



New Architecture Concepts of Information Systems

EXAMPLE : Armenian Real Property Information System

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.....short about Geomatikk AS

- A Norwegian private company operating within the selected areas of Geomatics and Geographic Information
 - Utility Information
 - Surveying and Mapping
 - Real Property Information
 - Document Management
- Our market
 - Municipalities
 - Utility companies (electricity, telecom,..)
- 250 employees

.....short about Geomatikk AS

- Products and services
 - Consultancy
 - Business and system analysis
 - Development strategy, system architecture
 - Requirement specifications
 - Software development
 - Software components
 - Document scanning
 - Electronic archive
 - GIS (Open source)
 - Mobile units
 - Data collection
 - Project management
 - Total projects

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- **Objective**

- To establish a well-functioning and transparent registration system for securing land ownership and supporting financing and lending through the use of real property as security for loans. In addition, to establish a system for provision of property maps and other maps

- **Grants**

- The Norwegian Ministry of Foreign Affairs, on behalf of the Norwegian Government, has allocated a grant towards the Project

- **Implementation**

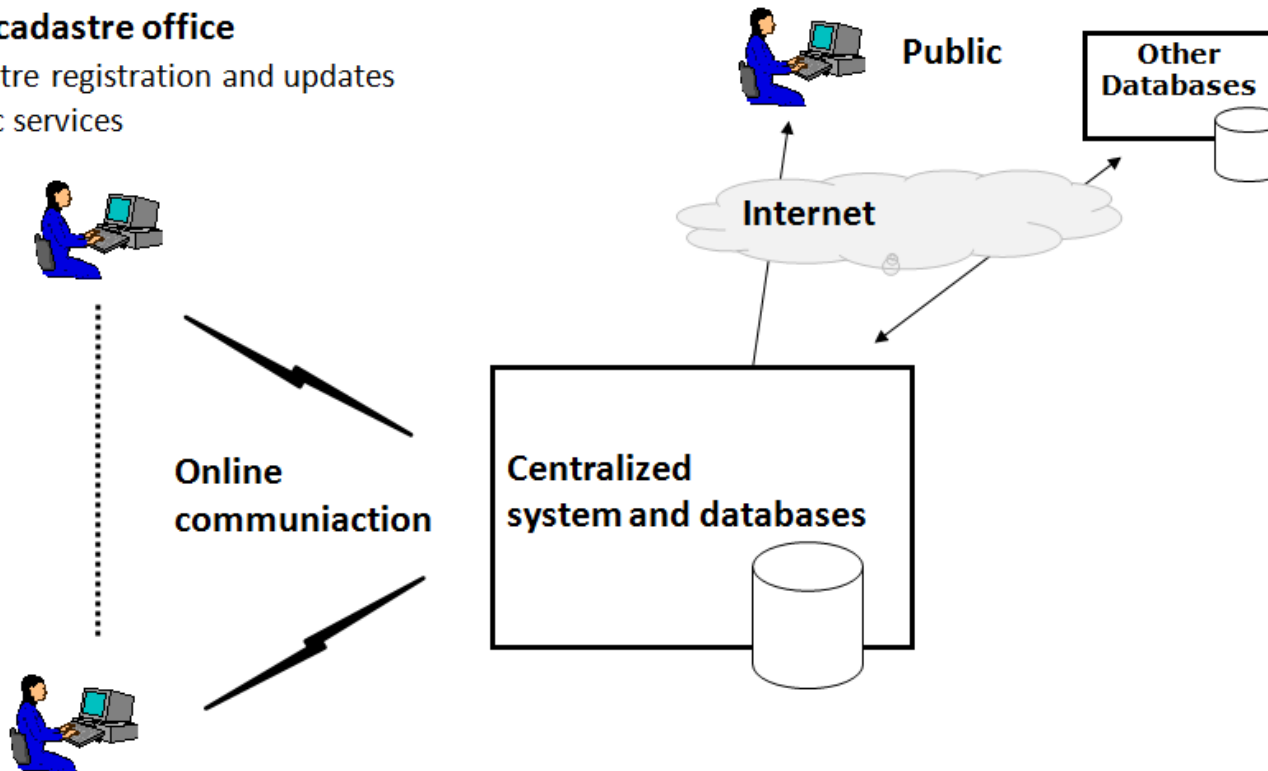
