



# Process Framework for Emergency Management in the Czech Republic

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# Outline

- The aim of my dissertation thesis
- Related work
- Comparison between the aim of thesis and related work





# Case Study

- Problem Domain Definition
  - Crisis Staff at Local Governance Level
  - Accidents Involving Dangerous Substances
- Application of Methodology
  - Emphasis on Identification and Modelling phase
- Architecture View
  - Bonita Open Solution

# Process Management Related Work

- Standards based on process management
  - ISO900x, ITIL, CMMI, Six Sigma
- Organisations
  - Object Management Group
  - Workflow Management Coalition
  - Organization for the Advancement of Structured Information Standards
- Companies
  - Oracle, IBM, SAP, Fujitsu, Adobe



# Process and Emergency Management Related Work

- Sell and Braun recognized that emergency plans are very similar to business processes.
- Project Orchestra (Open service architecture for risk management) defines workflows that combine several services into one value-added service chain that achieves a certain goal.
- Leoni et al. MOBIDIS: A Pervasive Architecture for Emergency Management. 2006.
- Mak et al. Building online crisis management support using workflow systems. 1999.
- Konečný et al. Dynamic geovisualisation in crisis management.
- Fire Brigade. IRS information system.
- Vondrák et al. Floreon+.
- University of Defence. Security Laboratory.

