



Advanced Cockpits for Municipalities – Focusing on the Relevance and Challenges of Importing Data

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Agenda

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2. Management Cockpits for Municipalities: Business vs. IT View
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Contextualizing the R&D Project

Goal: Develop cockpits for strategic- and information based leadership in political environments and to establish them in the processes of the pilot municipalities

Partners: 15 partners from research, industry and public administration

Volume: 840'000 CHF (1.2 Millions CHF including labour)

Duration: December 2007 – November 2010

Publications and conferences:

- eGov2009 ,Linz, Austria
- dg.o 2010, Puebla, Mexico
- IRSPM 2010, Berne, Switzerland
- Complete publication list on www.gemeindecockpit.ch



Management Cockpits for Municipalities: Business vs. IT View

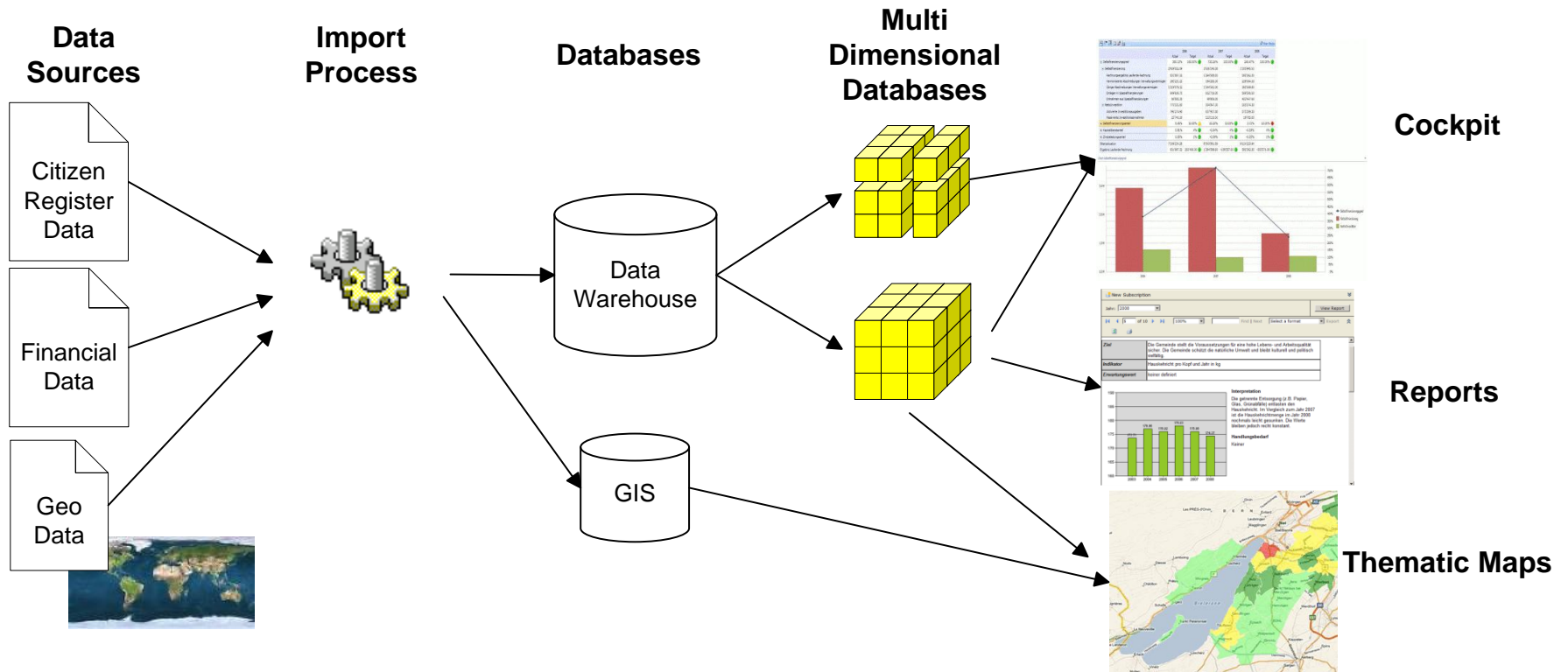
Business view

- The management of small and middle municipalities is becoming increasingly difficult: complexity, responsibilities and interdependence.
- Management cockpits support operational as well as decision making processes and give municipalities a better chance to achieve their goals.

IT view:

- Adapt Business Intelligence for small and middle municipalities
- Designing an architecture for cockpit solutions that are standardized to a large extent but easily customizable for the individual municipalities

Cockpit Overview





Requirements for Importing Data

- Need for detailed data for analysis, decision and argumentation support.
- Data types: citizen register data, financial data, and geo referenced data
- Architecture for handling the import, integration, and presentation of high volumes of detailed data.
- Strict security requirements due to data protection and privacy regulations.



