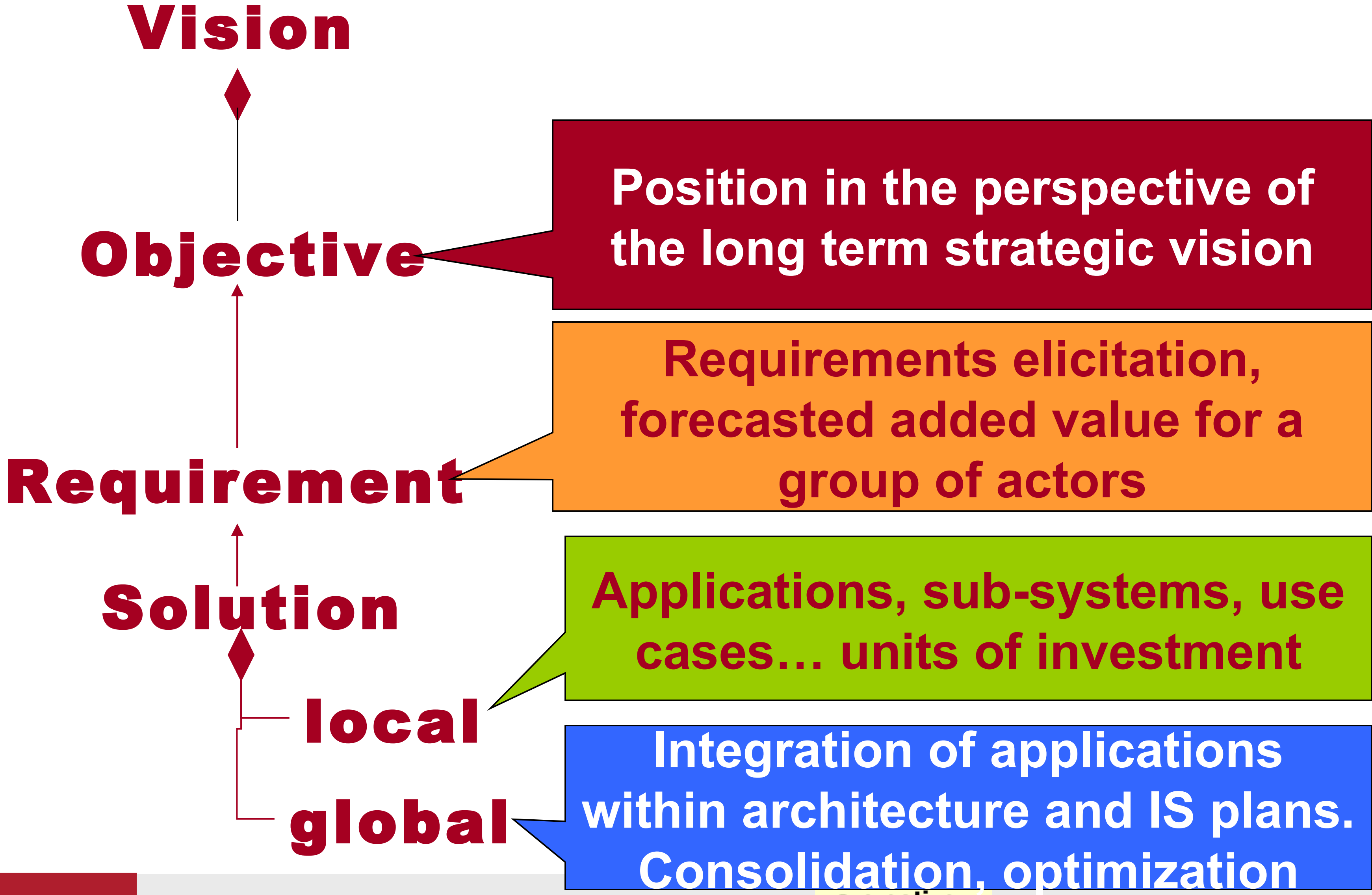
Solutions Continuum

Source: Togaf 8 documentation Part III ,The Open Group

First difference

- **Different perspectives**
  - Enterprise Architecture *versus* Solution Architecture
    - Praxeme introduces the target levels
      - …/…
    - However Praxeme doesn’t really recognize the differences between levels
      - It avoids the danger of becoming disconnected from the terrain
      - Architects take the system level decisions
      - Aspects guide the specific approaches to the system
      - The architecture plans structure the system
      - Strategy, architecture and conception form a continuum of identity and content
    - Even if the distinction between EA and SA stands.

Target levels



Vision

Objective

Requirement

Solution

local

global

Position in the perspective of the long term strategic vision

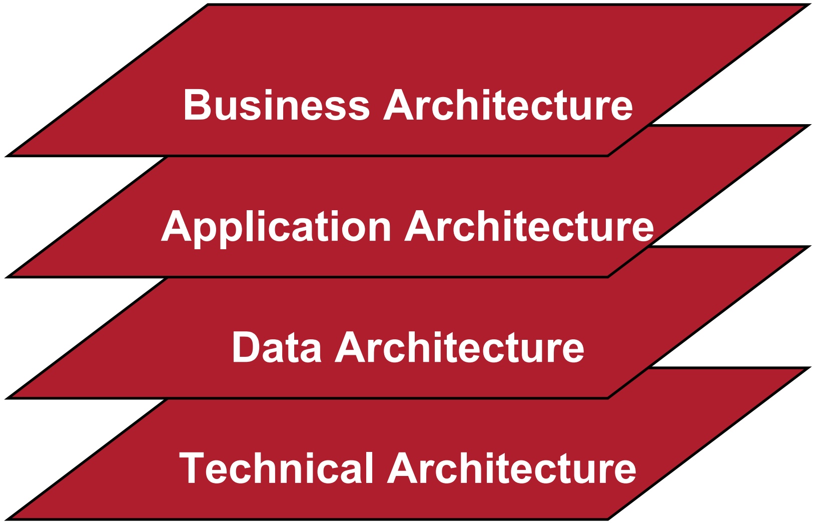
Requirements elicitation, forecasted added value for a group of actors

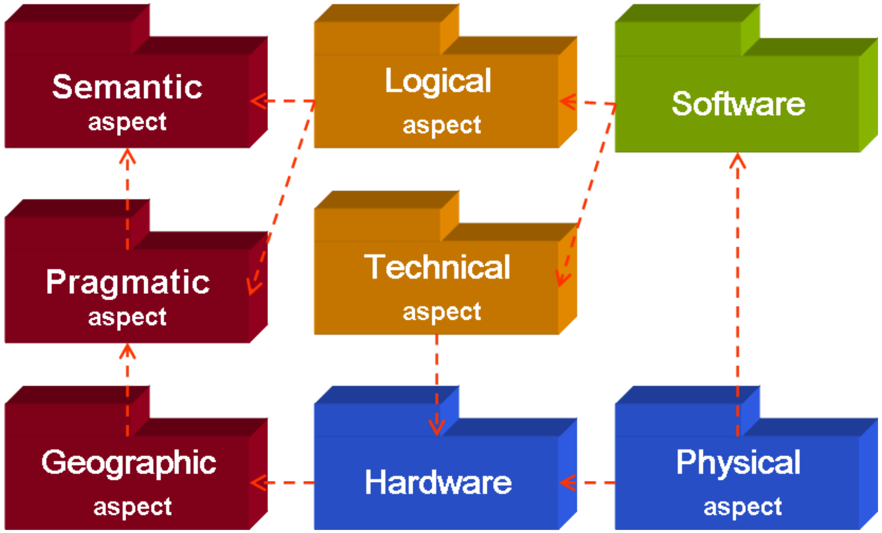
Applications, sub-systems, use cases… units of investment

Integration of applications within architecture and IS plans. Consolidation, optimization

The second difference

- **In the « Product » dimension, the frames of reference differ**
  - Four level in TOGAF
  - The Enterprise System Topology in Praxeme
    - Equivalences





In action

- **The association is possible**
  - It is simpler if the phasing of TOGAF can be adapted to the aspects of Praxeme
    - This is not essential
    - It remains necessary to specify how the phases cover the aspects
    - As well as the degree of detail and depth attained in each phase
  - The strengths of TOGAF
    - Takes into account the business and strategy perspectives
    - Phasing
      - To retain if already applied otherwise it should be adapted to aspects
- **Points of interaction : Deliverables**
  - The unit where the articulation manifests

Conclusion

- **Praxeme, an Enterprise architecture**
  - Public domain and open
  - Based on standards
  - Supported by the public and private sectors
- **It can be used with a *framework* like TOGAF**
- **For more information**
  - The site of the *Praxeme Institute*
    - www.praxeme.org

Meaning in action

It is essential to cover the whole chain of activities and to remain open

Praxeme, meaning in action

An endeavour for a public method

« We can't solve problems by using the same kind of thinking we used when we created them. » . »
Albert Einstein

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Référence : SLB-20 Version : 14/12/07

Praxeme et TOGAF : synergie ou concurrence ?

Cette conférence a été donnée lors du Symposium 2007 du Praxeme Institute, l'association à but non lucratif qui promeut la méthode publique Praxeme.

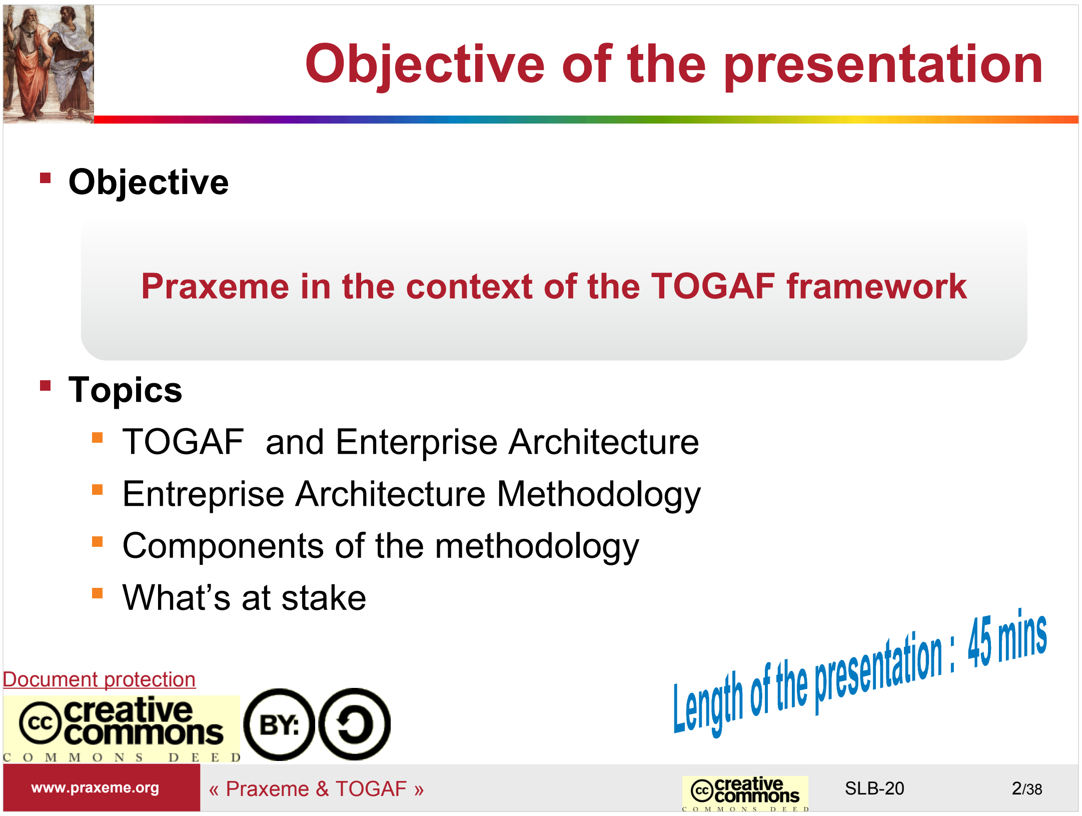
TOGAF de l'Open Group est l'EAF (*Enterprise Architecture Framework*) le plus visible du moment. Un EAF fournit un cadre de travail qui organise, à l'échelle de l'entreprise, la connaissance et les travaux sur le système d'information. Le courant anglo-saxon de *l'Enterprise Architecture* commence à toucher la France, à partir des grandes entreprises qui ont besoin d'un cadre de référence international. Il va recouvrir l'urbanisation de SI « à la française ».

Par ailleurs, cette vision des systèmes doit s'articuler avec le plan opérationnel et avec les incontournables de SOA (*service-oriented architecture*) et des standards MDA (*model driven architecture*), UML (*unified modelling language*).

Praxeme, en tant que méthodologie d'entreprise, a vocation à intégrer ces différents apports. Grâce à son socle théorique, la méthode publique propose une articulation rigoureuse qui les renforce mutuellement.

Comment situer les aspects de la topologie Praxeme dans le cadre de TOGAF ou d'autres *frameworks* ? Comment articuler les « niveaux d'action » : projet, système, fédération de systèmes ? Comment établir une chaîne continue, de la stratégie d'entreprise au déploiement ? Etc.

Dominique Vauquier, certifié TOGAF par l'Open Group, montrera que la pratique de TOGAF nécessite de s'appuyer sur un cadre méthodologique qui précise les procédés de modélisation et traite opérationnellement les liens entre tous les aspects du Système Entreprise



