

# Implementing BPM on SOA

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# Who am I?

## An enterprise solutions architect

- Have always worked in the provision of IT services
- From a programmer to a systems architect
- Experience in academic, international and industry environments: CERN, ISO, IOC, BUPA
- Have created systems which work without me
- Current specialisation is **improving business process management systems**
  - effectiveness (“Do the right things”)
  - efficiency (“Do the things right”)

## **Example: a Swiss insurance company (approx. 30 000 claims per day)**

- **Current environment - mainframe-based**
  - Many applications are typical “usine à gas”
- **Target environment - SOA-based**
  - Enterprise-wide business process management
- **Project approach**
  - Total rework of all core business systems in 3 years

## **Available resources**

- Good technologies and tools
- In-house knowledge of selected tools
- SOA as the main selling point of this project
- The top management requested processes
- Project schedule is already one year late
- Architecture group as a humble partner for development teams
- Business Analysts (BA) are from business

# My coaching role

- To bring knowledge and experience of how to make the new system flexible enough
- In other words:
  - Implant a practical enterprise architecture
  - Adapt an implementation approach to the customer's realities

## **Practical enterprise architecture is available ([www.samarin.biz](http://www.samarin.biz))**

- Guarantee of future flexibility
- Is not a project that takes many man-years and reams of pages
- Adaptable to available products
- Survived despite the hype: many vendors and other consultants
- Three pillars: BPM, SOA and ECM
- Synergy between business needs and IT possibilities

# TCO with practical enterprise architecture

Each subsequent solution is cheaper because it reuses, the same tools, the same services, the same architecture

Total Cost of Ownership (TCO)

