

European Integrated Project

Semantics Utilised for Process Management within and between Enterprises

Agenda

- Motivation
- Idea
- Realization
- Objectives
- Discussion



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Motivation

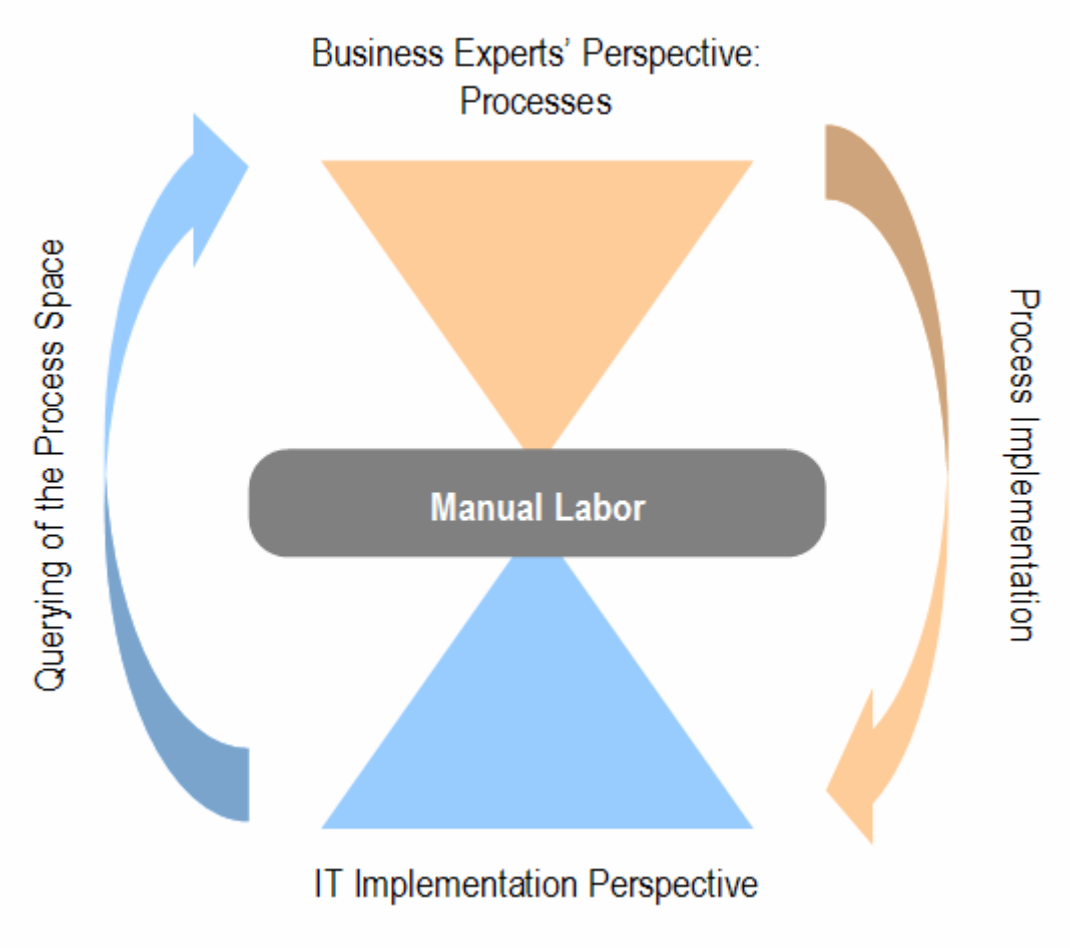
Business Problem



This is cumbersome!
Why do I always need IT staff
to solve my business problems?
It takes too long to get these folks,
they use different terminology than I do…

I am happy to describe
what the activities do in my terms.
Can the system be smart enough
and find the right services itself?