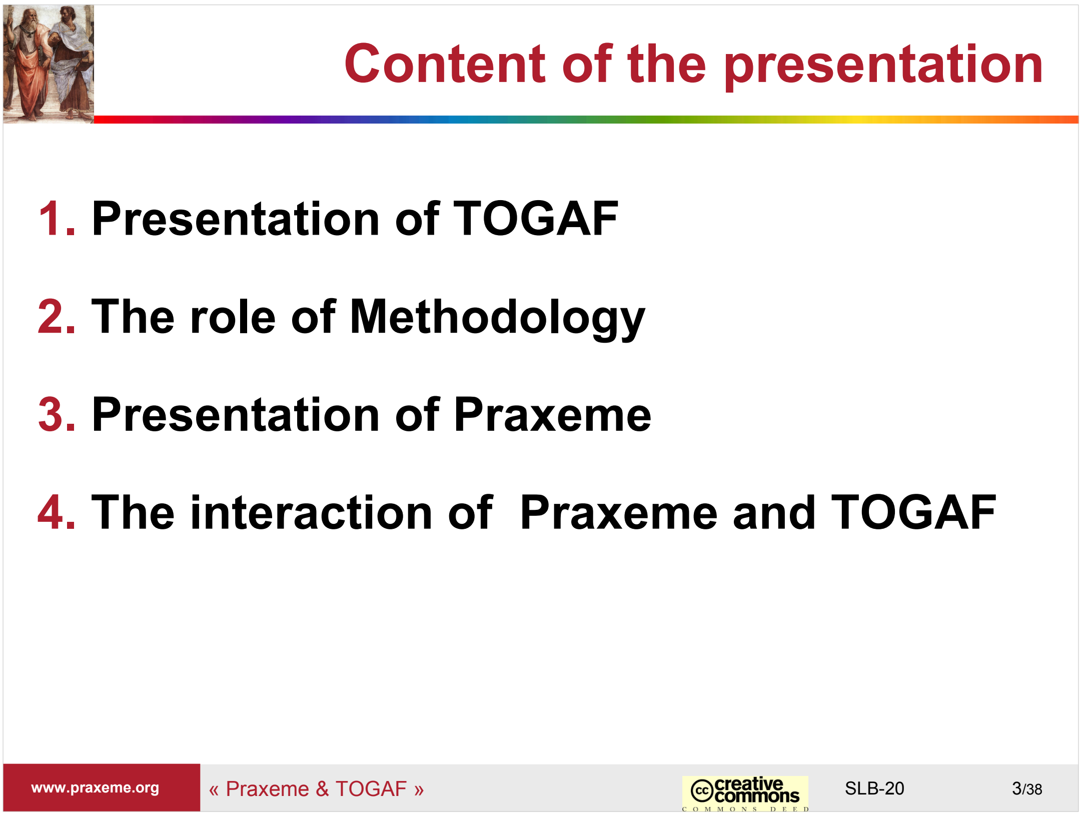
Objective of the presentation

- **Objective**

Praxeme in the context of the TOGAF framework

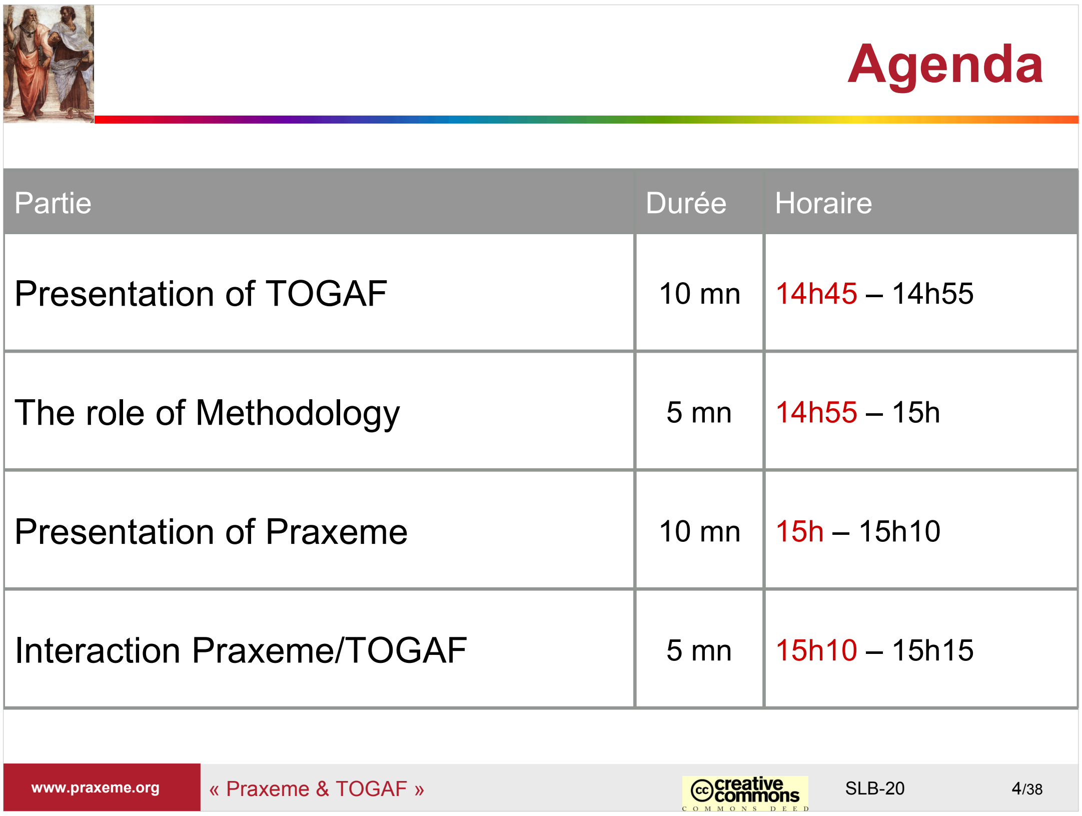
- **Topics**
  - TOGAF and Enterprise Architecture
  - Entreprise Architecture Methodology
  - Components of the methodology
  - What’s at stake

Length of the presentation : 45 mins



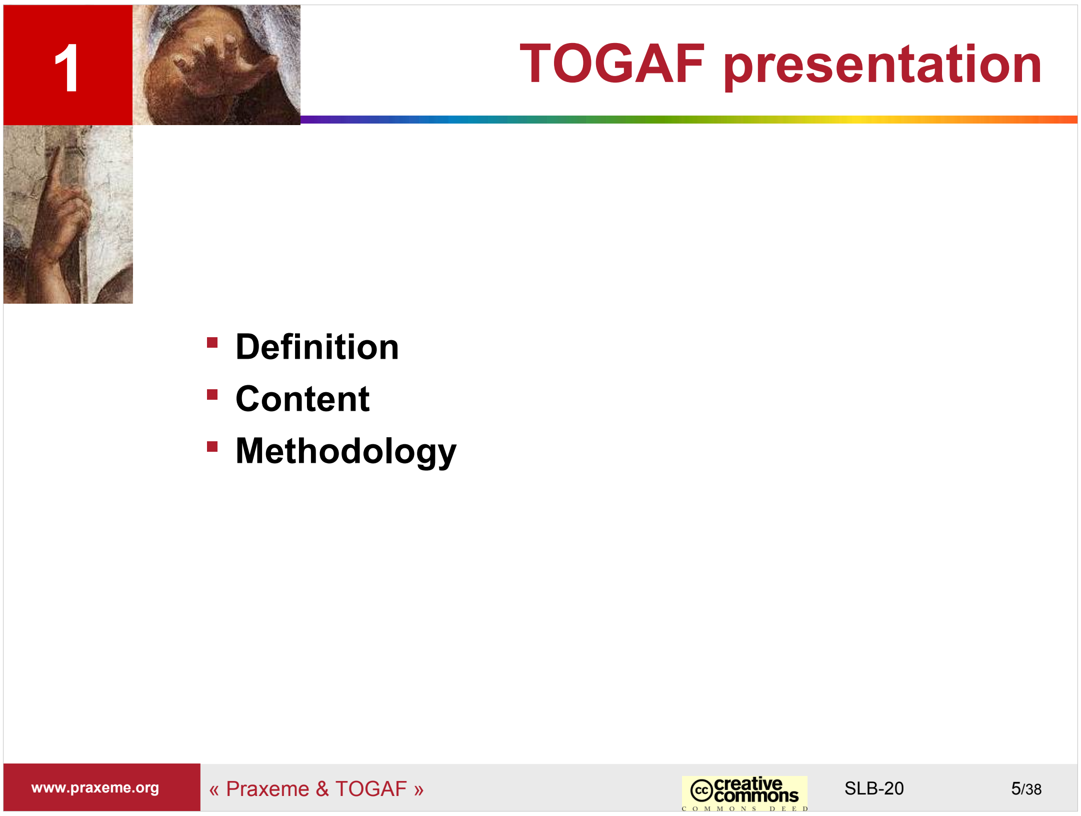
Content of the presentation

1. Presentation of TOGAF
2. The role of Methodology
3. Presentation of Praxeme
4. The interaction of Praxeme and TOGAF



Agenda

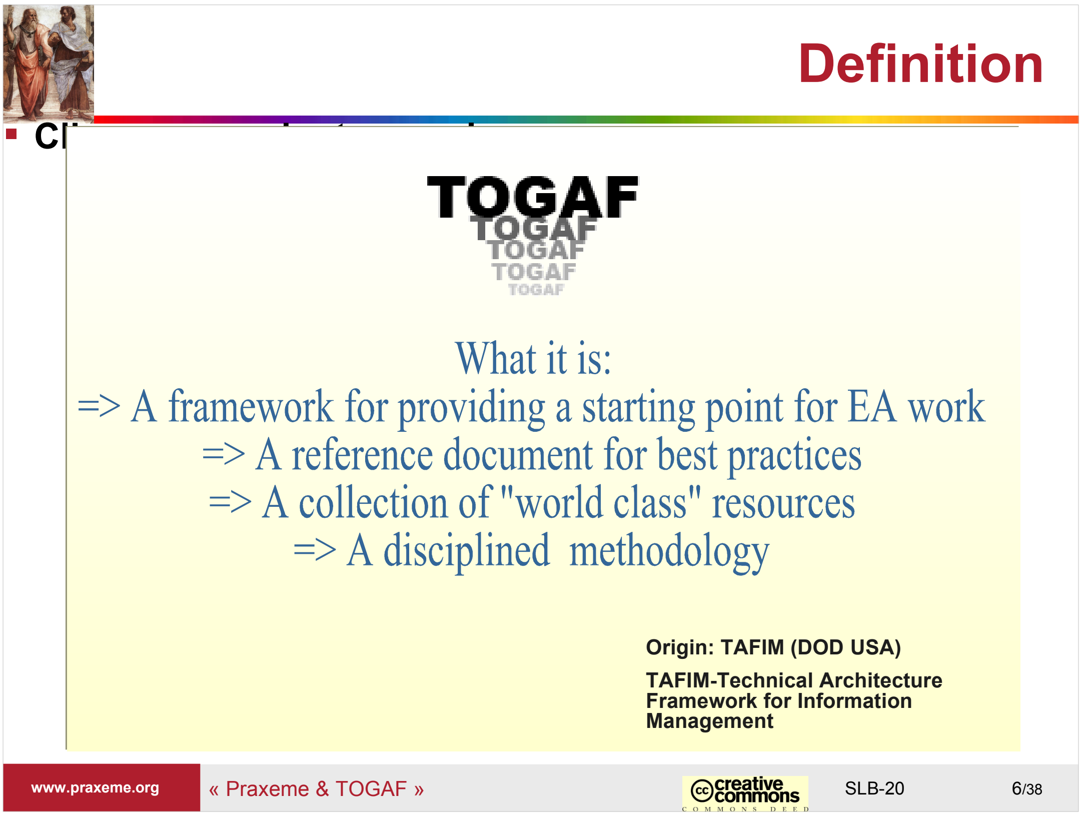
Partie	Durée	Horaire
Presentation of TOGAF	10 mn	14h45 – 14h55
The role of Methodology	5 mn	14h55 – 15h
Presentation of Praxeme	10 mn	15h – 15h10
Interaction Praxeme/TOGAF	5 mn	15h10 – 15h15



1

TOGAF presentation

- Definition
- Content
- Methodology



Definition

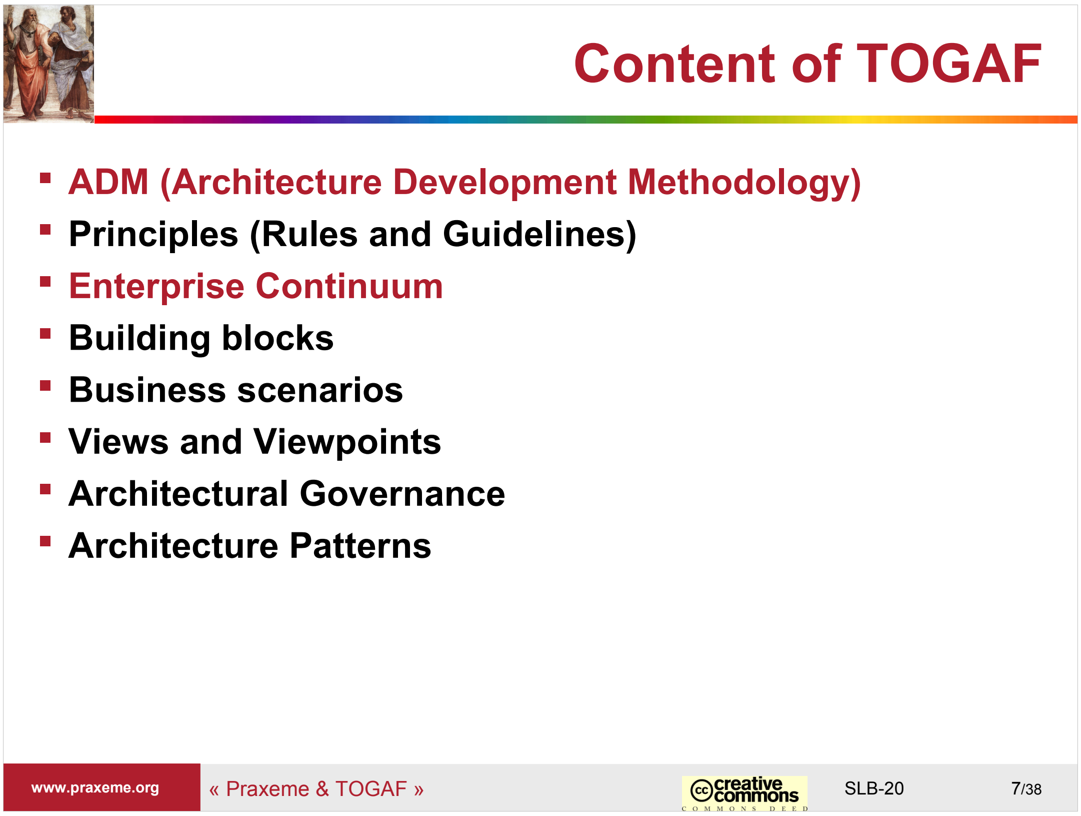
- Cl

TOGAF

What it is:
=> A framework for providing a starting point for EA work
=> A reference document for best practices
=> A collection of "world class" resources
=> A disciplined methodology

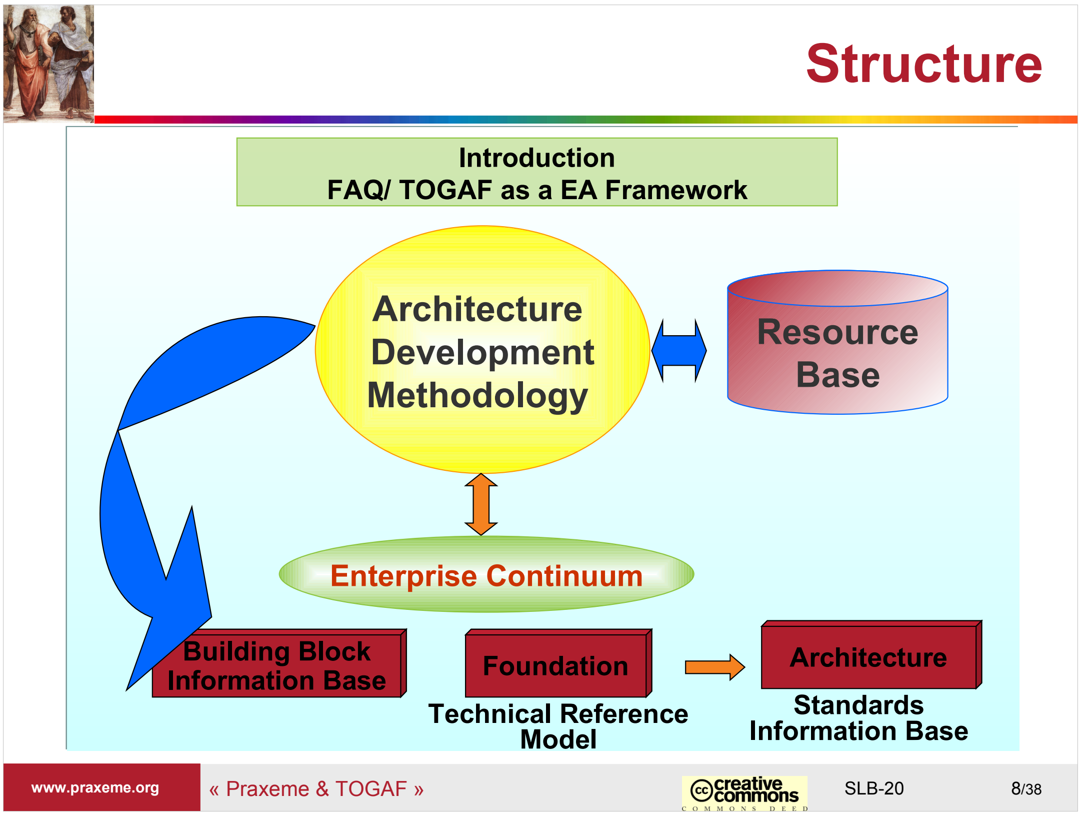
Origin: TAFIM (DOD USA)

TAFIM-Technical Architecture Framework for Information Management



Content of TOGAF

- ADM (Architecture Development Methodology)
- Principles (Rules and Guidelines)
- Enterprise Continuum
- Building blocks
- Business scenarios
- Views and Viewpoints
- Architectural Governance
- Architecture Patterns