Data Import: Relevance and Approach

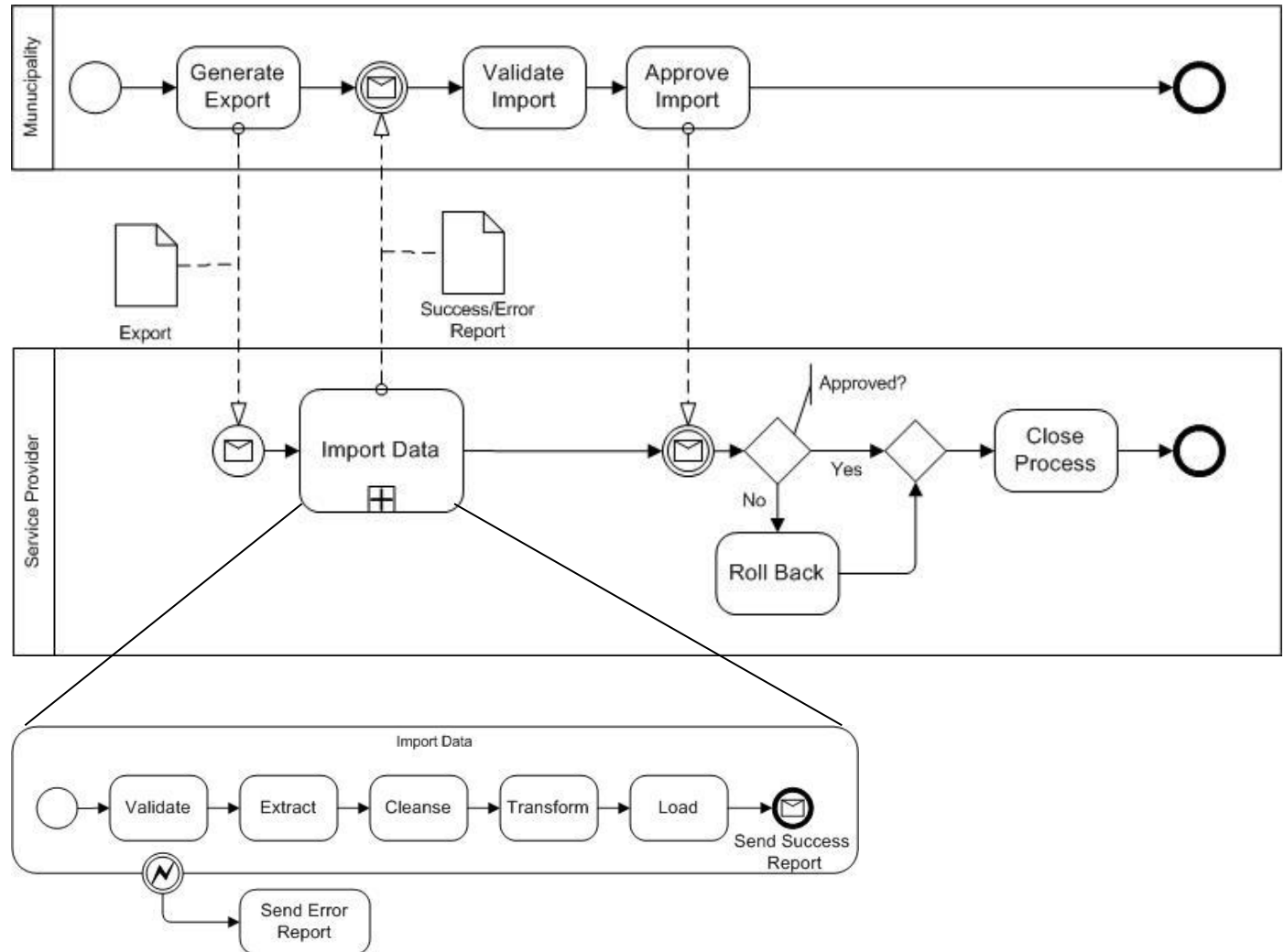
Relevance:

- Central for integrating detailed data from different sources into the cockpit
- Need for a custom ETL process (Extract, Transform, Load)

Approach:

- IT assisted business process with the technical import process as its central step.
- Involves the municipality as well as the cockpit service provider
- Separation of operational source systems and cockpit systems

Data Import: Process





Data Import: Interfaces

- File based interfaces for decoupling the operational and the cockpit systems
- XML based interfaces with well defined schemas
- Profit from harmonization efforts (e.g. register harmonization) by reusing existing, standardized Interfaces
 - Citizen control data: eCh-0099
 - Finance data: ED-ÖFIN



Data Import: Data Quality

Relevance:

- The quality of the imported data determines the quality of the information in the cockpit

Approach:

- Levering XML schemas to test for structural correctness and missing values as well as performing simple range checks
- Plausibility and range checks
- Design the data model to cope with missing values
- Profit from external validation possibilities
- Increase data quality in both the operational systems and the cockpit



Data Import: Lessons Learned

- Early prototyping as a valid approach for developing cockpits, increases the user's understanding of the subject and generates valuable feedback during requirement analysis.
- Importing detailed data into the cockpit is necessary to fulfill all of the municipalities' needs.
- Necessary data types have to be identified, interfaces have to be found, and an import process has to be established.
- Special attention has to be paid to data quality and data protection regulations.



Further Activities

- Planning and implementing user training in order to establish the cockpit with the users.
- Ensuring the long term operation of the cockpits through the industry partners and setting up further future collaborations.
- Importing GIS information and integrating tools for planning and managing projects and measures.
- Acquiring further Projects e.g. a master thesis project implementing a cockpit for an office within the administration of the canton Zürich



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