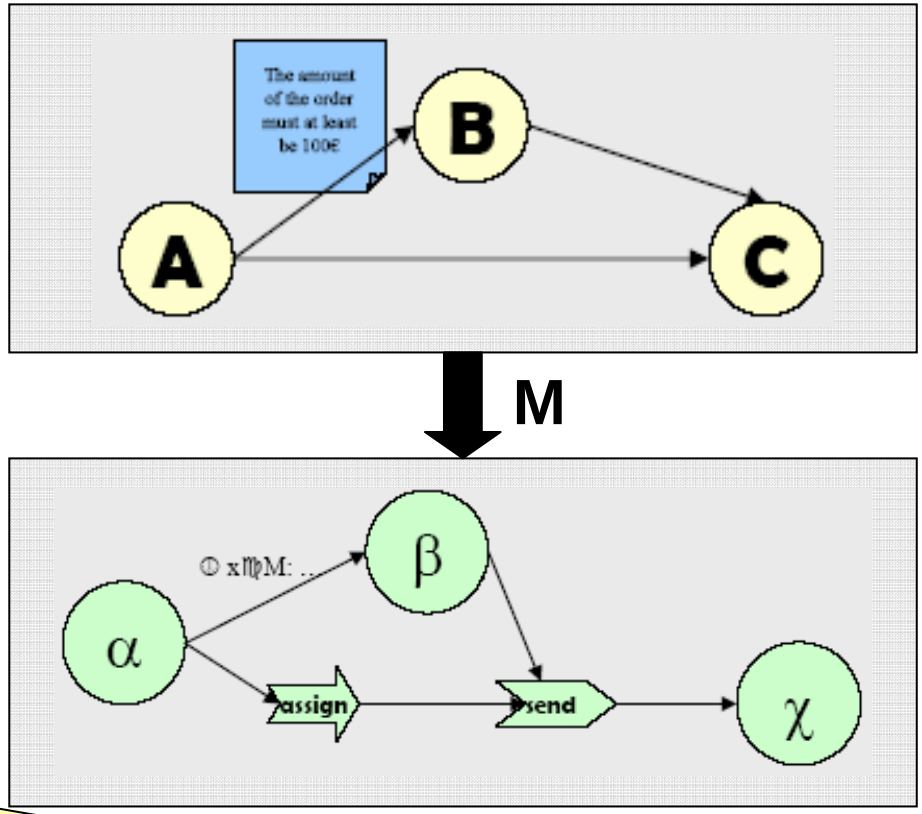
Business / IT Divine



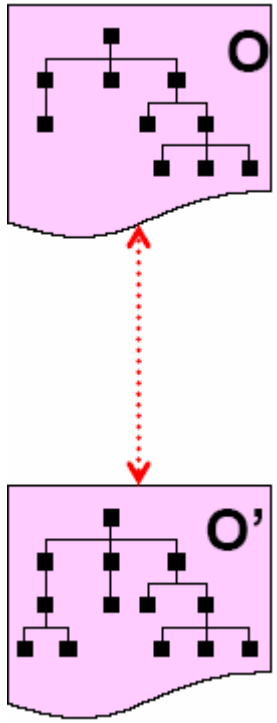
Matching Model Representations and Semantics

Here is my business process:





Business Representation



IT Representation



Wow! This is perfect – nothing left to do for me!

bring back business process management to business professionals

SUPER answers two most urgent issues emerging from BPM:

- shift in control of processes
  from IT professionals to business natives
- carrying up business process management
  to a new complexity level