Structure

Introduction
FAQ/ TOGAF as a EA Framework

Architecture Development Methodology

Resource Base

Enterprise Continuum

Building Block Information Base

Foundation

Technical Reference Model

Architecture

Standards Information Base

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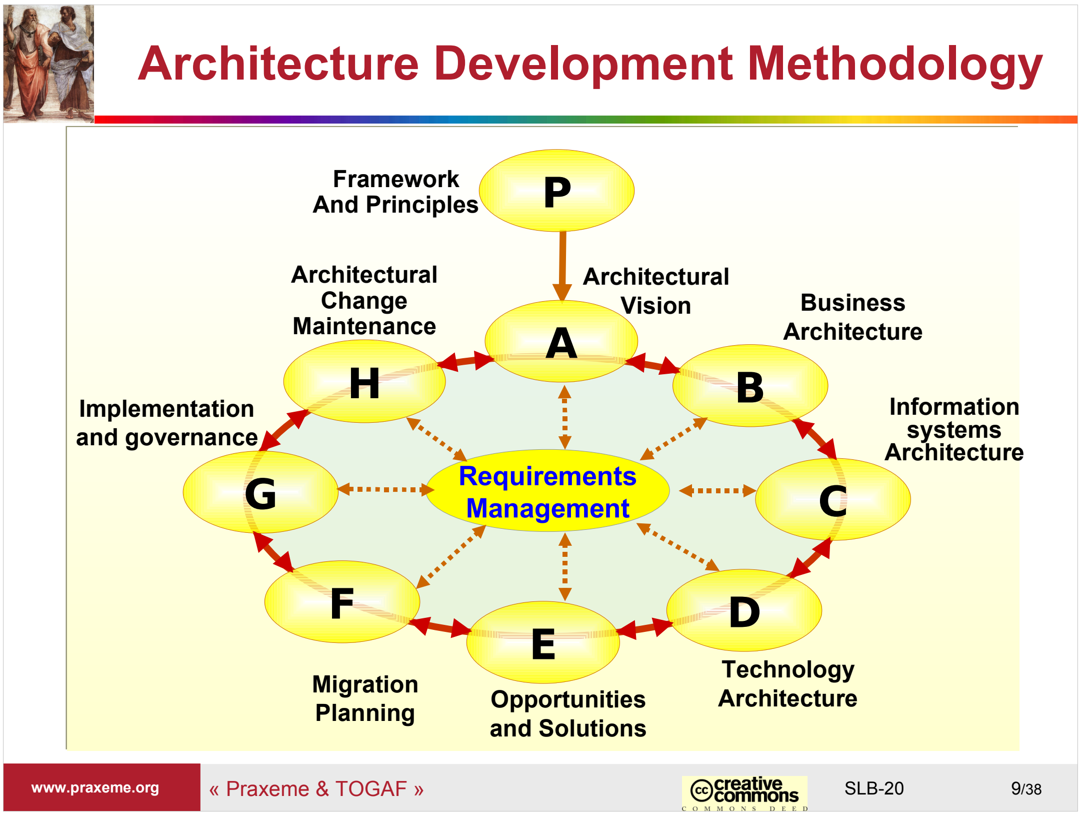


Architecture Development Methodology

P
Framework And Principles

A
Architectural Vision

B
Business Architecture

C
Information systems Architecture

D
Technology Architecture

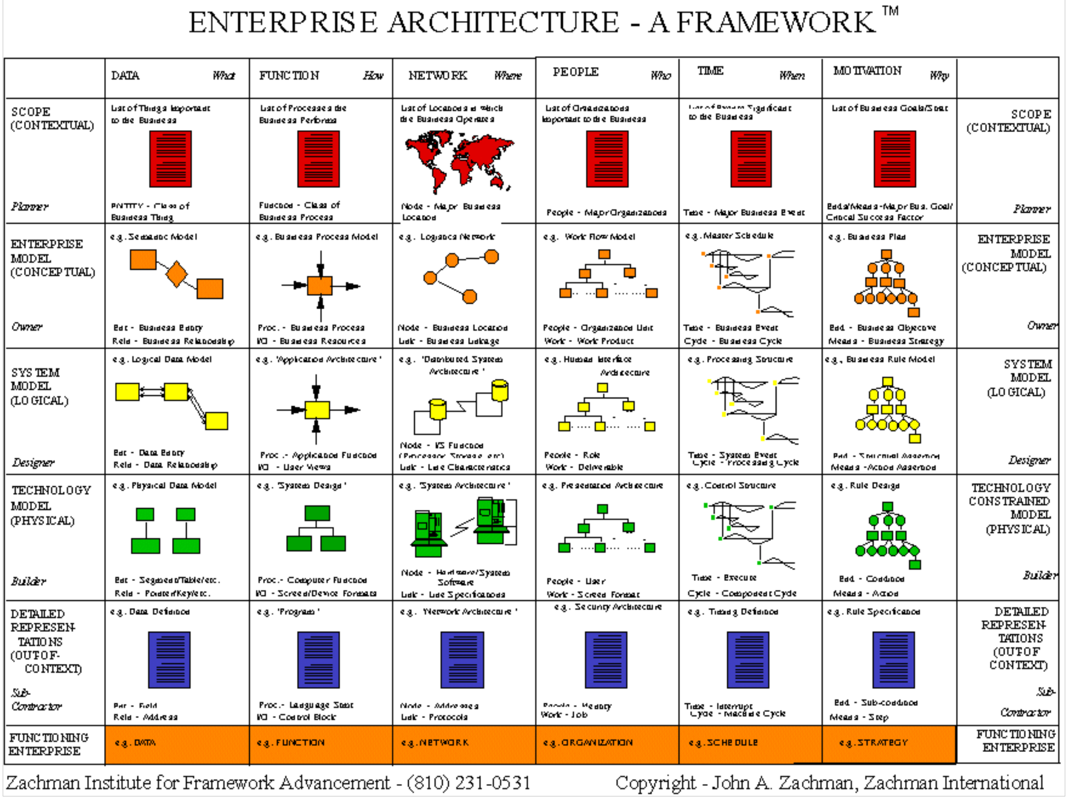
E
Opportunities and Solutions

F
Migration Planning

G
Implementation and governance

H
Architectural Change Maintenance

Requirements Management



ENTERPRISE ARCHITECTURE - A FRAMEWORK ™

	DATA *What*	FUNCTION *How*	NETWORK *Where*	PEOPLE *Who*	TIME *When*	MOTIVATION *Why*	
SCOPE (CONTEXTUAL) *Planner*	List of Things Important to the Business ENTITY - Class of Business Thing	List of Processes the Business Performs Function - Class of Business Process	List of Locations in which the Business Operates Node - Major Business Location	List of Organizations Important to the Business People - Major Organizations	List of Events Significant to the Business Time - Major Business Event	List of Business Goals/Strat Ends/Means-Major Bus. Goal/ Critical Success Factor	SCOPE (CONTEXTUAL) *Planner*
ENTERPRISE MODEL (CONCEPTUAL) *Owner*	e.g. Semantic Model Ent - Business Entity Reln - Business Relationship	e.g. Business Process Model Proc. - Business Process I/O - Business Resources	e.g. Logistics Network Node - Business Location Link - Business Linkage	e.g. Work Flow Model People - Organization Unit Work - Work Product	e.g. Master Schedule Time - Business Event Cycle - Business Cycle	e.g. Business Plan End - Business Objective Means - Business Strategy	ENTERPRISE MODEL (CONCEPTUAL) *Owner*
SYSTEM MODEL (LOGICAL) *Designer*	e.g. Logical Data Model Ent - Data Entity Reln - Data Relationship	e.g. 'Application Architecture' Proc .- Application Function I/O - User Views	e.g. 'Distributed System Architecture' Node - I/S Function (Processor, Storage, etc) Link - Line Characteristics	e.g. Human Interface Architecture People - Role Work - Deliverable	e.g. Processing Structure Time - System Event Cycle - Processing Cycle	e.g., Business Rule Model End - Structural Assertion Means -Action Assertion	SYSTEM MODEL (LOGICAL) *Designer*
TECHNOLOGY MODEL (PHYSICAL) *Builder*	e.g. Physical Data Model Ent - Segment/Table/etc. Reln - Pointer/Key/etc.	e.g. 'System Design' Proc.- Computer Function I/O - Screen/Device Formats	e.g. 'System Architecture' Node - Hardware/System Software Link - Line Specifications	e.g. Presentation Architecture People - User Work - Screen Format	e.g. Control Structure Time - Execute Cycle - Component Cycle	e.g. Rule Design End - Condition Means - Action	TECHNOLOGY CONSTRAINED MODEL (PHYSICAL) *Builder*
DETAILED REPRESENTATIONS (OUT-OF-CONTEXT) *Sub-Contractor*	e.g. Data Definition Ent - Field Reln - Address	e.g. 'Program' Proc.- Language Stmt I/O - Control Block	e.g. 'Network Architecture' Node - Addresses Link - Protocols	e.g. Security Architecture People - Identity Work - Job	e.g. Timing Definition Time - Interrupt Cycle - Machine Cycle	e.g. Rule Specification End - Sub-condition Means - Step	DETAILED REPRESENTATIONS (OUT OF CONTEXT) *Sub-Contractor*
FUNCTIONING ENTERPRISE	e.g. DATA	e.g. FUNCTION	e.g. NETWORK	e.g. ORGANIZATION	e.g. SCHEDULE	e.g. STRATEGY	FUNCTIONING ENTERPRISE

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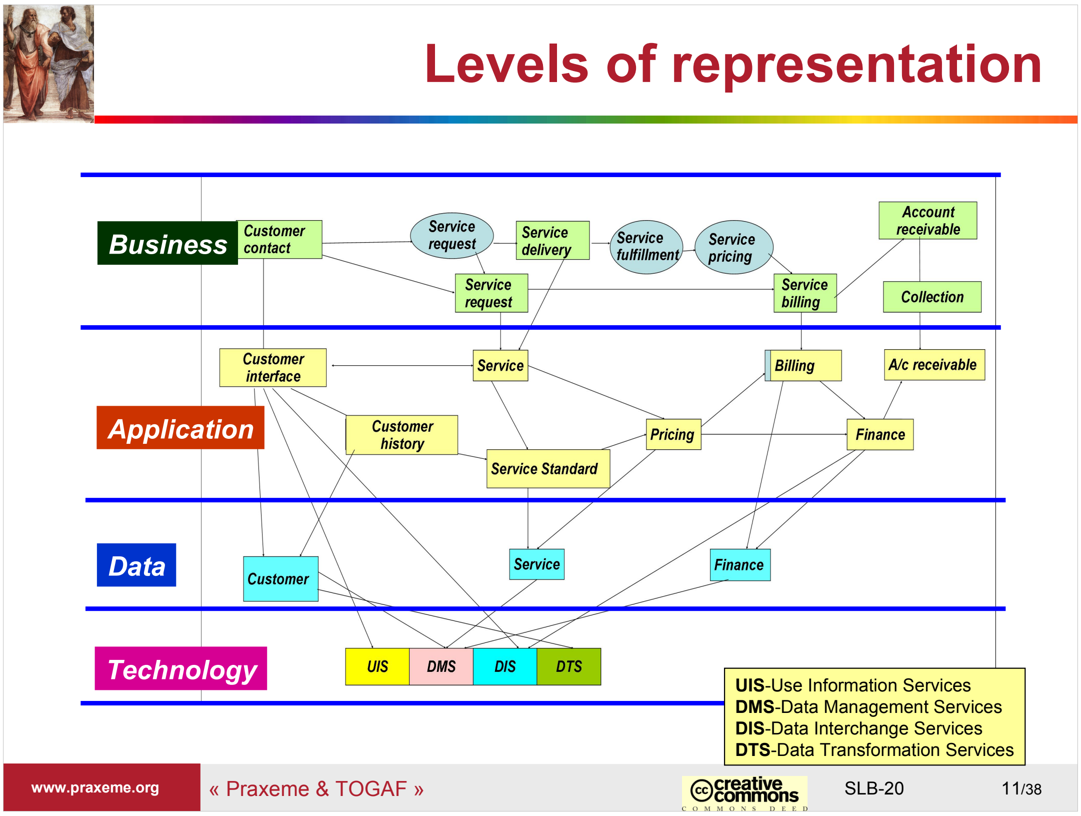
Critique

Les apports

- Un cadre complet

Les limites

- Une coloration fortement informatique
  - Données, fonctions
  - Conséquence = réduction sur la représentation
- Les catégories sont posées *a priori*
  et non <u>justifiées</u>
- Une inflation en nombre de modèles
  - Par croisement de deux critères
  - L 'effet pervers des matrices...



Levels of representation

UIS-Use Information Services
DMS-Data Management Services
DIS-Data Interchange Services
DTS-Data Transformation Services

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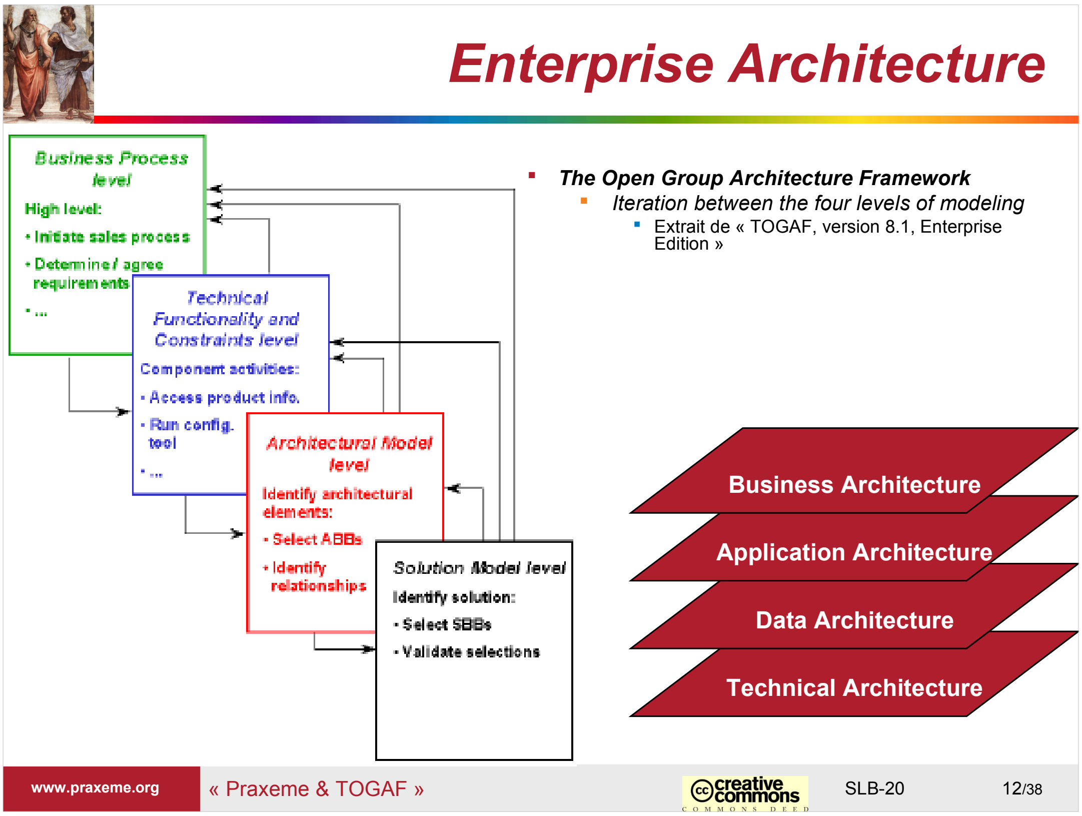

Enterprise Architecture

- ***The Open Group Architecture Framework***
  - *Iteration between the four levels of modeling*
    - Extrait de « TOGAF, version 8.1, Enterprise Edition »