Maintenance  
approx. 80 %

Initial  
development  
approx. 20 %

Typical IT projects

First BPM projects

Further BPM projects

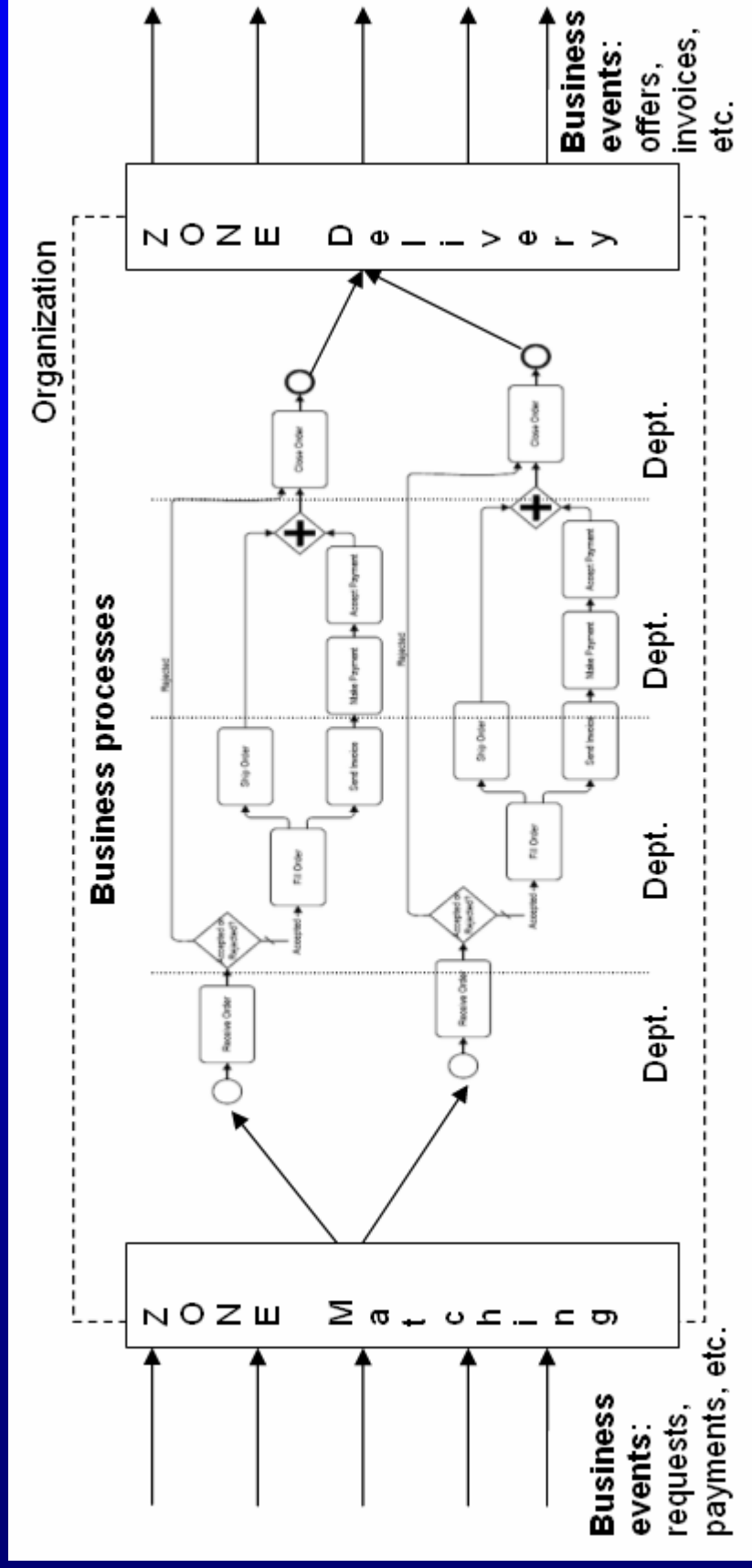
Life-cycle

v.1 v.2 v.3 v.4 v.5

# Common principles for design of the new system

- Big picture
- Business events
- Long-running processes
- Avoid spreading of business logic
- Services, services, services