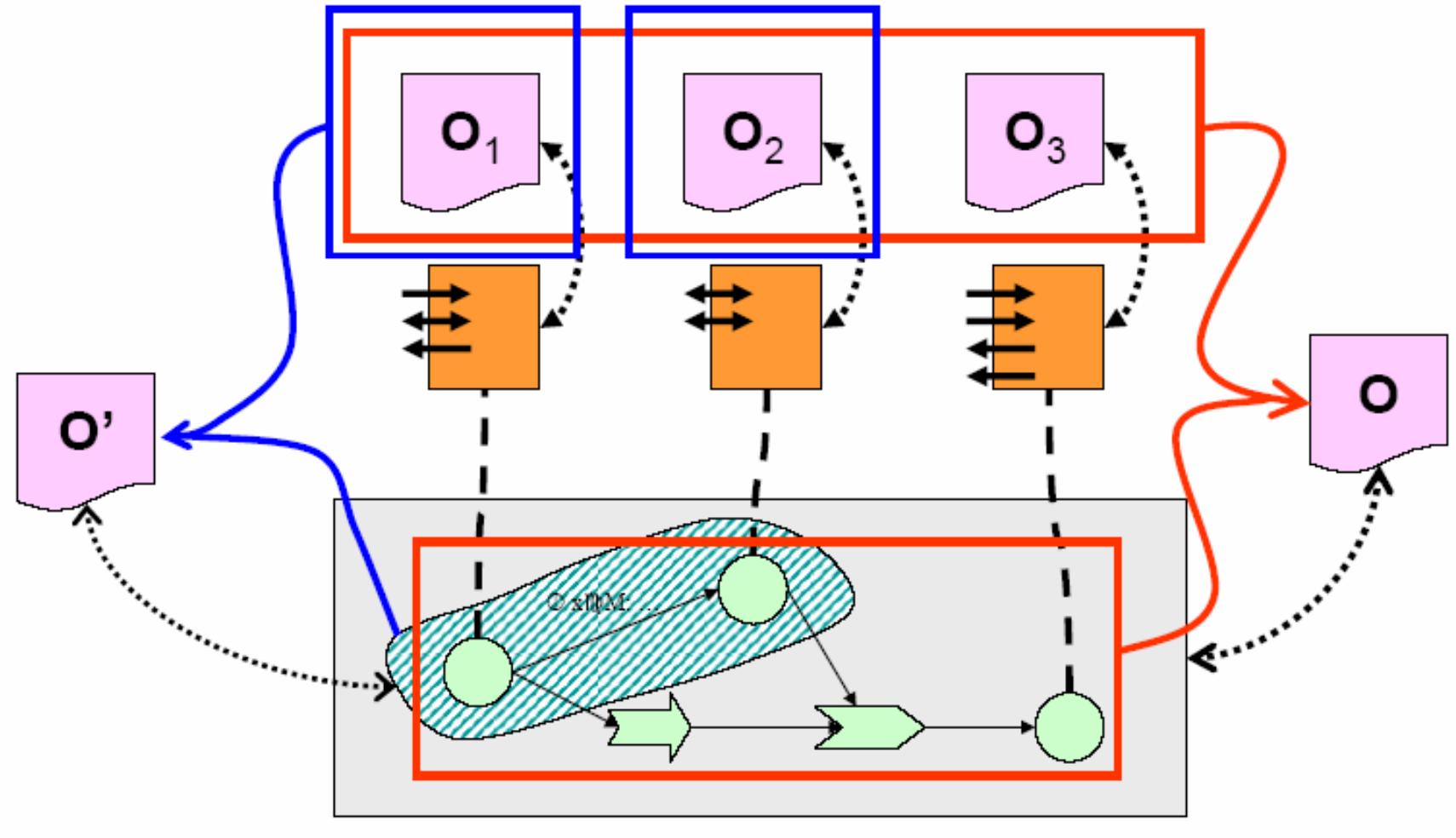


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Idea

Deriving Semantics



Three Layers

- Semantic Web Services
- Workflow BPEL Engine
- Business Process Modelling

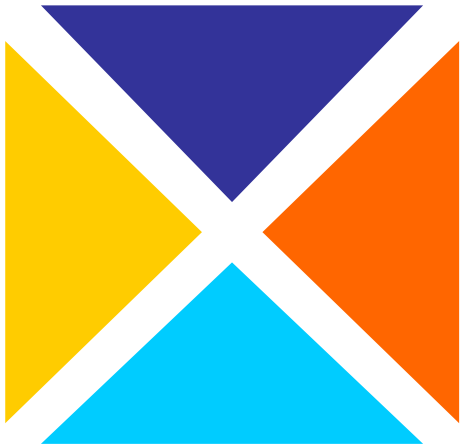
Semantic Web Services

Objectives that a client wants to achieve by using Web Services

Goals

Provide the formally specified terminology of the information used by all other components