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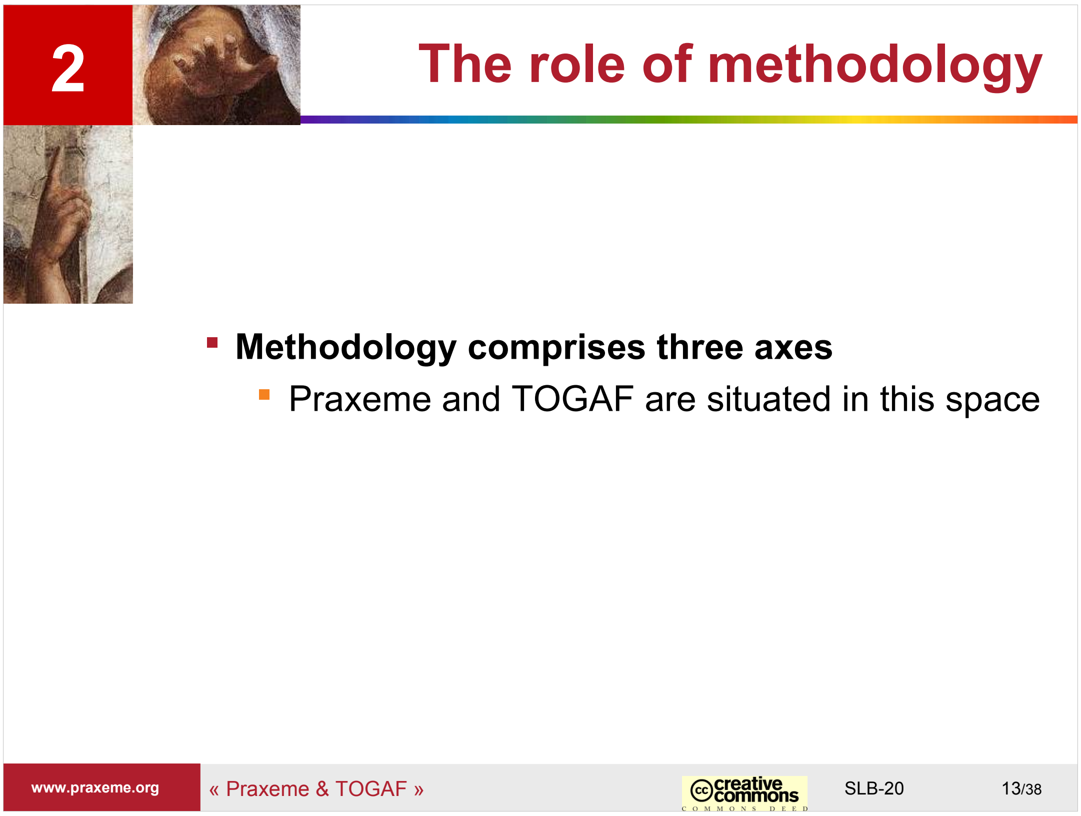
Le courant *Enterprise Architecture*, sans trop insister sur les modèles, ressent le besoin de séparer les représentations. Les plans de représentation, généralement au nombre de quatre, révèlent :

•un flottement théorique (les plans peuvent différer d’une méthode à l’autre) ;

•une orientation qui reste très informatique.

Par ailleurs, ce courant n’a pas encore pris en compte les avancées d’UML et de MDA. Le niveau souvent très général auquel se situe les pratiques d’EA explique le peu de rigueur des représentations utilisées. De ce fait, se pose le problème de l’ajustement entre la grande vision de l’architecte d’entreprise (ou de l’urbaniste de SI) et les modèles détaillés nécessaires au niveau des projets.

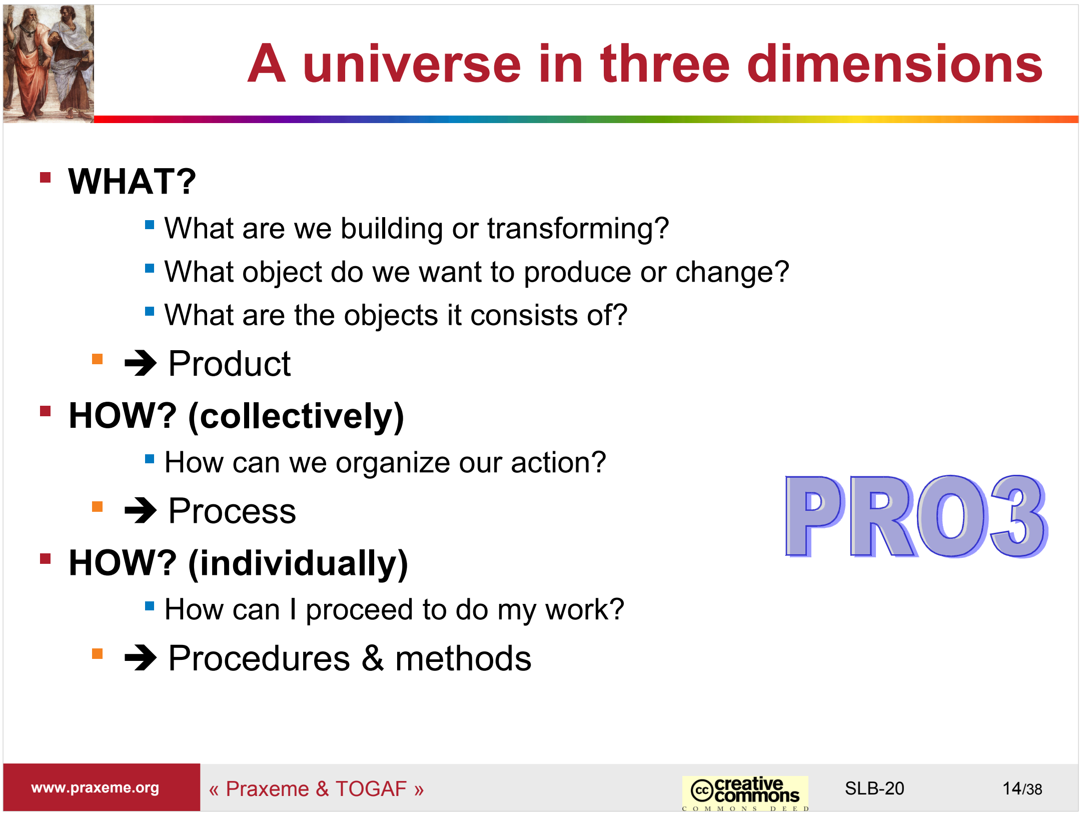
Des travaux de rapprochement sont en cours.



2

The role of methodology

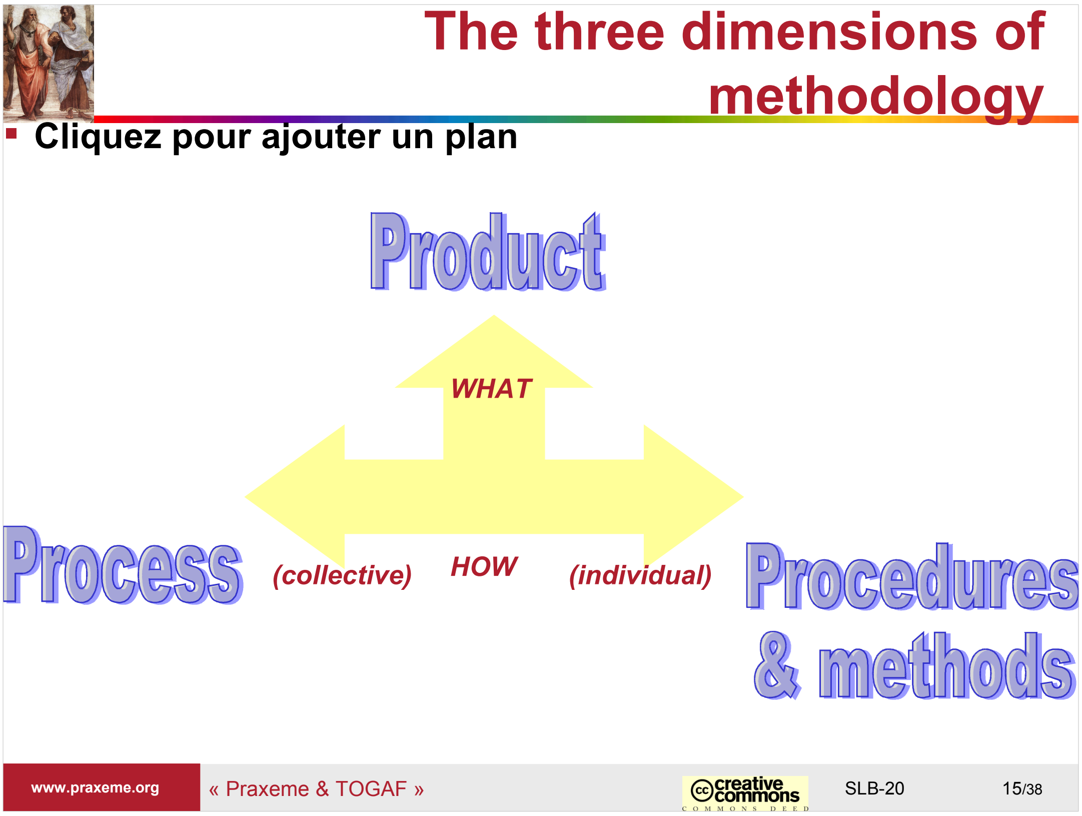
- **Methodology comprises three axes**
  - Praxeme and TOGAF are situated in this space



A universe in three dimensions

- **WHAT?**
  - What are we building or transforming?
  - What object do we want to produce or change?
  - What are the objects it consists of?
  - ➔ Product
- **HOW? (collectively)**
  - How can we organize our action?
  - ➔ Process
- **HOW? (individually)**
  - How can I proceed to do my work?
  - ➔ Procedures & methods

PRO3



The three dimensions of methodology

- Cliquez pour ajouter un plan

Product

WHAT

Process (collective) HOW (individual) Procedures & methods

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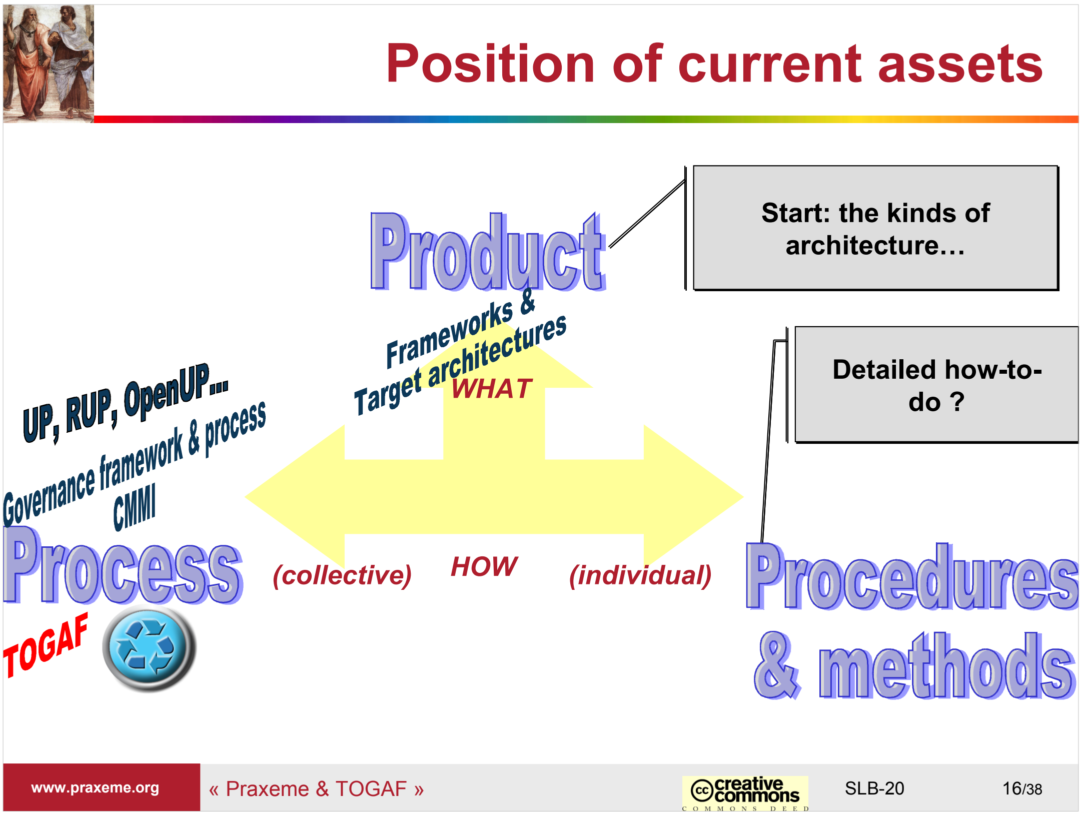


Position of current assets

Product

Start: the kinds of architecture…

Frameworks & Target architectures

WHAT

Detailed how-to-do ?

UP, RUP, OpenUP...

Governance framework & process

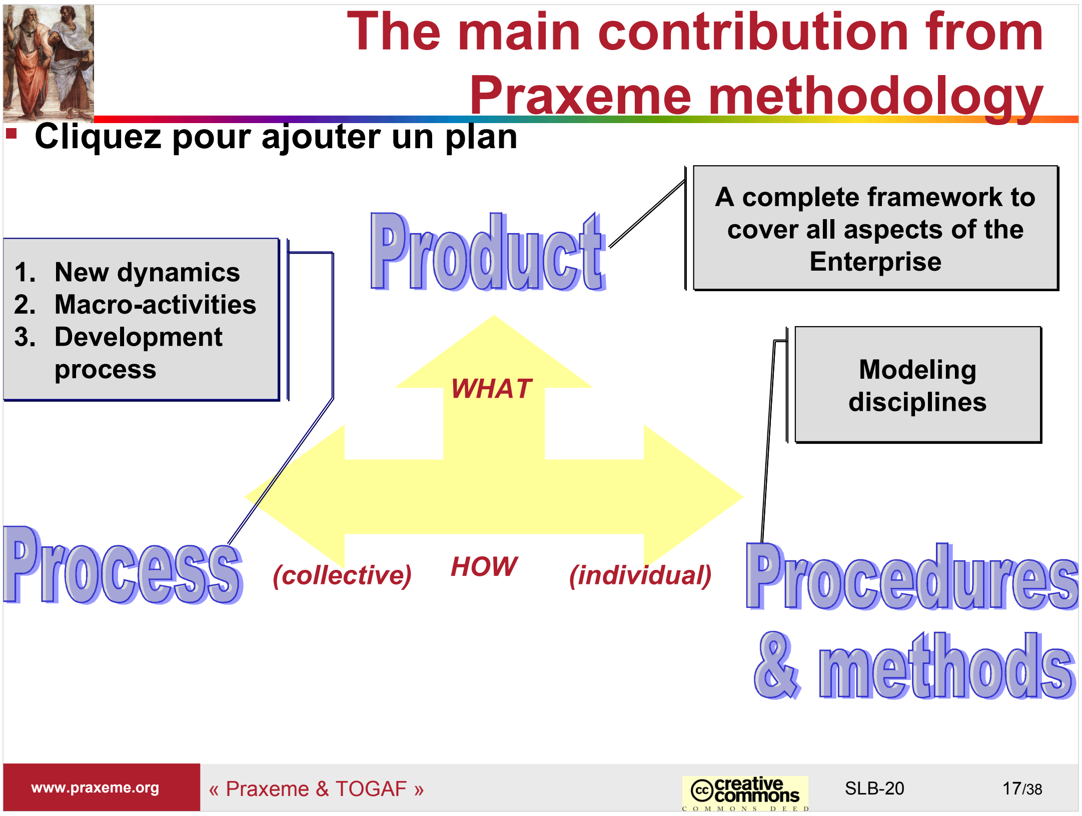
CMMI

Process

(collective) HOW (individual)