- Processes are first-class citizens
- Process modeling in Business Process Modeling Notation (BPMN)
- Process execution in Business Process Execution Language (BPEL)

# Big picture: typical service- and process-oriented enterprise



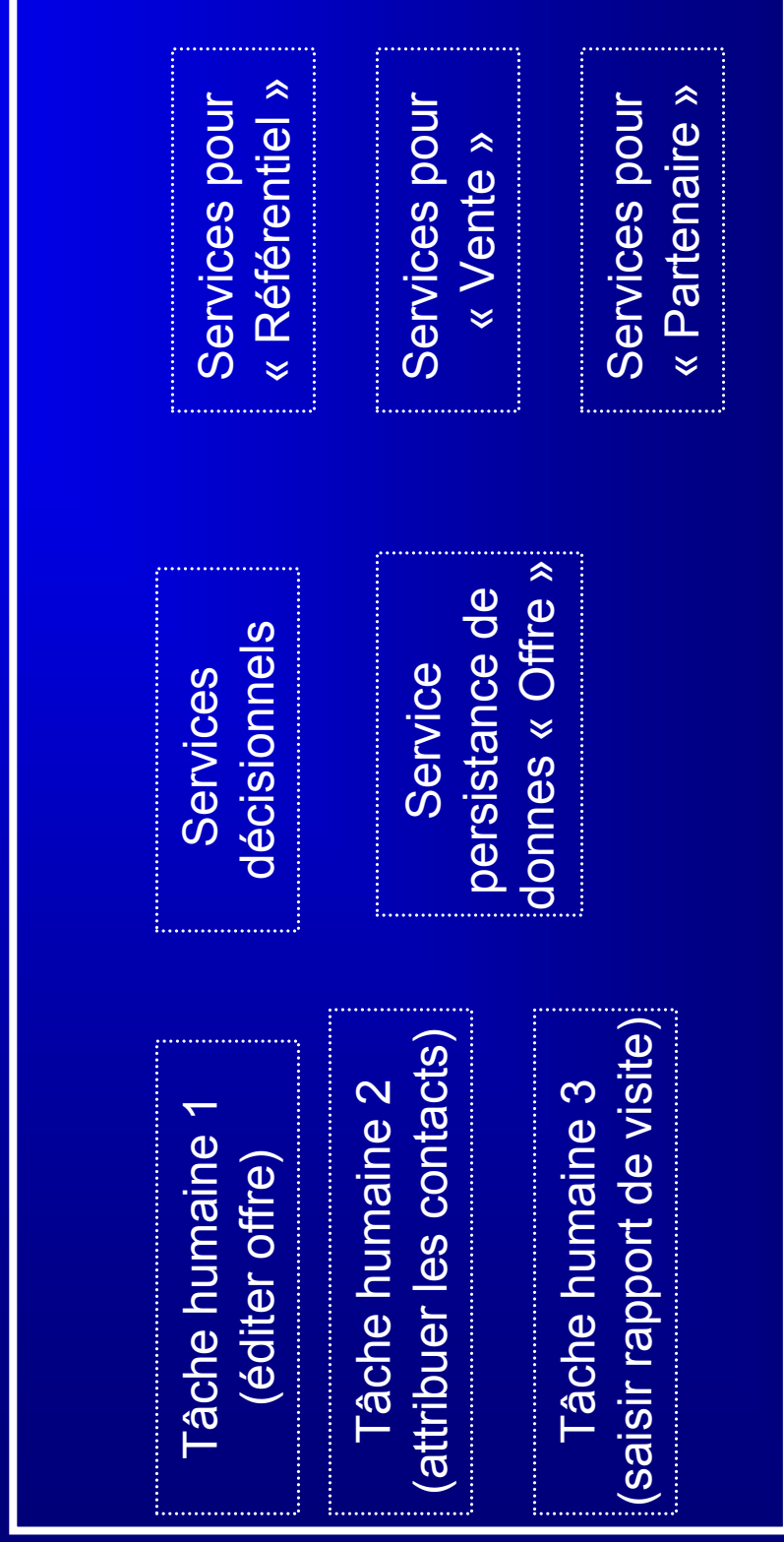
# Processes are first-class citizens: everyone understands “process” differently