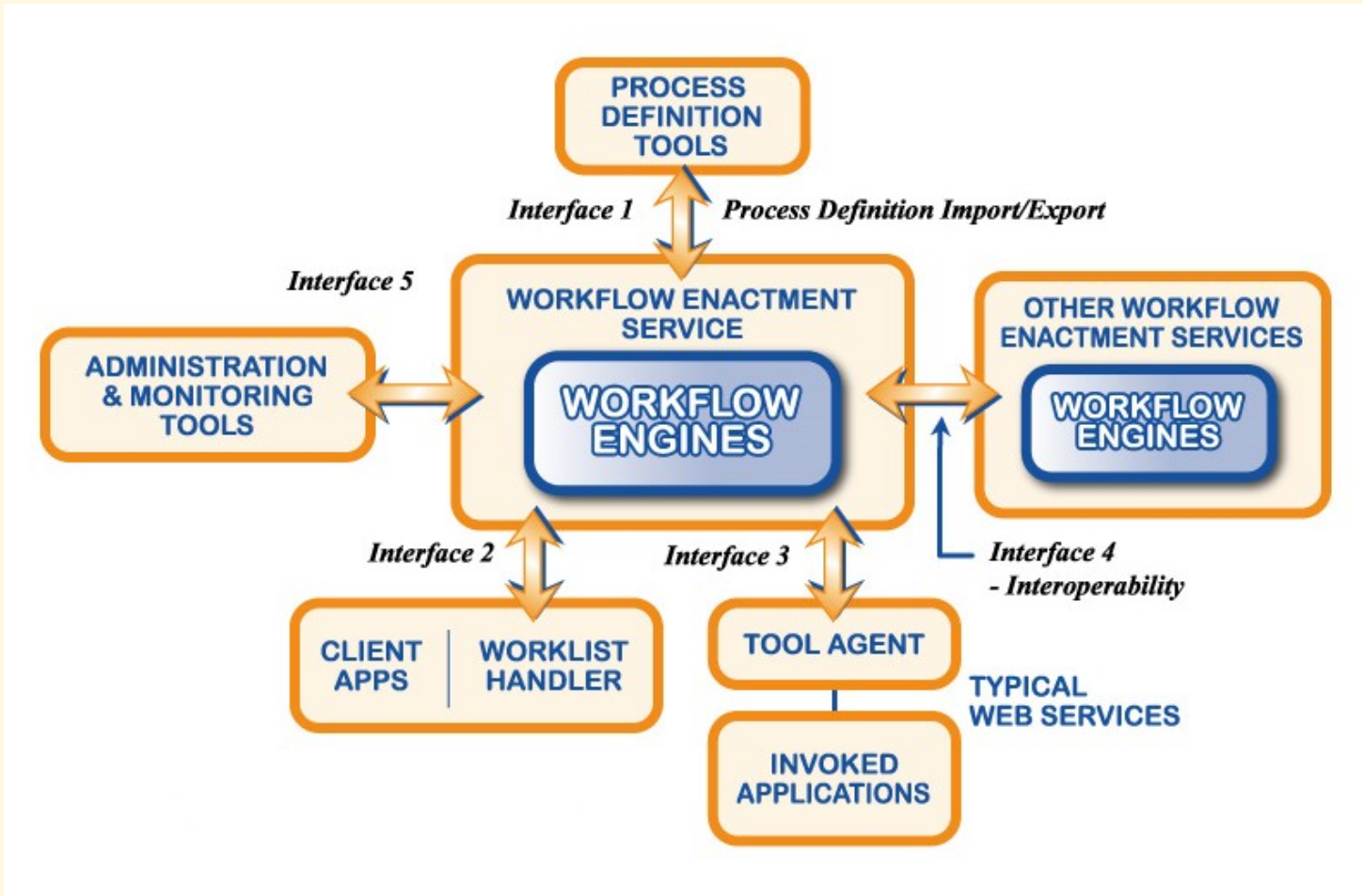


# Business Process Management

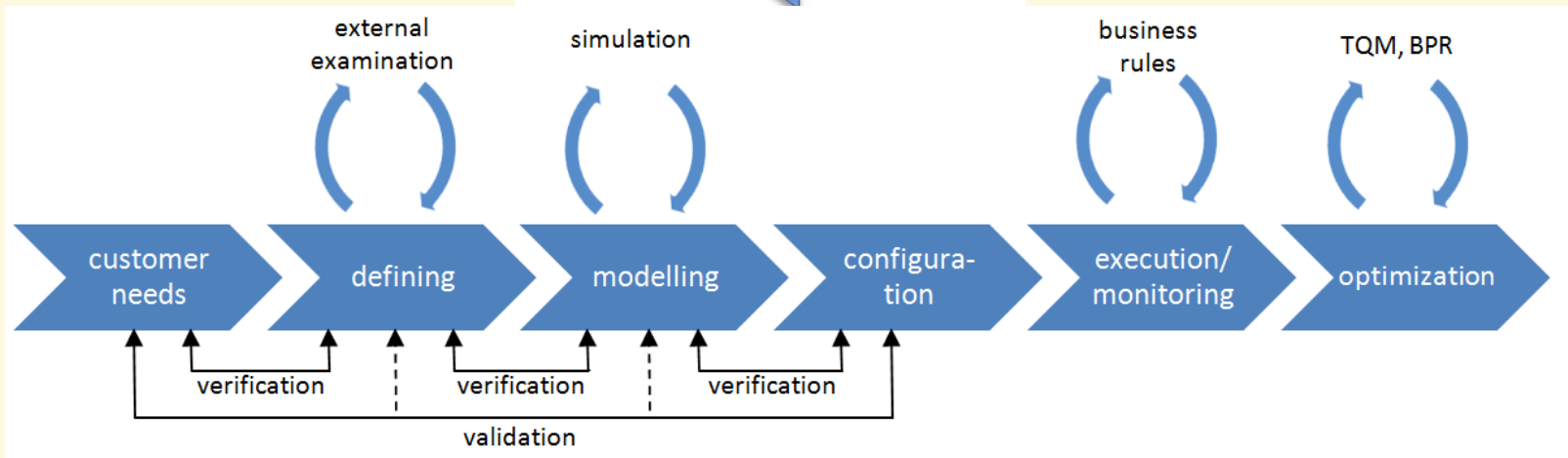
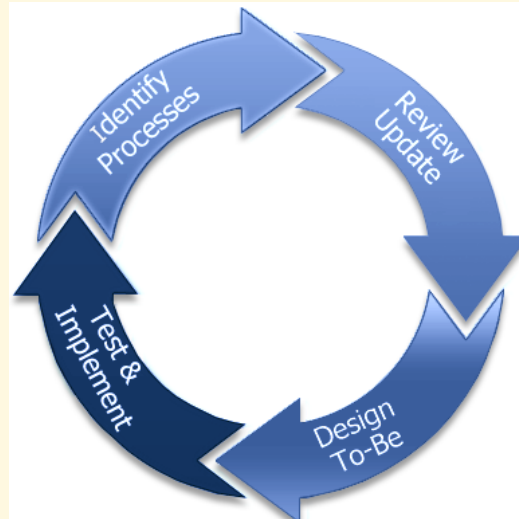
- Field of combining management and technology focused on aligning organizations with the wants and needs of clients.
- It is a complex management approach that promotes effectiveness and efficiency while striving for innovation, flexibility, and integration with technology.



# Workflow Management



# Business Process Reengineering



# Emergency Plans in the Czech Republic

- Textual form
- Governance level
  - Local, District, State
- Integrated Rescue System
  - Fire Brigade, Rescue Service, Police, Army
- Coordination of activities
  - Strategic level, Operational level, Tactical level
- Emergency Plans
  - evacuation plan, flood plan, internal/external emergency plan, response plan, model action plan, operational plan

# Orchestra Project

- Project Orchestra defines workflows that combine several services into one value-added service chain that achieves a certain goal.
- Then they deploy such workflows as executable service instances. In particular, the solution uses several services distributed over the network that are orchestrated by an additional service that directly interacts with the client and executes the workflow defined in WS-BPEL, using active BPEL, an Open Source BPEL engine.
- The starting points were the application of **Data Flow Schemata**, and **UML Use Case** and **System Sequence Diagrams** describing the risk assessment functionalities.
- These diagrams were prepared in cooperation with the system end users during the requirements phase of the pilot development.

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**Thank you for your attention.**

**Questions?**