Procedures & methods

TOGAF



The main contribution from Praxeme methodology

- Cliquez pour ajouter un plan

1. New dynamics
2. Macro-activities
3. Development process

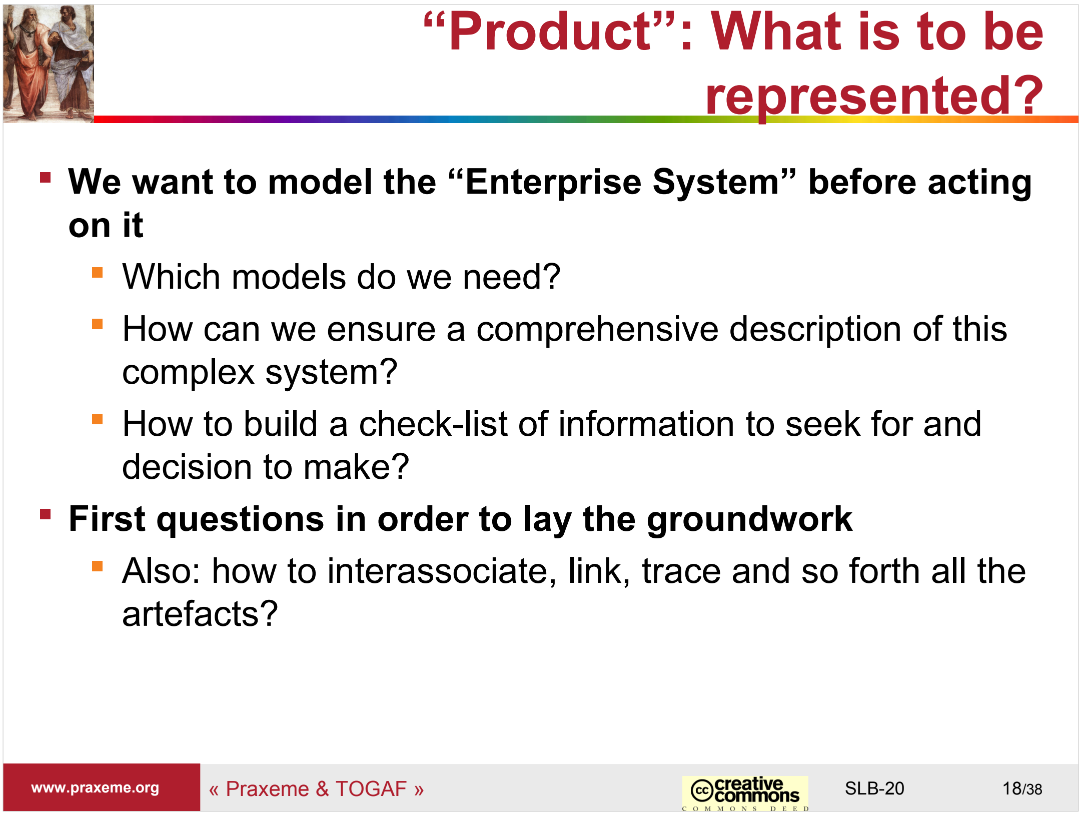
Product

A complete framework to cover all aspects of the Enterprise

WHAT

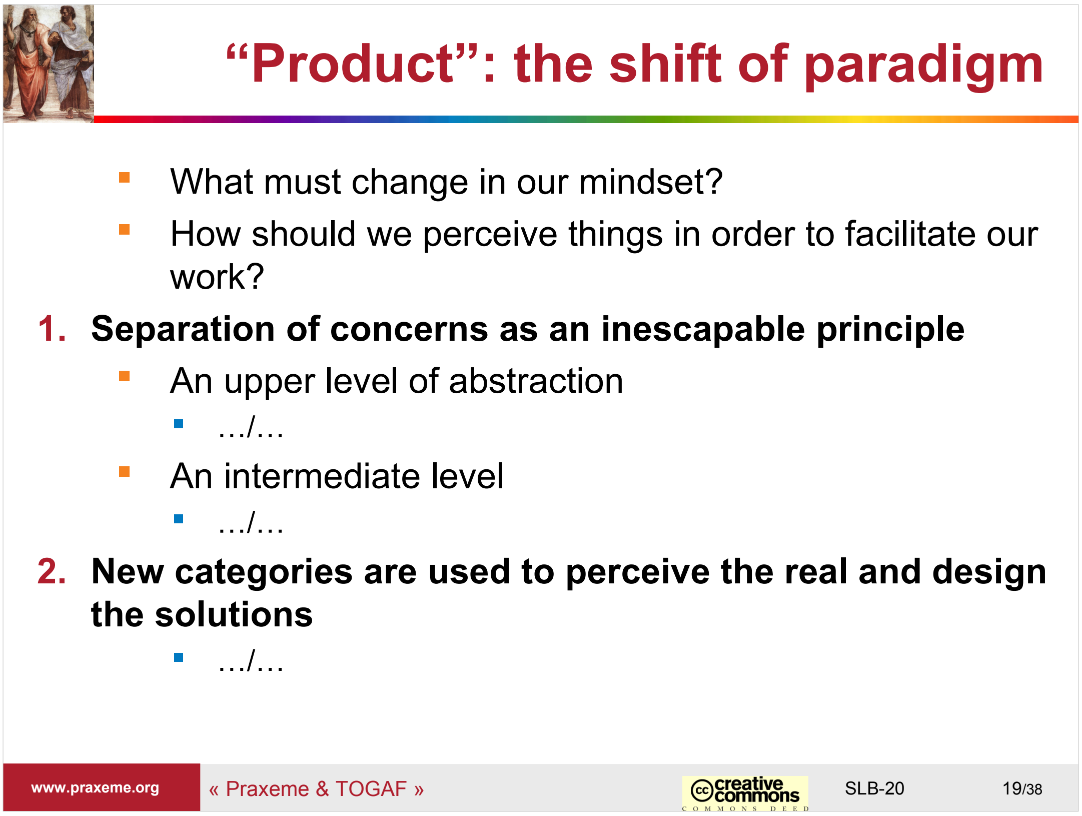
Modeling disciplines

Process *(collective)* *HOW* *(individual)* Procedures & methods



"Product": What is to be represented?

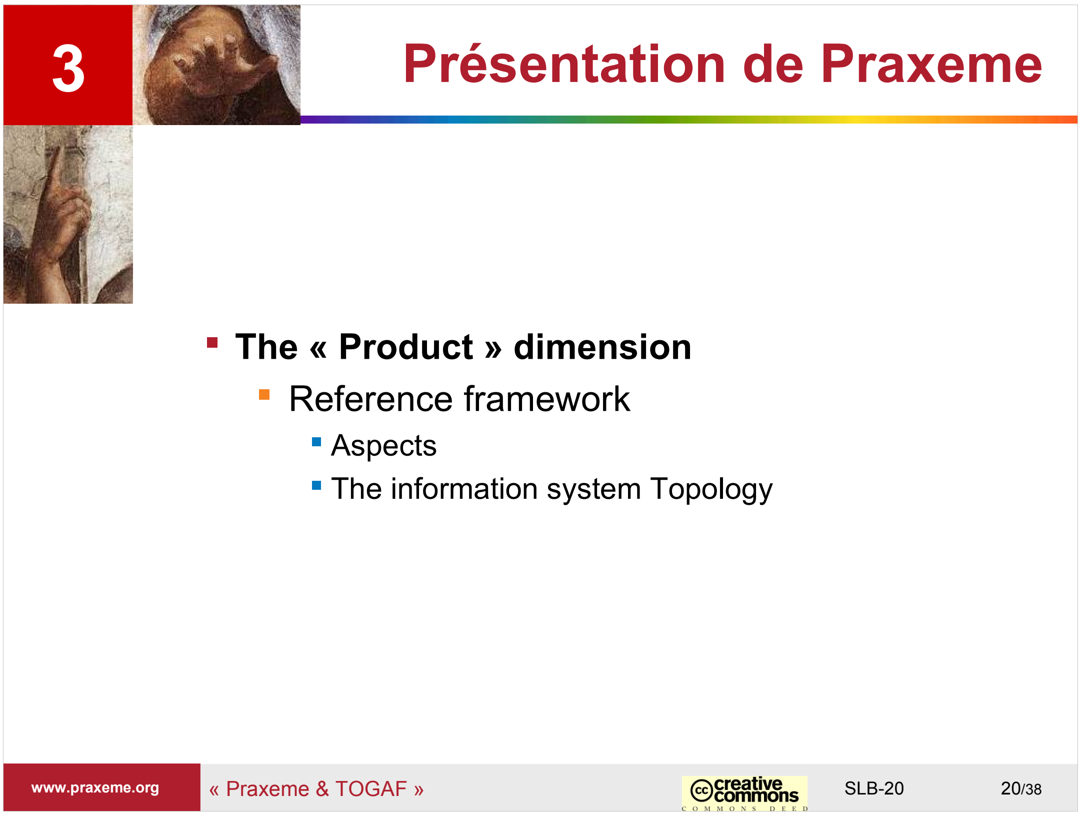
- **We want to model the "Enterprise System" before acting on it**
  - Which models do we need?
  - How can we ensure a comprehensive description of this complex system?
  - How to build a check-list of information to seek for and decision to make?
- **First questions in order to lay the groundwork**
  - Also: how to interassociate, link, trace and so forth all the artefacts?



“Product”: the shift of paradigm

- What must change in our mindset?
- How should we perceive things in order to facilitate our work?

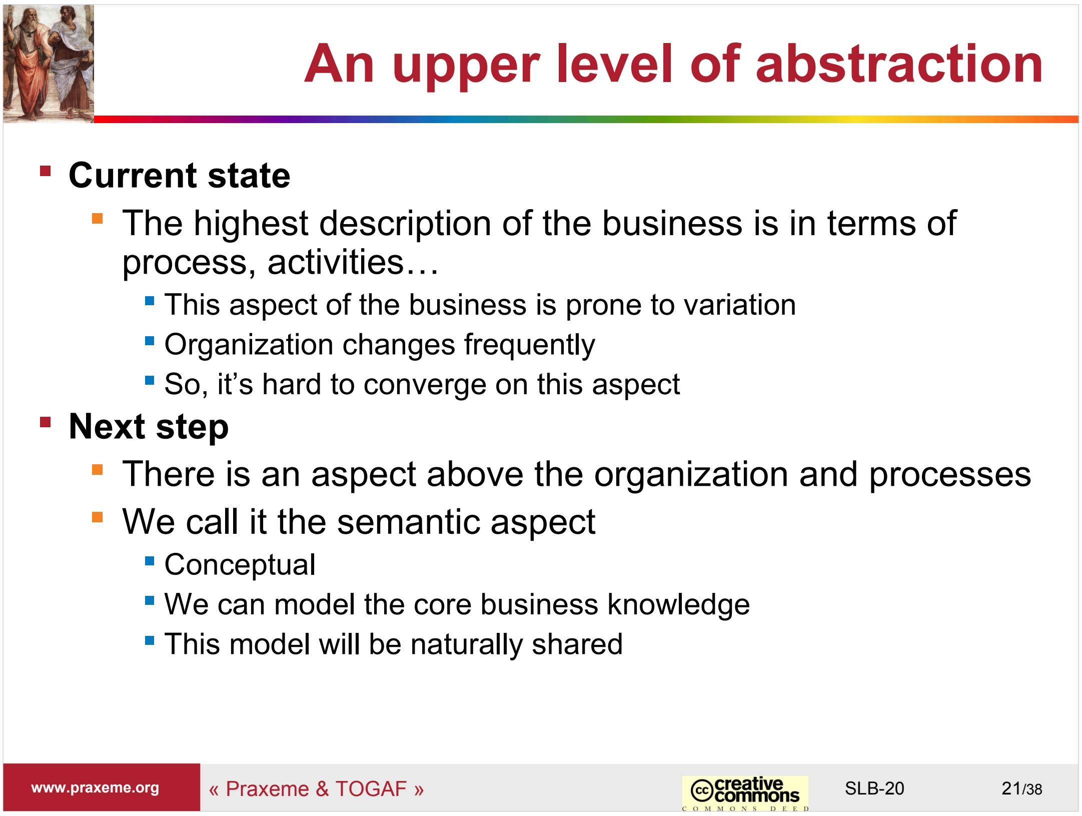
1. **Separation of concerns as an inescapable principle**
   - An upper level of abstraction
     - .../...
   - An intermediate level
     - .../...
2. **New categories are used to perceive the real and design the solutions**
     - .../...



3

Présentation de Praxeme

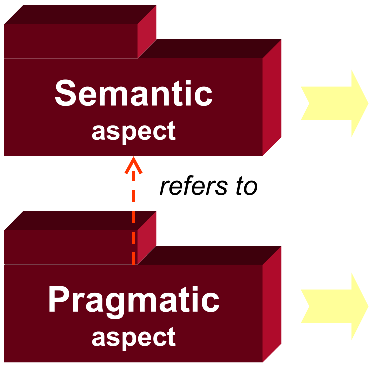
- **The « Product » dimension**
  - Reference framework
    - Aspects
    - The information system Topology



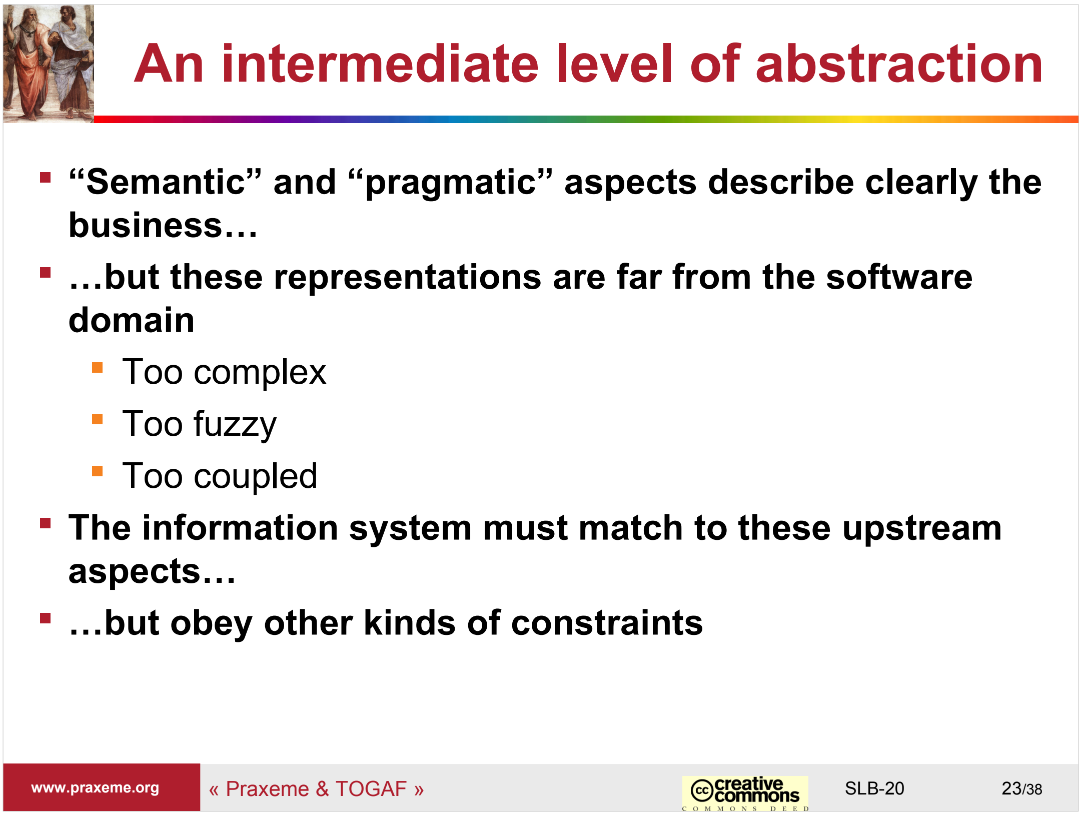
An upper level of abstraction

- **Current state**
  - The highest description of the business is in terms of process, activities…
    - This aspect of the business is prone to variation
    - Organization changes frequently
    - So, it’s hard to converge on this aspect
- **Next step**
  - There is an aspect above the organization and processes
  - We call it the semantic aspect
    - Conceptual
    - We can model the core business knowledge
    - This model will be naturally shared