- In the in-house Quality System
  - Exist mainly as a set of working instructions
  - Implemented by an external company
- In the in-house workflows
  - Are disconnected from other IT systems
  - Behave like Microsoft “Office assistant”
- In the software development practices
  - Sometimes exists as UML state diagrams

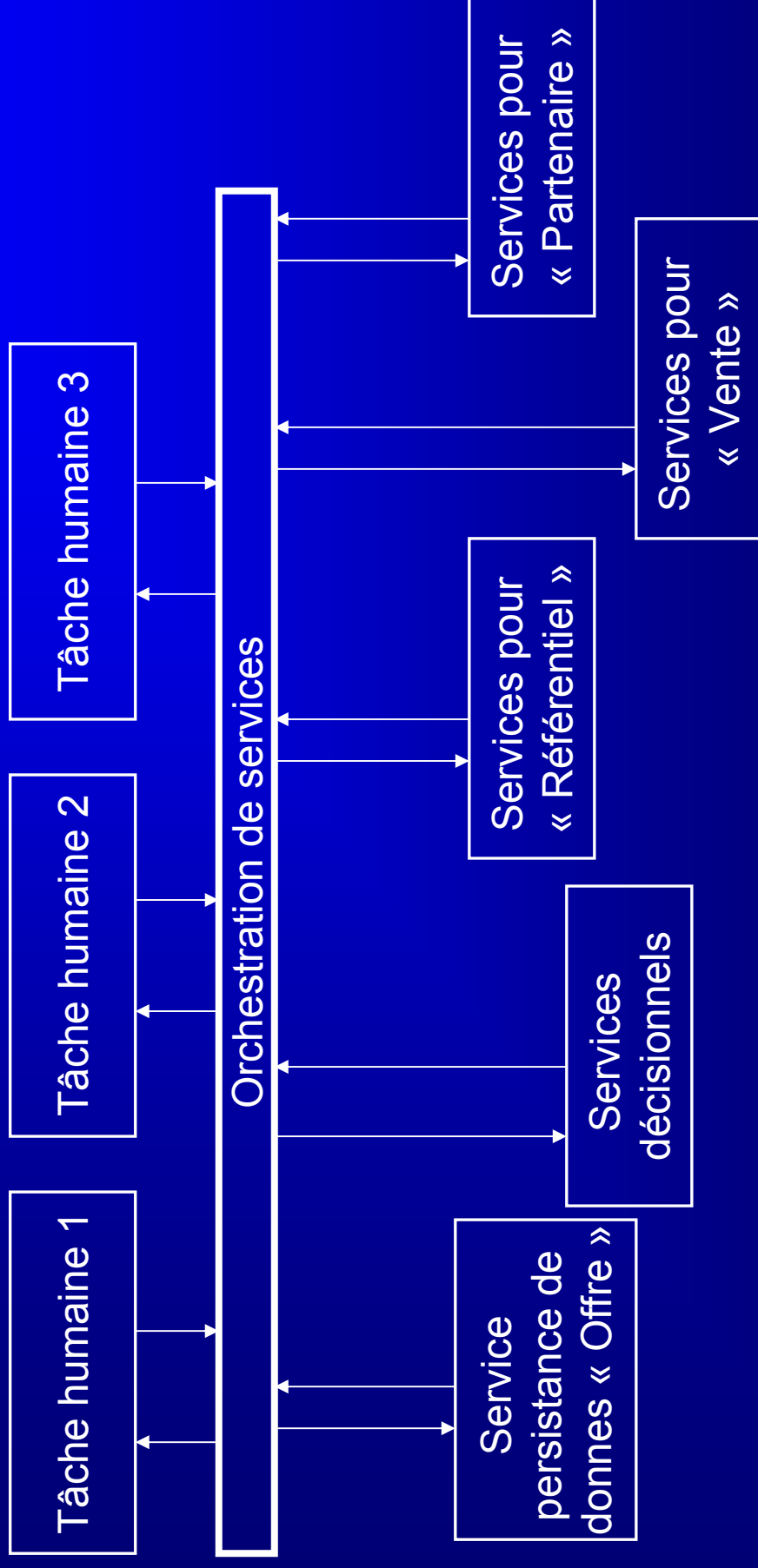
# Processes are first-class citizens: in-house software development style