Ontologies



Web Services

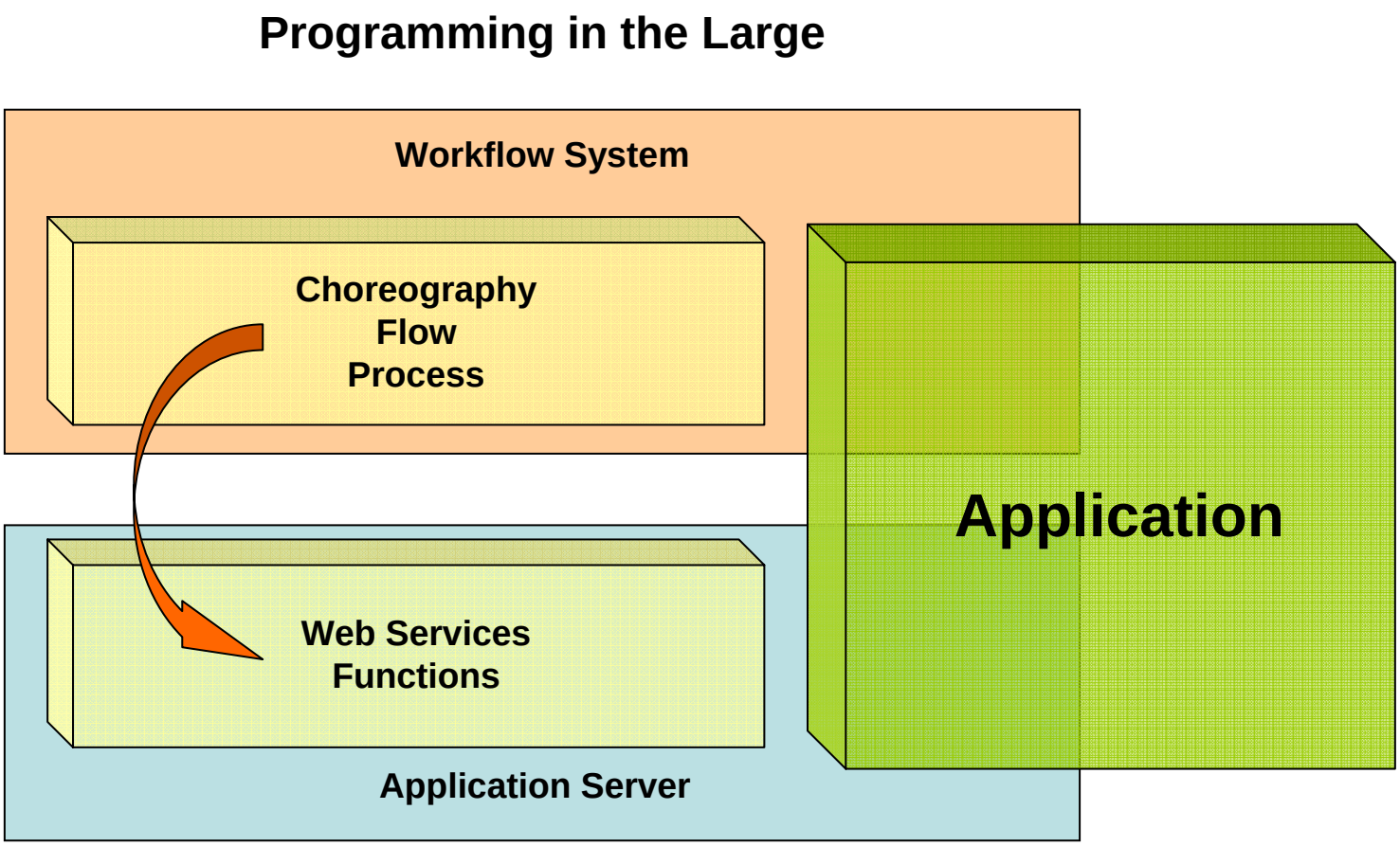
Semantic description of Web Services:

- **capability (functional)**
- **interfaces (usage)**

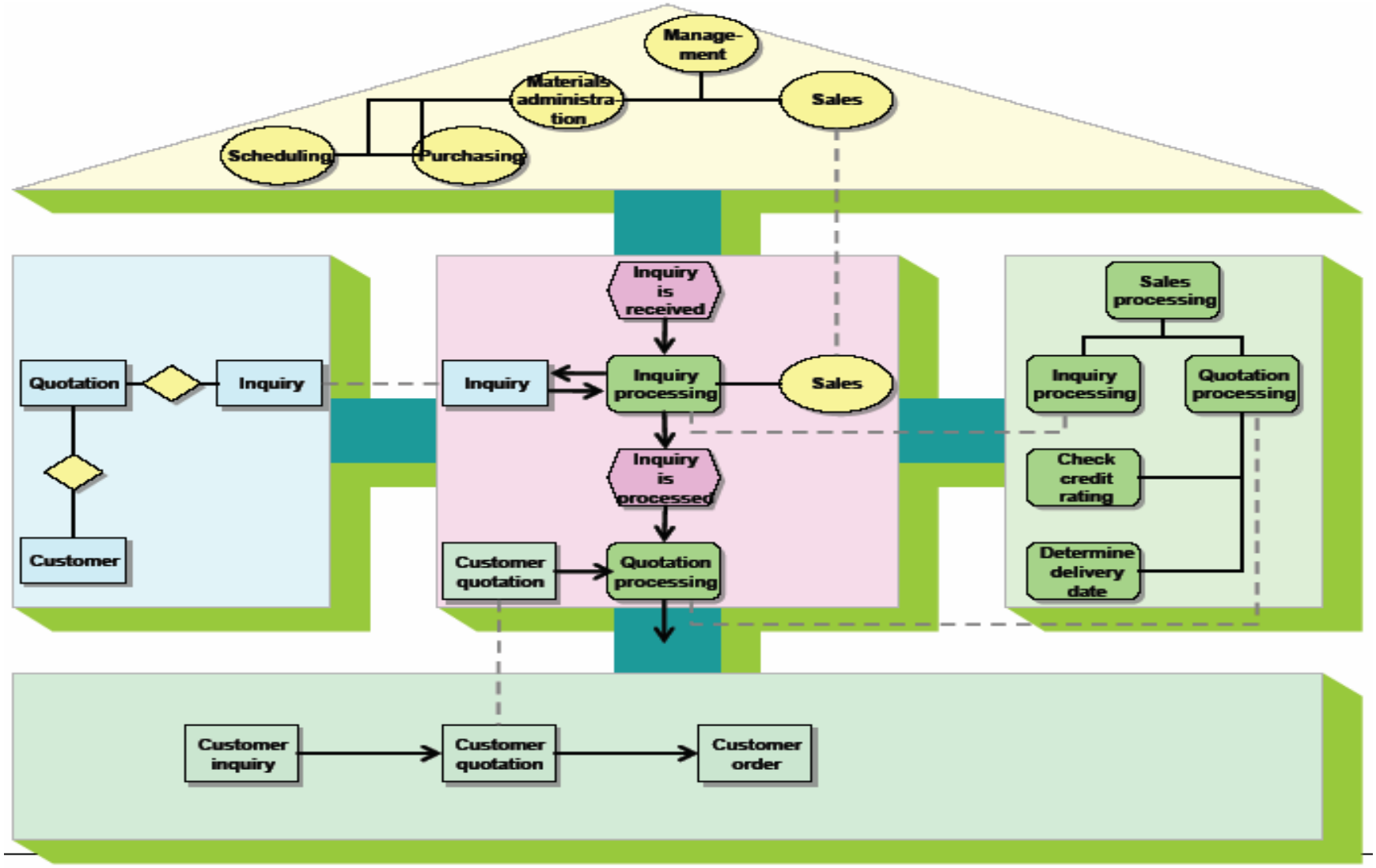
Mediators

Connectors between components with mediation facilities for handling heterogeneities