An upper level of abstraction: conclusion

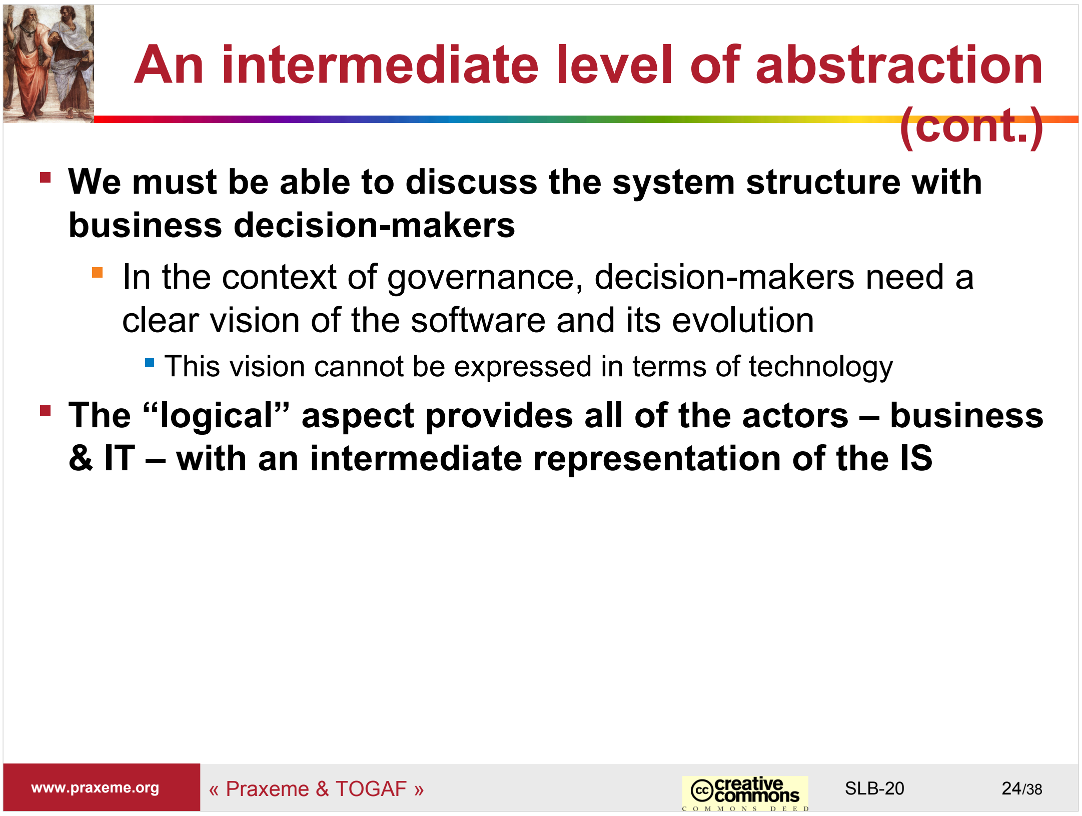


- **Core business knowledge**
  - “Business objects”
  - ➔ largely sharable, quite universal
- **Organizational particularities**
  - Process, use-cases, role…
  - ➔ adaptation



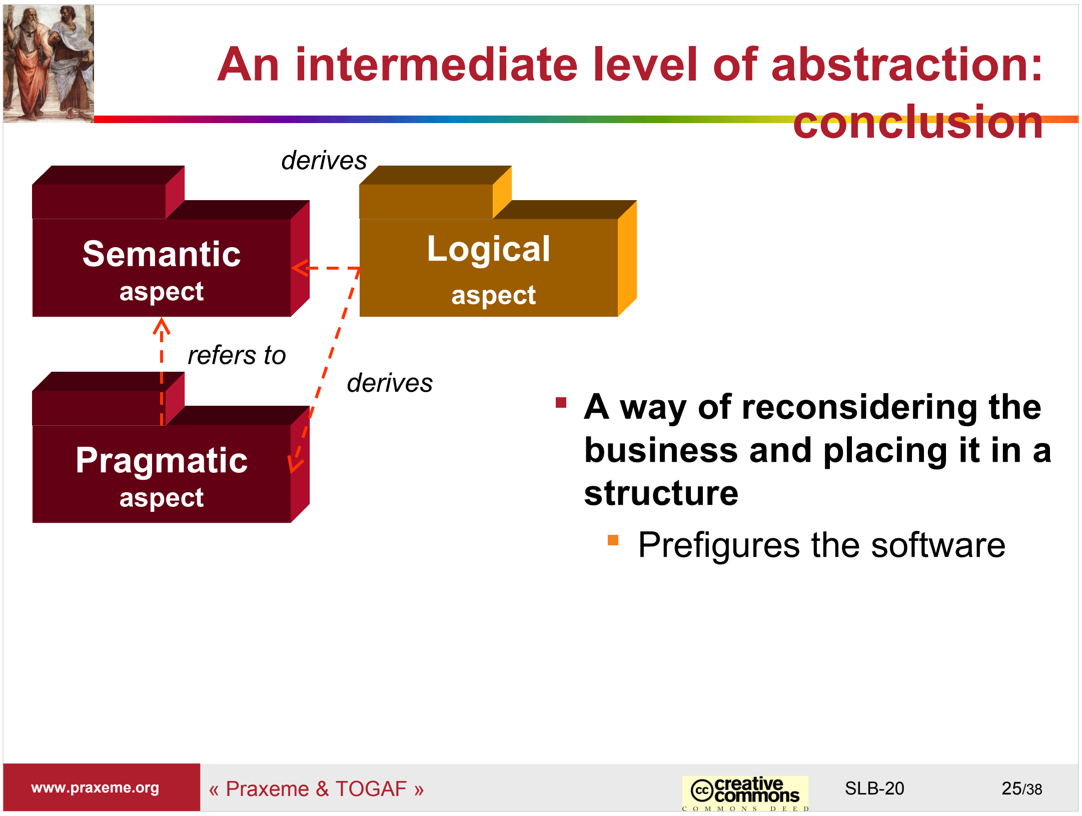
An intermediate level of abstraction

- **“Semantic” and “pragmatic” aspects describe clearly the business…**
- **…but these representations are far from the software domain**
  - Too complex
  - Too fuzzy
  - Too coupled
- **The information system must match to these upstream aspects…**
- **…but obey other kinds of constraints**



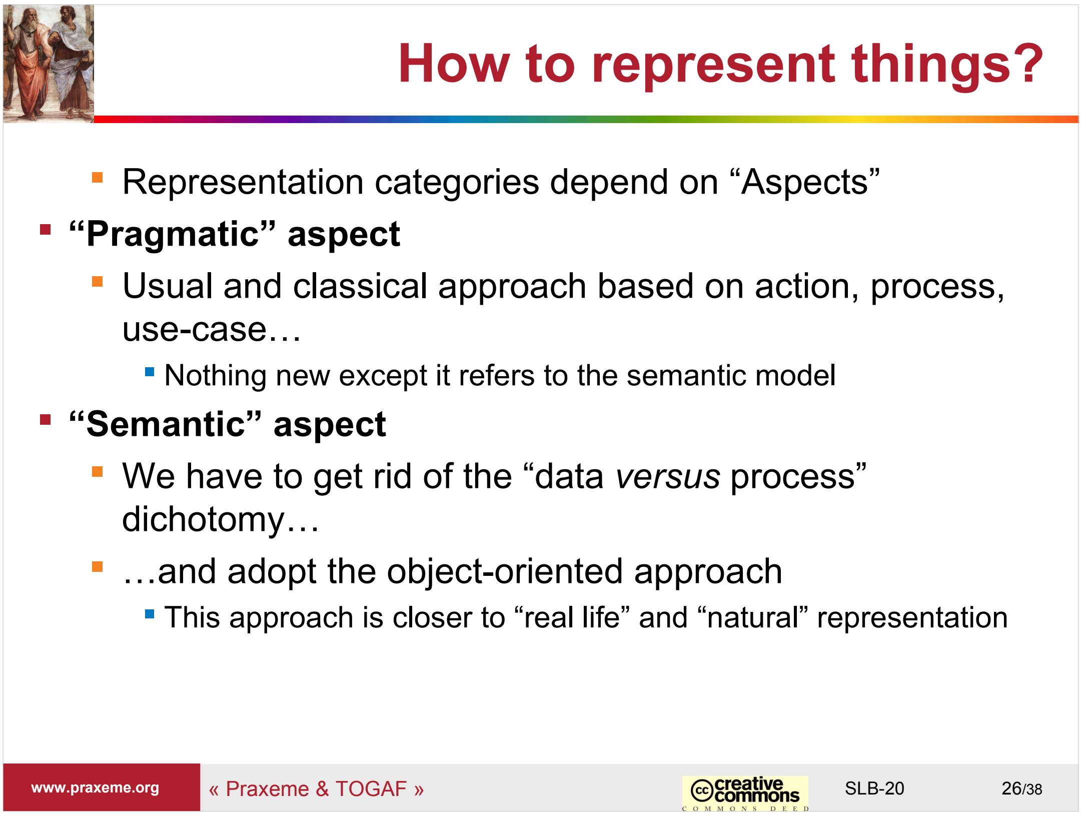
An intermediate level of abstraction (cont.)

- **We must be able to discuss the system structure with business decision-makers**
  - In the context of governance, decision-makers need a clear vision of the software and its evolution
    - This vision cannot be expressed in terms of technology
- **The "logical" aspect provides all of the actors – business & IT – with an intermediate representation of the IS**



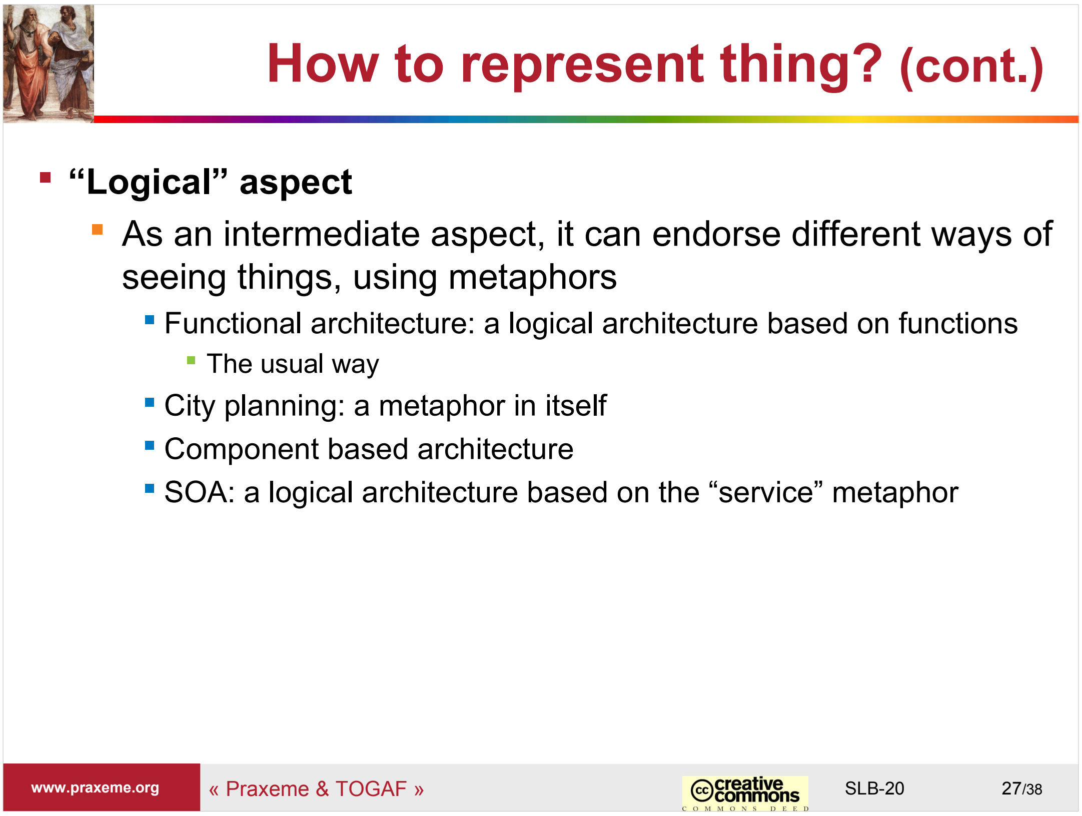
An intermediate level of abstraction: conclusion

- **A way of reconsidering the business and placing it in a structure**
  - Prefigures the software



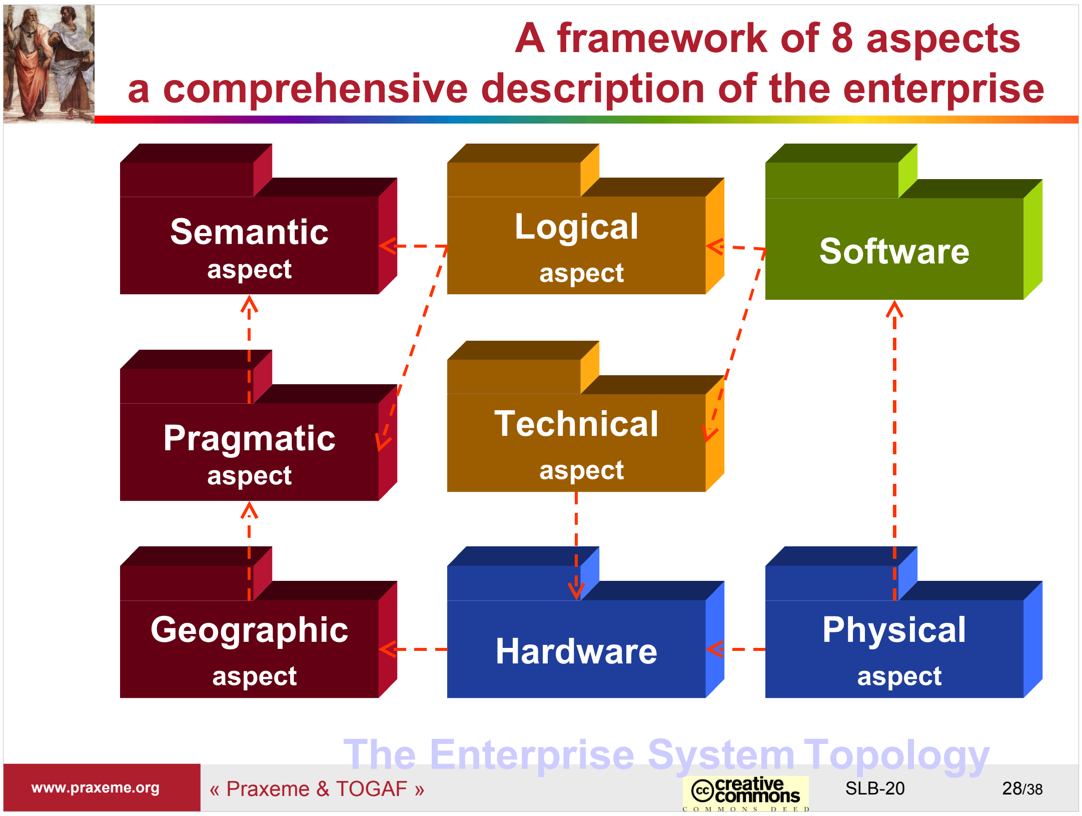
How to represent things?

  - Representation categories depend on “Aspects”
- **“Pragmatic” aspect**
  - Usual and classical approach based on action, process, use-case…
    - Nothing new except it refers to the semantic model
- **“Semantic” aspect**
  - We have to get rid of the “data *versus* process” dichotomy…
  - …and adopt the object-oriented approach
    - This approach is closer to “real life” and “natural” representation



How to represent thing? (cont.)