- Current approach
  - Screens and database schemas are fixed
  - Something to link them to be developed
- Current interactions
  - BA vs IT : through the specs over the wall
  - Business vs BA: specify everywhere everything in great details in advance
- Current result
  - BA produce unimplementable processes
  - IT “dissolve” processes into monolith programs

# Processes are first-class citizens: monolithic architecture



# Processes are first-class citizens: BPM on SOA architecture



# Processes are first-class citizens: first try

- De facto process design procedure
  1. Creation of a quasi-BPMN diagram in Visio by a BA
  2. Translation of specs into a set of use cases by a BA
  3. “Reverse engineering” of use cases into a BPMN diagram (in Intalio) by a workflow specialist
  4. BPEL implementation (in WebSphere) by a developer
- Result – business processes have been lost between each of these steps

# Processes are first-class citizens: prepared recommendations

- A business process modeling procedure
  - to capture, but not to analyse a process
- An approach for versioning of artefacts
- A convention on coding of XSD and WSDL
- A diagramming style in BPMN
- A programming style for BPEL

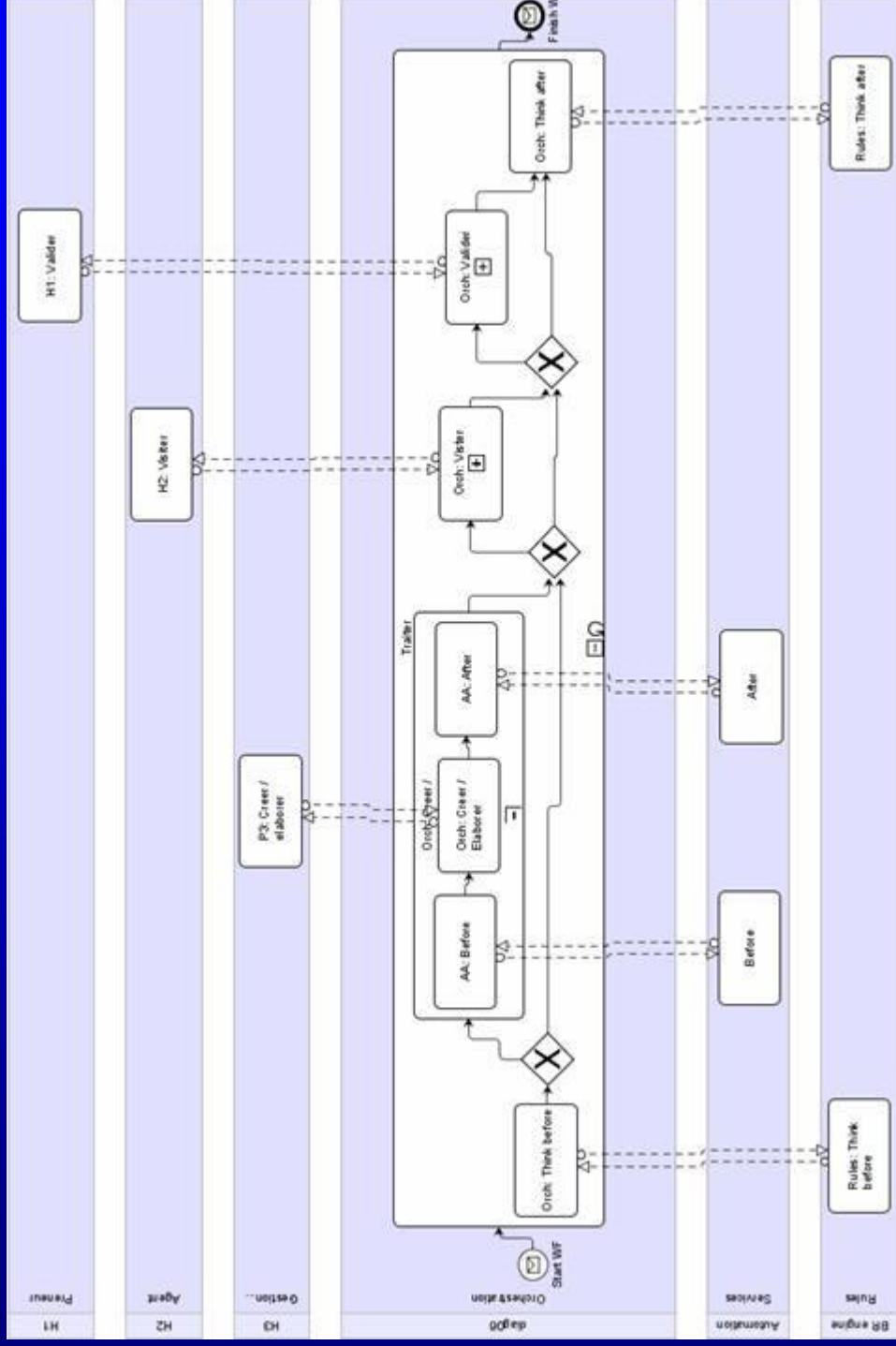
# Processes are first-class citizens: the business process modeling (1)

1. Identify the main business objects
2. Find out related business events
3. List other business processes involved
4. Draw the flow of activities (automatic and human)
5. Describe human activities
6. Describe automatic activities

