A method for B2B process design and implementation

Heikki Rauhala
Jouni Lähteenmäki
Overview

Business Theories

BPM with Workflow Tradition
Business Background

Business Strategy:

"Growth"

"Multi-channel Services"

Process Oriented Systems Engineering

Service Oriented IT Infrastructure

Challenges:

Channel Independence vs. Implementation

Traceability

BPMS: When & How?

Process Implementation
Business process management

"Business process management"

Tools

Process development
- Process modeling
- Process optimization
- Process analysis

Process control
- Process execution
- Process monitoring
- Process measuring

Research objective

Abstract Business Process Models

Executable Workflows

Design of B2B processes

Implementation of B2B processes

ARIS Platform

Vocabulary & Concepts
Event-driven Process Chain

- EPC diagrams are graphs of:
  - Events
  - Functions
  - Logical operators: and, or, xor

- EPCs lack:
  - any constraints on modelling
  - formal semantics
Research Questions

- Design a practical systems engineering method for implementing B2B processes

- How do ARIS and Oracle tools support the designed method?
Research methodology

- We loosely followed the design research guidelines

- Scope limitations:
  - OPK case data used only to set objectives
  - actual execution of BPEL not tested – no real services
  - practicalities of RosettaNet RNIF not considered
Business process map & process repository

New public B2B process model

RosettaNet PIP selected

Inter-company business protocol library

Existing abstract channel-independent business process model

New private B2B process model

Existing/modified product-specific business process model

New executable B2B workflow

Existing/modified product-specific workflow model

New B2B workflow model

Existing/modified executable workflow model

New B2B workflow

Semantic matching

Information & service structures matching

Technical matching

Run-time environment

Service layer BPEL engine

Channel layer BPEL engine

ARIS Modeling
Oracle Designer
“private B2B process model”

Business participants:
- Seller
- OP Bank Group

Carries out:
- Seller: Request financing approval, Confirm financing request, Process financing confirmation
- OP Bank Group: Validate partner agreement, Evaluate financing request, Decide financial confirmation details, Message processed
Financing Request

Message received

Valdate partner agreement

Evaluate financing request

Agreement OK

Deny based on partner agreement

Invalid agreement

Financing system

Agreement management system

Message processed - Failure

Financing Confirmation
Message-received

Validate-partner-agreement

Evaluate-financing-request

Deny-based-on-partner-agreement

Confirm-financing-request-with-partner-agreement
Achievements of the study

- Business meets IT
  - Vocabulary
  - Both concepts in same paper

- The Method
  - Provides ideas
  - Not proofed
  - Applicability varies
    - Modelling approach
    - Modelling viewpoint
  - Multi-level modelling approach
Results on "The Tools"

- Tools are good at what they do
- Integration support lacking: one-way, one-time, EPC to BPEL
- Next generation of Oracle by Q2 of 2007
- Depending on BPEL is a risk with Oracle
Lessons learnt

- Don’t rush
- Purpose of tools?
- BPM tool is no silver bullet
- Proceed step by step
- Business process excellence is the key
- Large-scale B2B networks require semantic standards