- **“Logical” aspect**
  - As an intermediate aspect, it can endorse different ways of seeing things, using metaphors
    - Functional architecture: a logical architecture based on functions
      - The usual way
    - City planning: a metaphor in itself
    - Component based architecture
    - SOA: a logical architecture based on the “service” metaphor



A framework of 8 aspects
a comprehensive description of the enterprise

Semantic aspect

Logical aspect

Software

Pragmatic aspect

Technical aspect

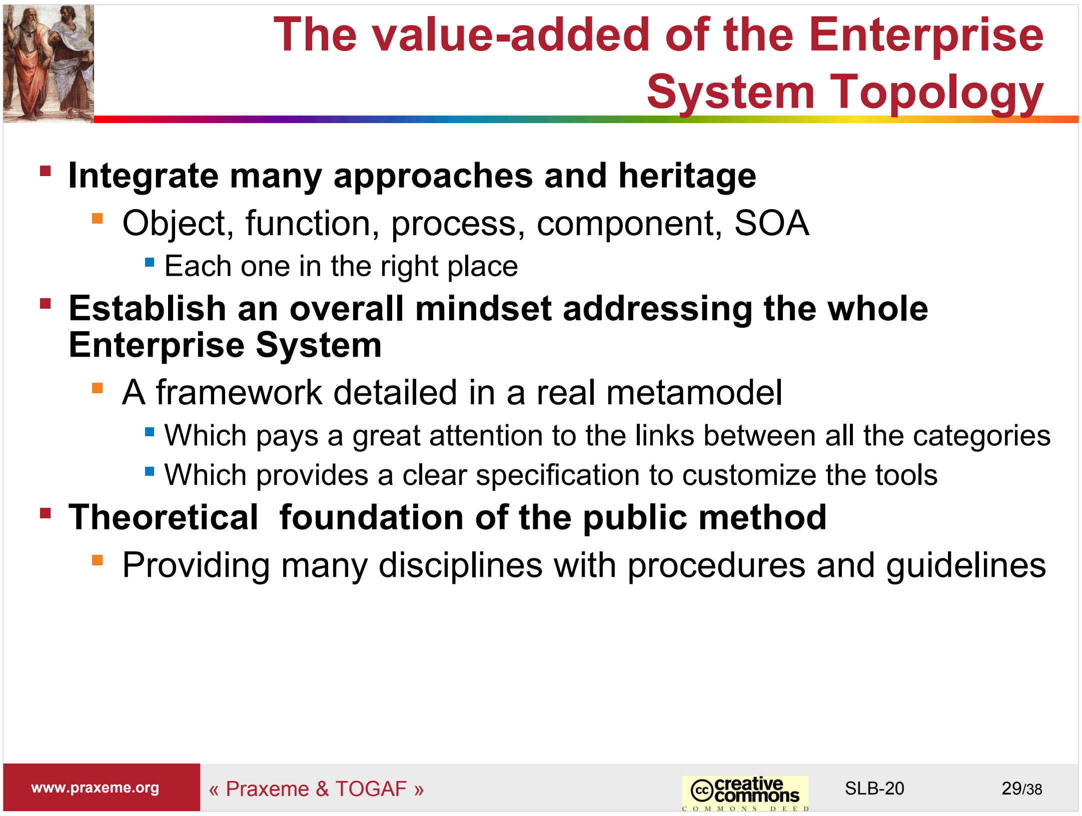
Geographic aspect

Hardware

Physical aspect

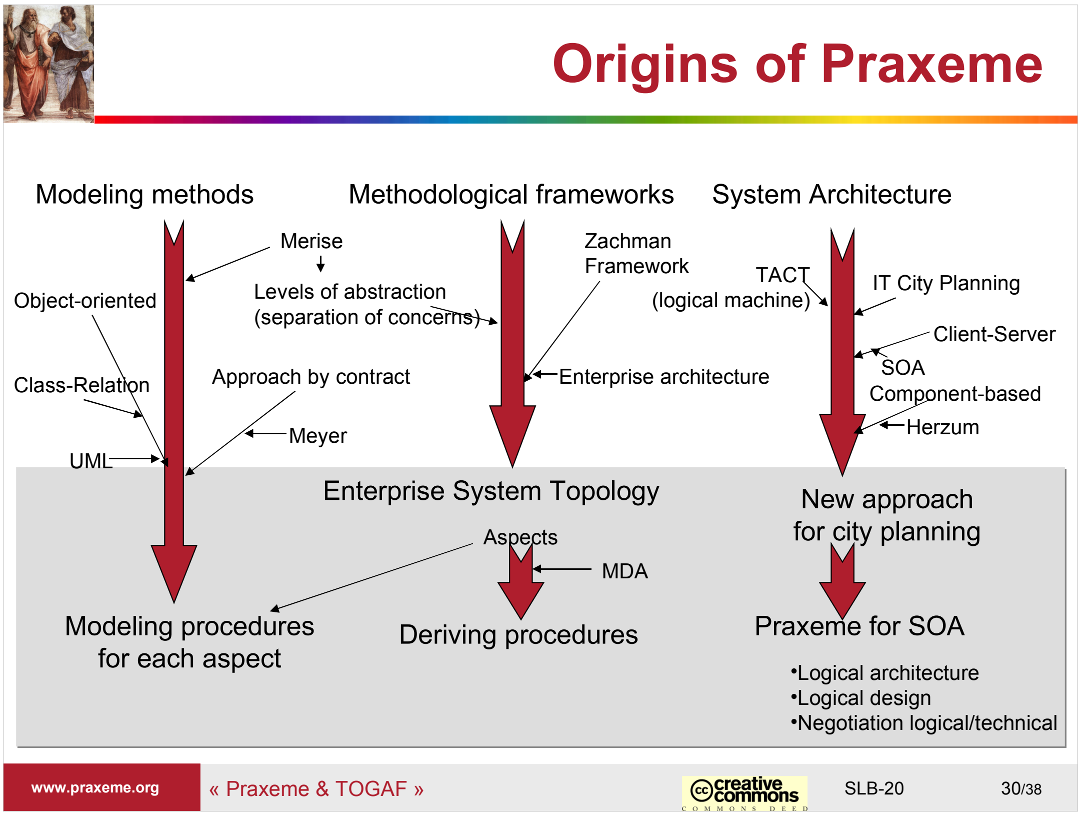
The Enterprise System Topology

See explanation in the General Guide (ref. PxM-02), available on www.praxeme.org



The value-added of the Enterprise System Topology

- **Integrate many approaches and heritage**
  - Object, function, process, component, SOA
    - Each one in the right place
- **Establish an overall mindset addressing the whole Enterprise System**
  - A framework detailed in a real metamodel
    - Which pays a great attention to the links between all the categories
    - Which provides a clear specification to customize the tools
- **Theoretical foundation of the public method**
  - Providing many disciplines with procedures and guidelines



Origins of Praxeme

Modeling methods

Object-oriented

Class-Relation

UML

Merise

Levels of abstraction (separation of concerns)

Approach by contract

Meyer

Modeling procedures for each aspect

Methodological frameworks

Zachman Framework

Enterprise architecture

Enterprise System Topology

Aspects

MDA

Deriving procedures

System Architecture

TACT (logical machine)

IT City Planning

Client-Server

SOA

Component-based

Herzum

New approach for city planning

Praxeme for SOA

- Logical architecture
- Logical design
- Negotiation logical/technical

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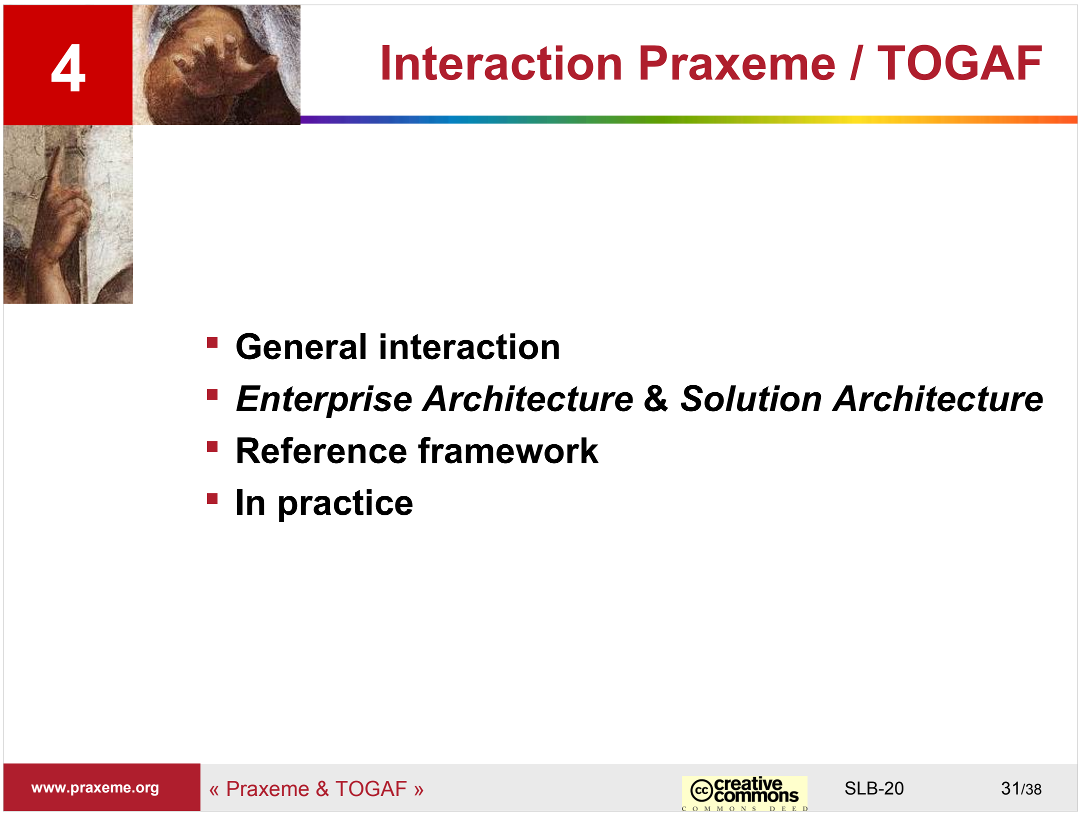
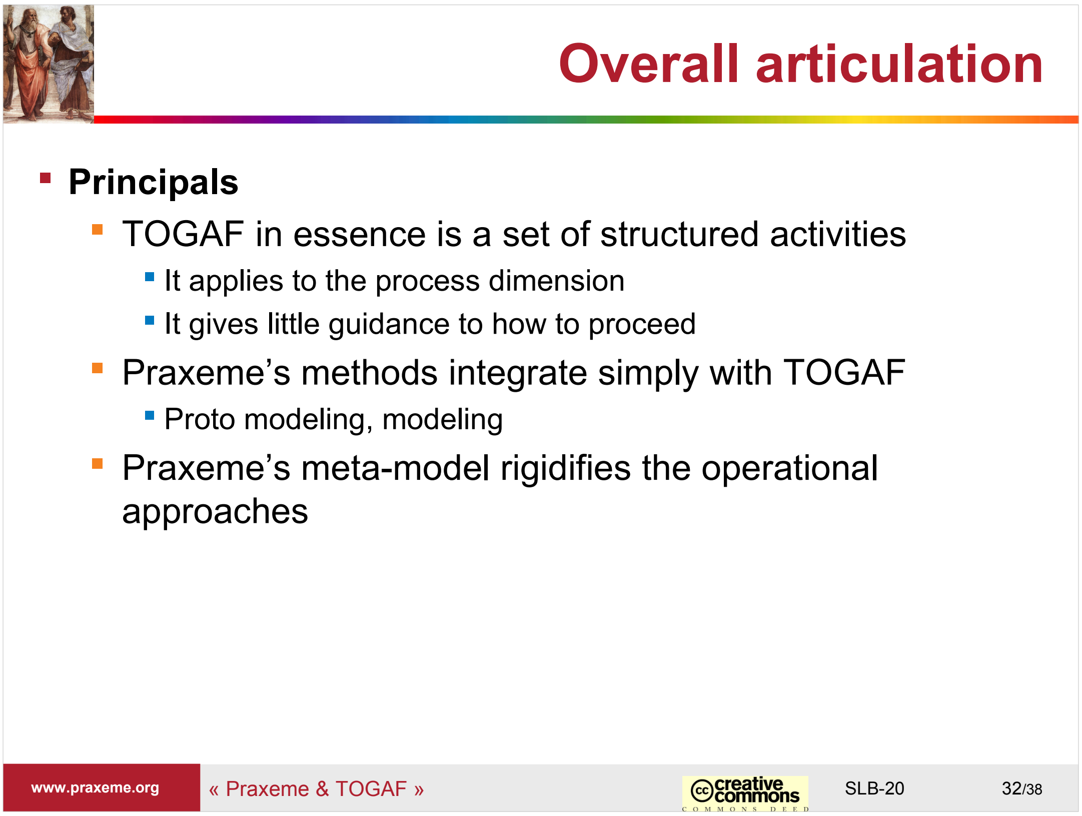


4 Interaction Praxeme / TOGAF

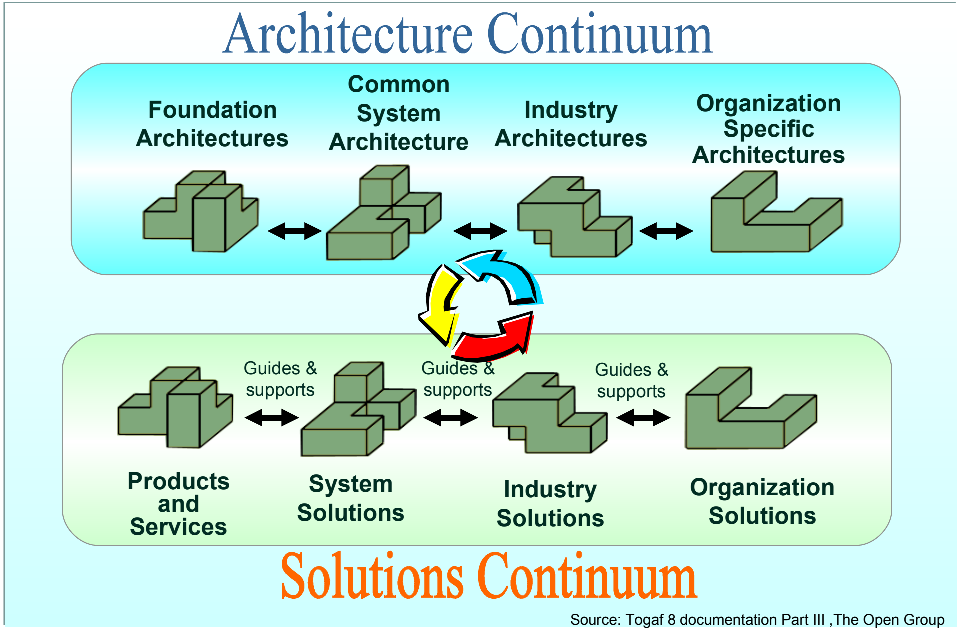
- General interaction
- *Enterprise Architecture* & *Solution Architecture*
- Reference framework
- In practice



Overall articulation

- **Principals**
  - TOGAF in essence is a set of structured activities
    - It applies to the process dimension
    - It gives little guidance to how to proceed
  - Praxeme’s methods integrate simply with TOGAF
    - Proto modeling, modeling
  - Praxeme’s meta-model rigidifies the operational approaches