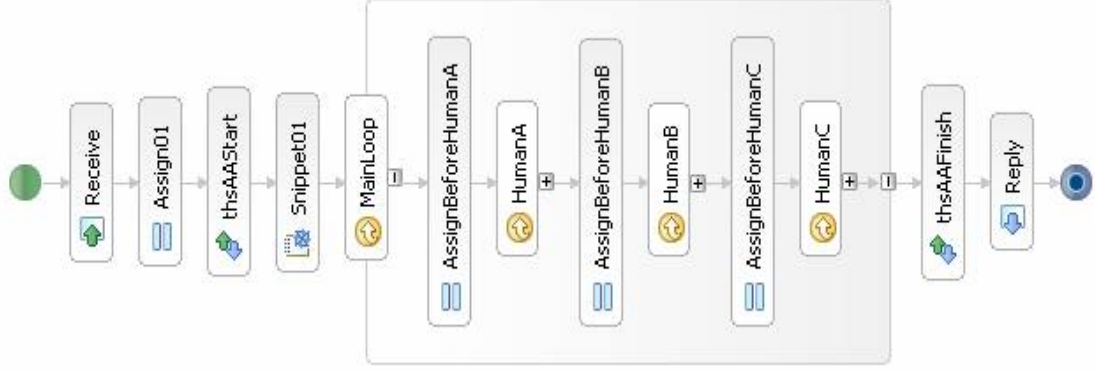
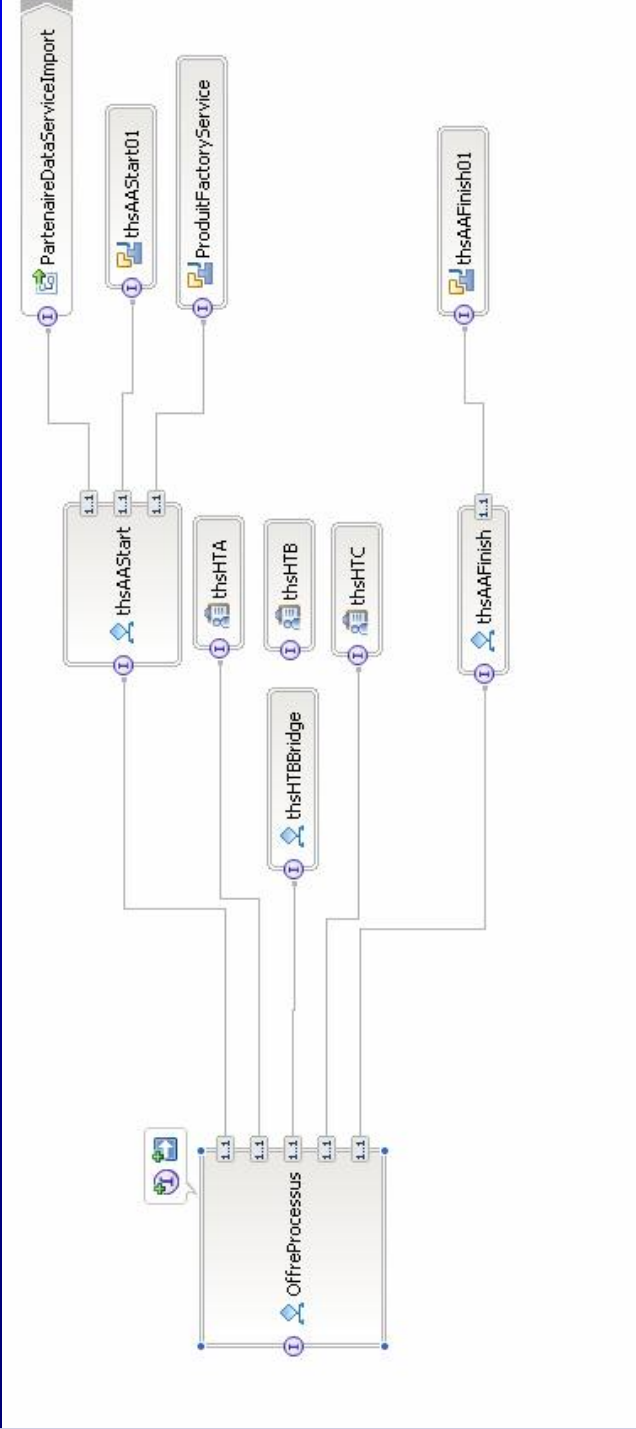
## **Processes are first-class citizens: the business process modeling (2)**

7. Formalise the main business objects as XSD
8. Document use cases
9. Define routing logic
10. Define business logic in a rule engine
11. Link to existing services
12. Develop missing services (firstly as WSDL)
13. Define the documents types attached

# Processes are first-class citizens: a diagramming style in BPMN



# Processes are first-class citizens: a programming style in BPEL



## **Business and IT common tool: Designer from Intalio.com**

- BPMN diagrams serve for validation of specs
  - Artefacts defined by BA are quickly implemented
  - Processes are always executable
  - Possibility to use existing services
  - Simple automatic testing is reflected
- Encourage BAs to use Designer directly
- Plan to show BPMN diagrams to the users

## Nice to have in Designer

- Build-in XSD and WSDL editors
- Lighter human task manager
- Views for a business analyst and a developer
- API and dynamic language, e.g. Jython
- An ECM included

# Conclusions

- Tools and technologies are available
- Enterprise architecture is affordable
- Use it to architect of future flexibility
- Implementation matters
- The use of common tools by both the business side and the IT side is of great benefit
- Neither technology nor any architecture works well if the politics don't fly

# THANK YOU

- Questions and answers