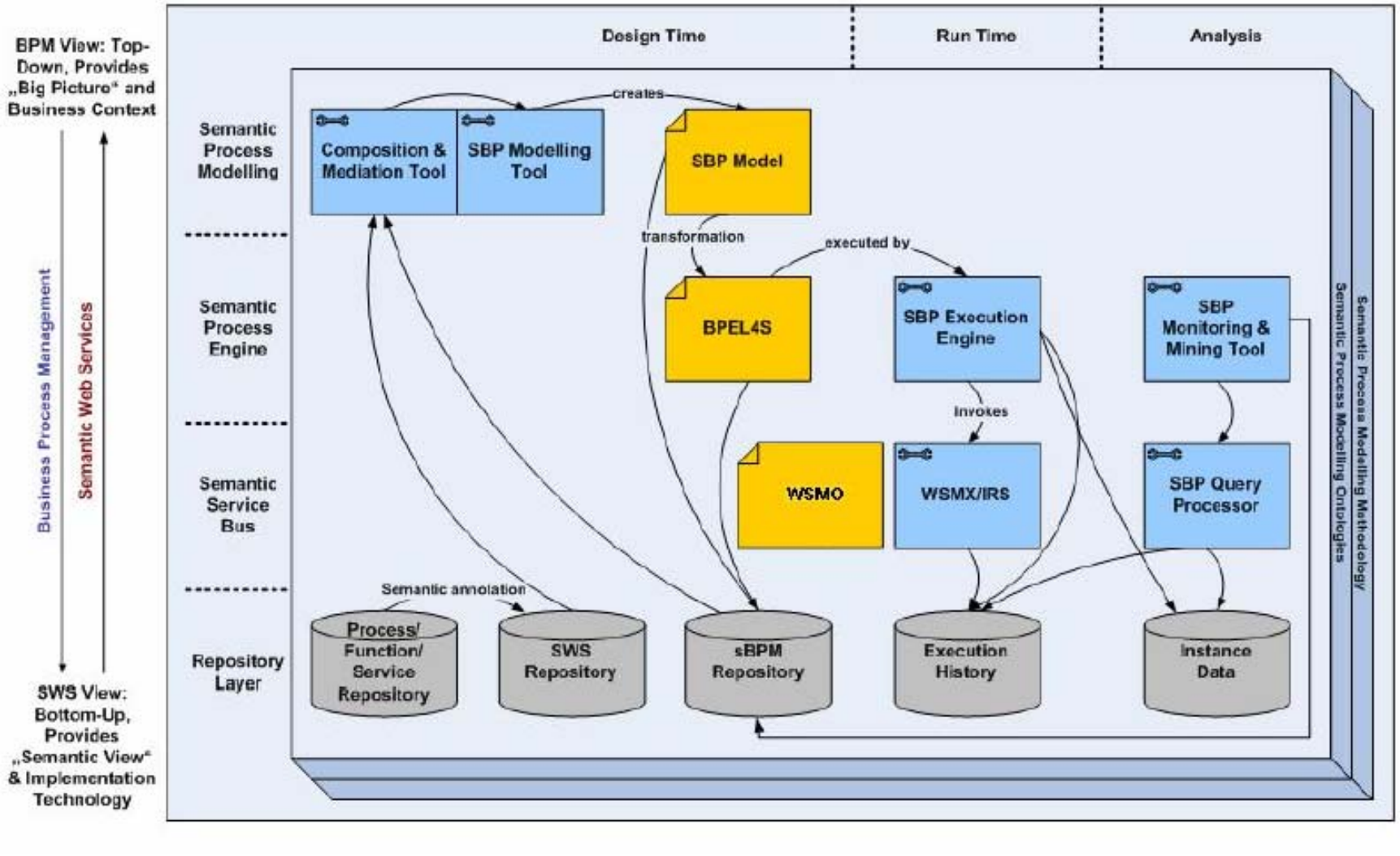
Workflow BPEL Engine



Business Process Modelling



Architecture





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Realization

Administrative details

- Start Date: 1st April 2006
- End Date: 31st March 2009

- Overall Budget: 16.4 M Euro
- Overall Funding: 11 M Euro

Project Consortium







































Work Packages

WP8

Telecoms Use Case Framework and Ontology

A3

WP9

Telecoms Semantic Business Process Applications

A3

WP10

Exploitation, IPR and Market Observation

A3

WP7

Architecture, Interoperability and Integration

A2

WP3

Dynamic Semantic Process Composition

A2

WP4

Business Process Mediation

A2

WP5

Modelling and Analysis Tools

A2

WP6

Semantic Business Process Execution Engine and Monitoring Tools

A2

WP2

Semantic Process Life Cycle Methodology and Evaluation

A1

WP1

Semantic BP Ontology and Operational Semantics

A1

WP13

Management

A5

WP12

Training and Dissemination

A4

WP11

Community and Standardisation Activities

A4



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Objectives

Scientific Objectives

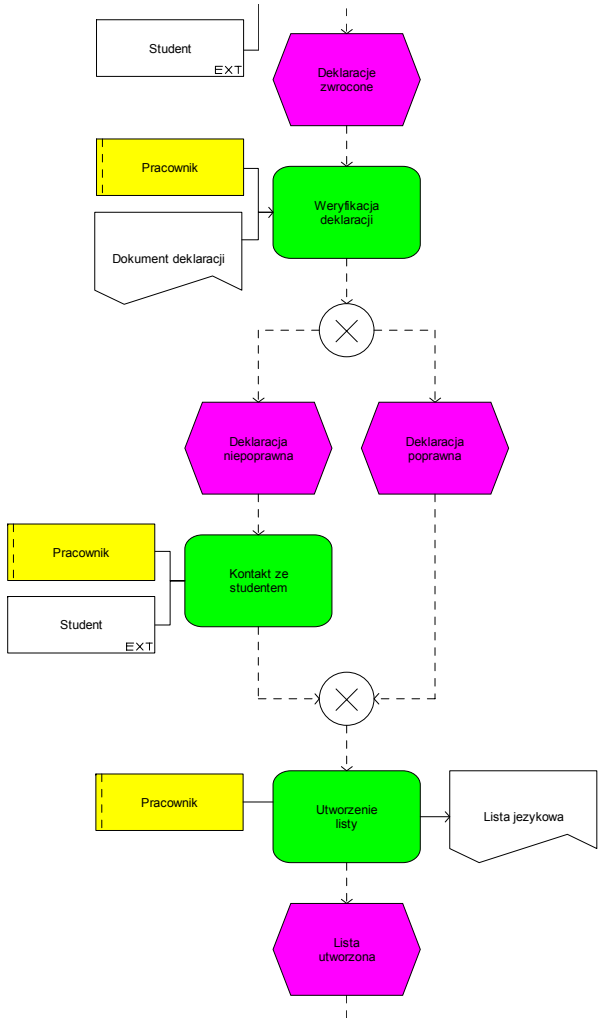
- Construction and assessment of technological framework for SBPM
- Acquiring new generic languages suited for representation of processes, different process models and goal description
- Creation of automated annotation techniques of already existing BPs, their fragments, IT components
- Development of process query tools
- Adjustment of existing reasoners to the specific needs of SUPER
- Elaboration of industrial-strength mediation procedures for automated coupling between business and IT perspectives

Challenges

- Low degree of automation in the implementation stage of BPs
- Implementation delay of BPs
- Cognitively inadequate complexity of BPs
- Process blindness of managers
- Invisible, complex interdependencies of BPs
- Knowledge of BPs is represented in heterogeneous information sources
- Evolution of BPs in time
- Discrepancies both in within the organizations and between different ones
- Strict control of knowledge flow from within the organisation

Gains

- further automation of the business process life cycle
- adding a layer designed for business professionals to handle the BPM on their own
- demonstration of successful deployment both of SWS and SBPM in industrial-strength applications applied repetitively in the field of telecommunications.



Project impact

- Research community
  - new approaches
  - methods and tools
  - contribution to standards
- Commercial companies
  - more addaptive companies
  - removing functional bottlenecks
- Public domain
  - more competitive goods and services
- European Community
  - research and business competitiveness



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Discussion



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Thank you