Enterprise and solution



Architecture Continuum

Foundation Architectures

Common System Architecture

Industry Architectures

Organization Specific Architectures

Guides & supports

Guides & supports

Guides & supports

Products and Services

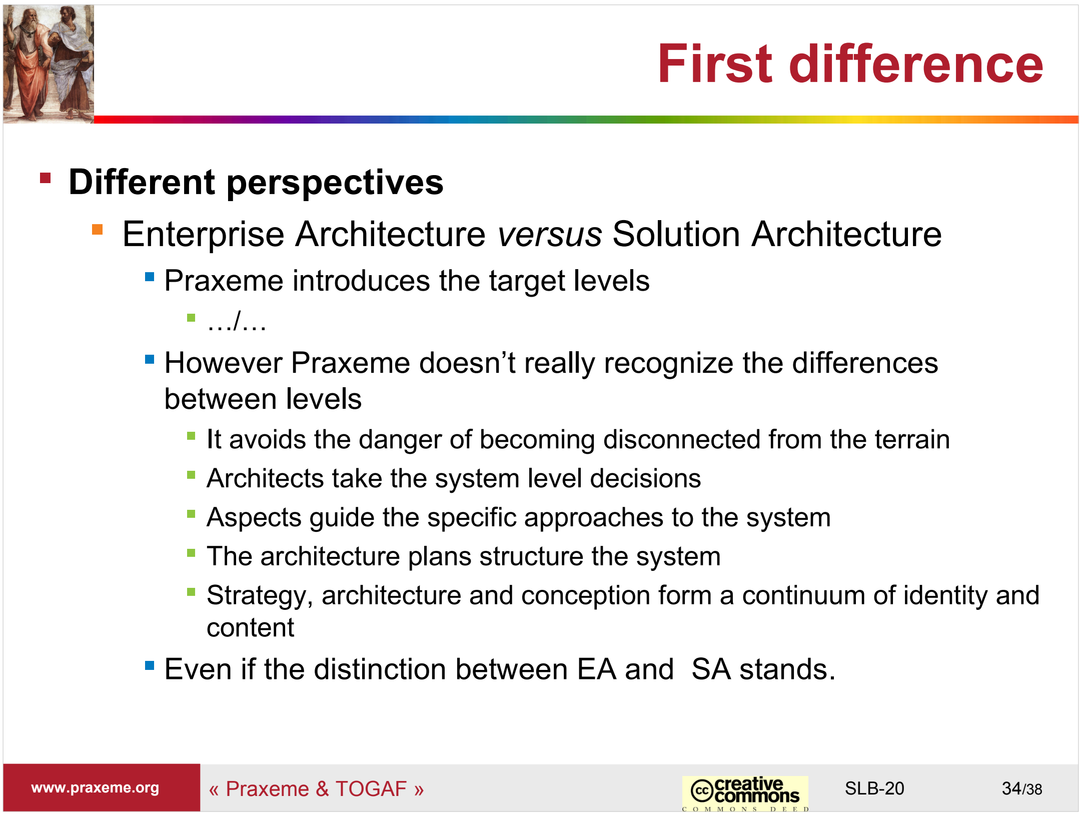
System Solutions

Industry Solutions

Organization Solutions

Solutions Continuum

Source: Togaf 8 documentation Part III ,The Open Group



First difference

- **Different perspectives**
  - Enterprise Architecture *versus* Solution Architecture
    - Praxeme introduces the target levels
      - …/…
    - However Praxeme doesn’t really recognize the differences between levels
      - It avoids the danger of becoming disconnected from the terrain
      - Architects take the system level decisions
      - Aspects guide the specific approaches to the system
      - The architecture plans structure the system
      - Strategy, architecture and conception form a continuum of identity and content
    - Even if the distinction between EA and SA stands.

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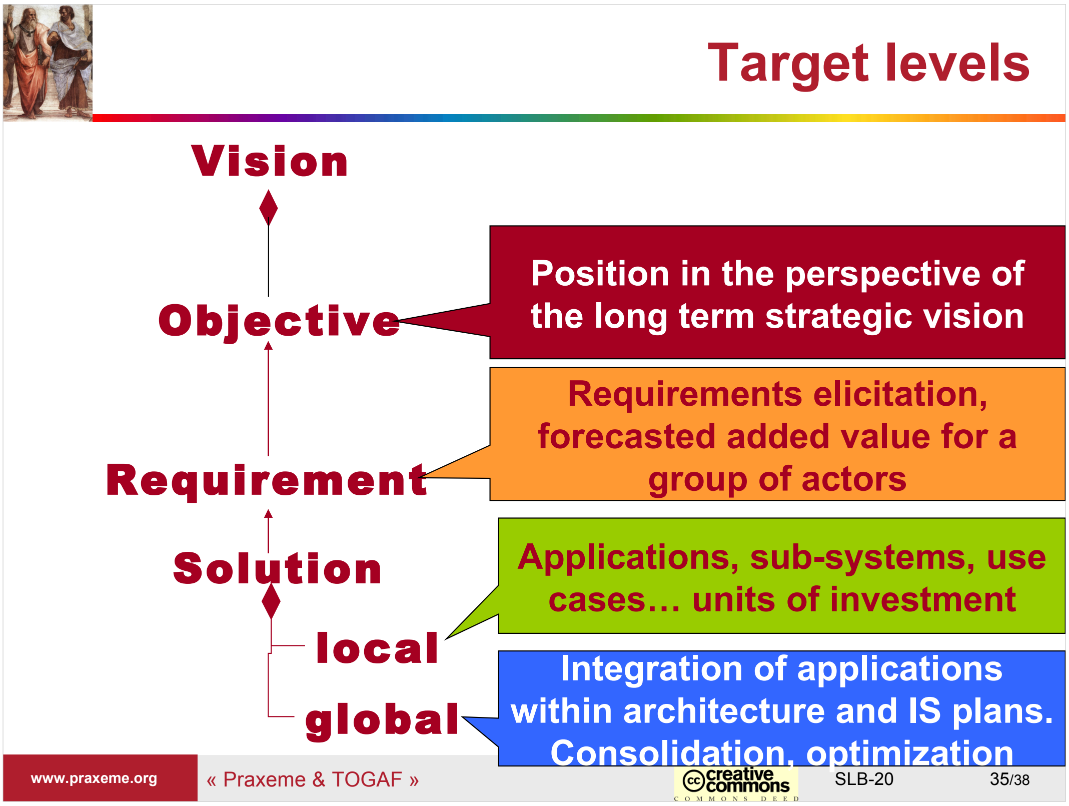

Target levels

Vision

Objective

Requirement

Solution

local

global

Position in the perspective of the long term strategic vision

Requirements elicitation, forecasted added value for a group of actors

Applications, sub-systems, use cases… units of investment

Integration of applications within architecture and IS plans. Consolidation, optimization

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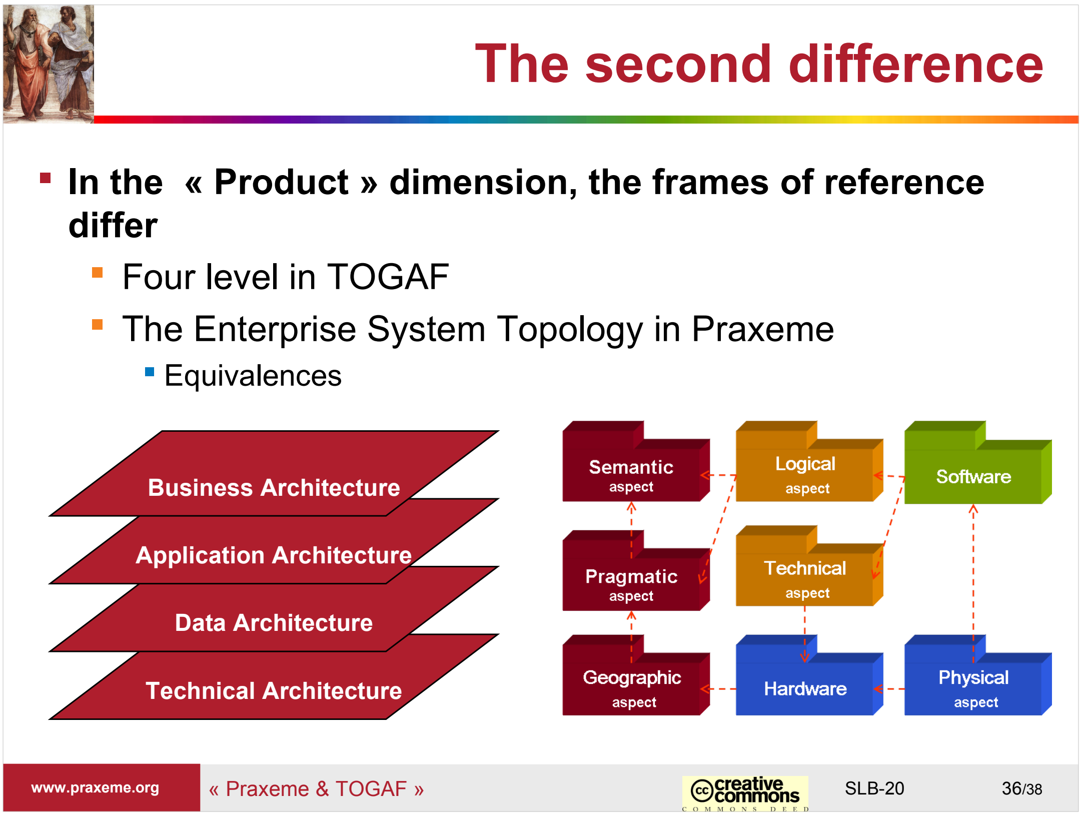

The second difference

- In the « Product » dimension, the frames of reference differ
  - Four level in TOGAF
  - The Enterprise System Topology in Praxeme
    - Equivalences

Business Architecture
Application Architecture
Data Architecture
Technical Architecture

Semantic aspect
Logical aspect
Software
Pragmatic aspect
Technical aspect
Geographic aspect
Hardware
Physical aspect

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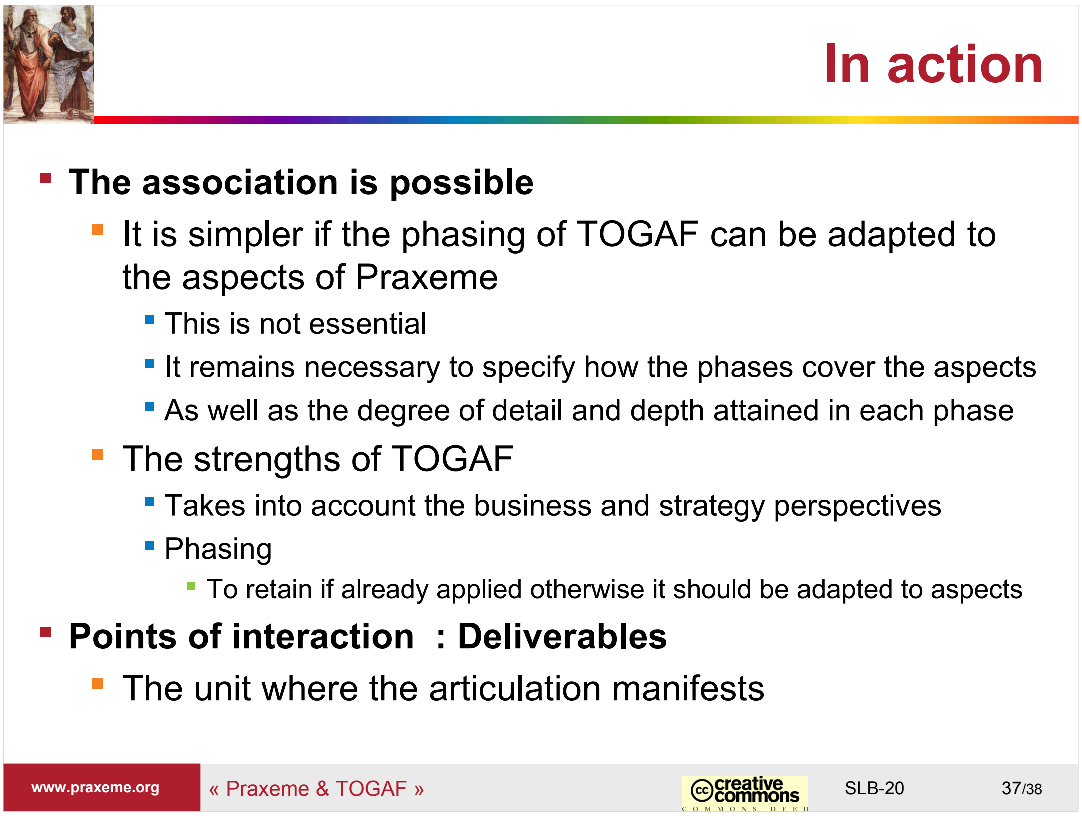
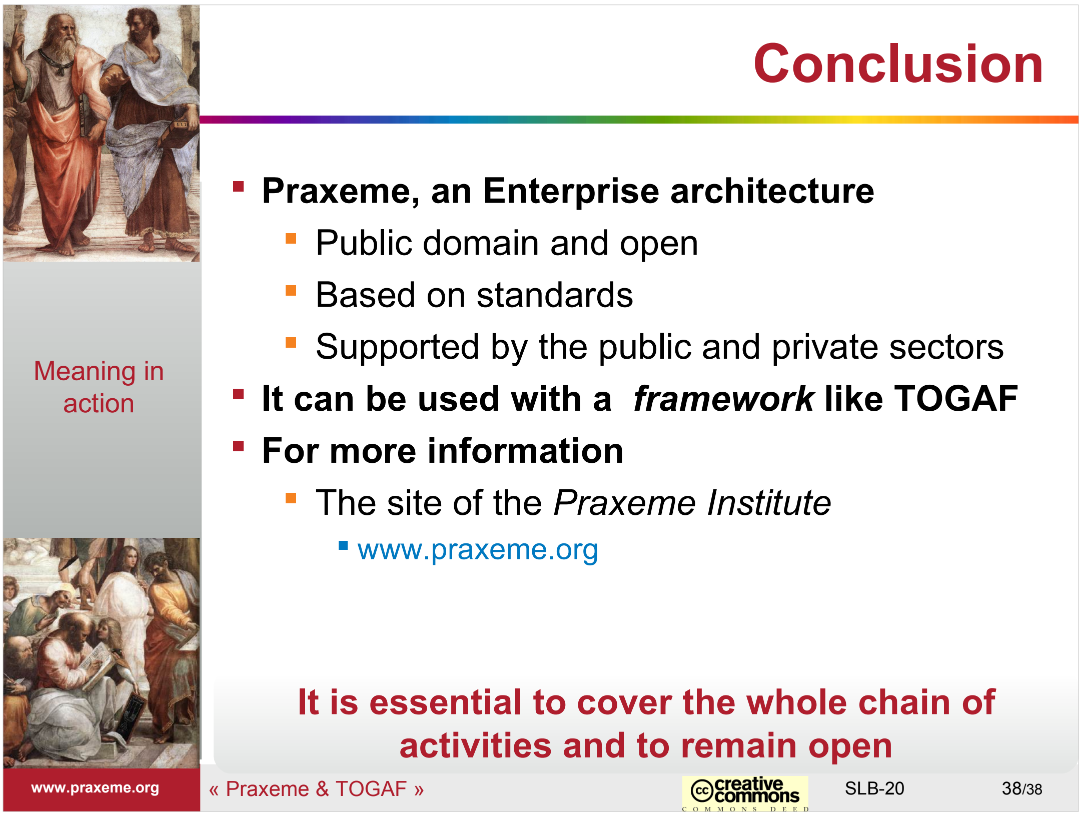


In action

- **The association is possible**
  - It is simpler if the phasing of TOGAF can be adapted to the aspects of Praxeme
    - This is not essential
    - It remains necessary to specify how the phases cover the aspects
    - As well as the degree of detail and depth attained in each phase
  - The strengths of TOGAF
    - Takes into account the business and strategy perspectives
    - Phasing
      - To retain if already applied otherwise it should be adapted to aspects
- **Points of interaction : Deliverables**
  - The unit where the articulation manifests



Conclusion

Meaning in action

- **Praxeme, an Enterprise architecture**
  - Public domain and open
  - Based on standards
  - Supported by the public and private sectors
- **It can be used with a *framework* like TOGAF**
- **For more information**
  - The site of the *Praxeme Institute*
    - www.praxeme.org

It is essential to cover the whole chain of activities and to remain open

www.praxeme.org « Praxeme & TOGAF » SLB-20 38/38

Le site publie les guides méthodologiques et une partie du corpus de la méthode, notamment, le « Guide de l'aspect logique » qui détaille les procédés pour SOA.

Il est possible de s'inscrire également à une liste de diffusion qui permet de se tenir informé des principaux événements publics, liés à la méthode Praxeme.