- International tender

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The Vision

Local cadastre office

- cadastre registration and updates
- public services



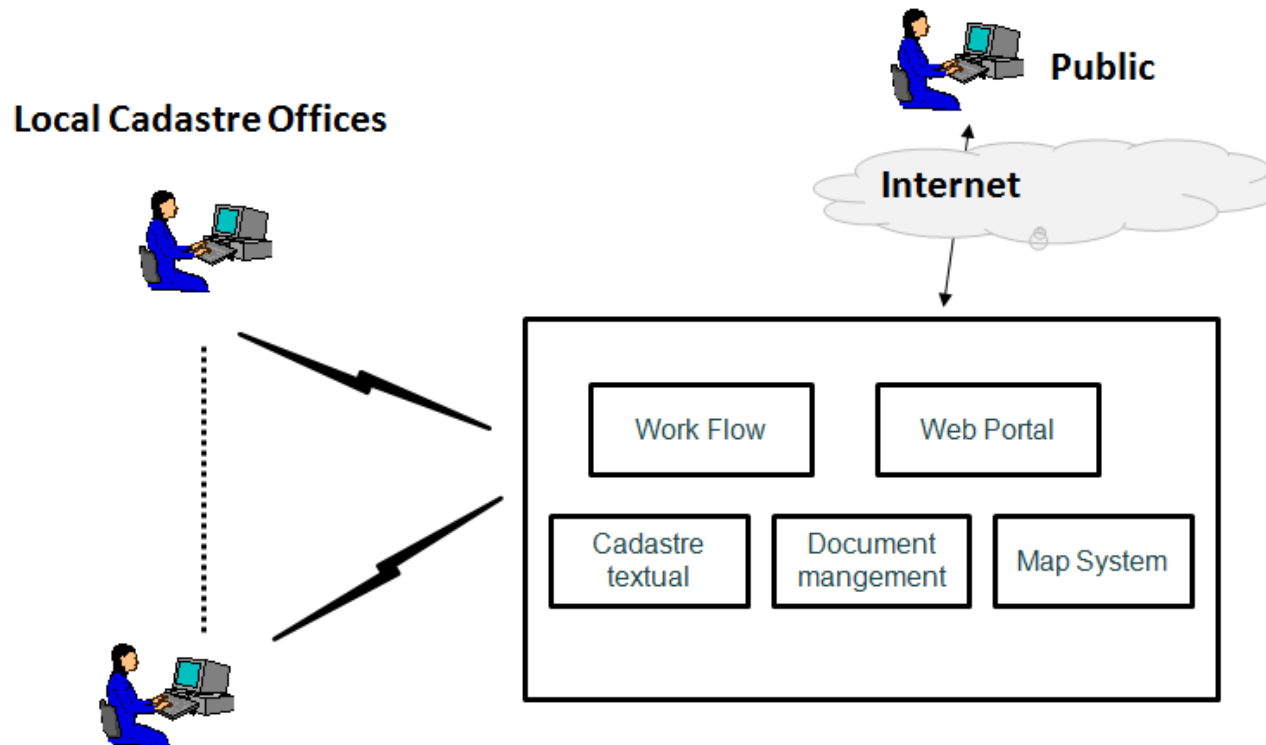
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The Vision

- **is NOT a special Armenian Vision**
 - during last 10-15 years, many countries have been developing similar systems
- **Question: Why have many countries NOT succeeded ?**
 - System complexity ?
 - Huge amount of data?
 - Integration of different system technologies ?
 - Out-dated technology?
 - Seperate stand-alone system ?
 - ?
- **Can a new approach on System Architecture lead to success ?**

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The Main Architecture



..a new real property information system in **ARMENIA The Main Architecture**

PRINCIPLES

- Decomposition into system logical modules
- The user shall experience the system as unified
- Each module is independent and essential,
- Each module controls the data, which it is responsible for
- Cadastre data will be administered by more than one module,
- All data belonging to a cadastre unit is identified by common key value (Cadastre Code)
- Data exchange and interoperability between the modules will be based on SOA principles
- Prepare for Open Source Software

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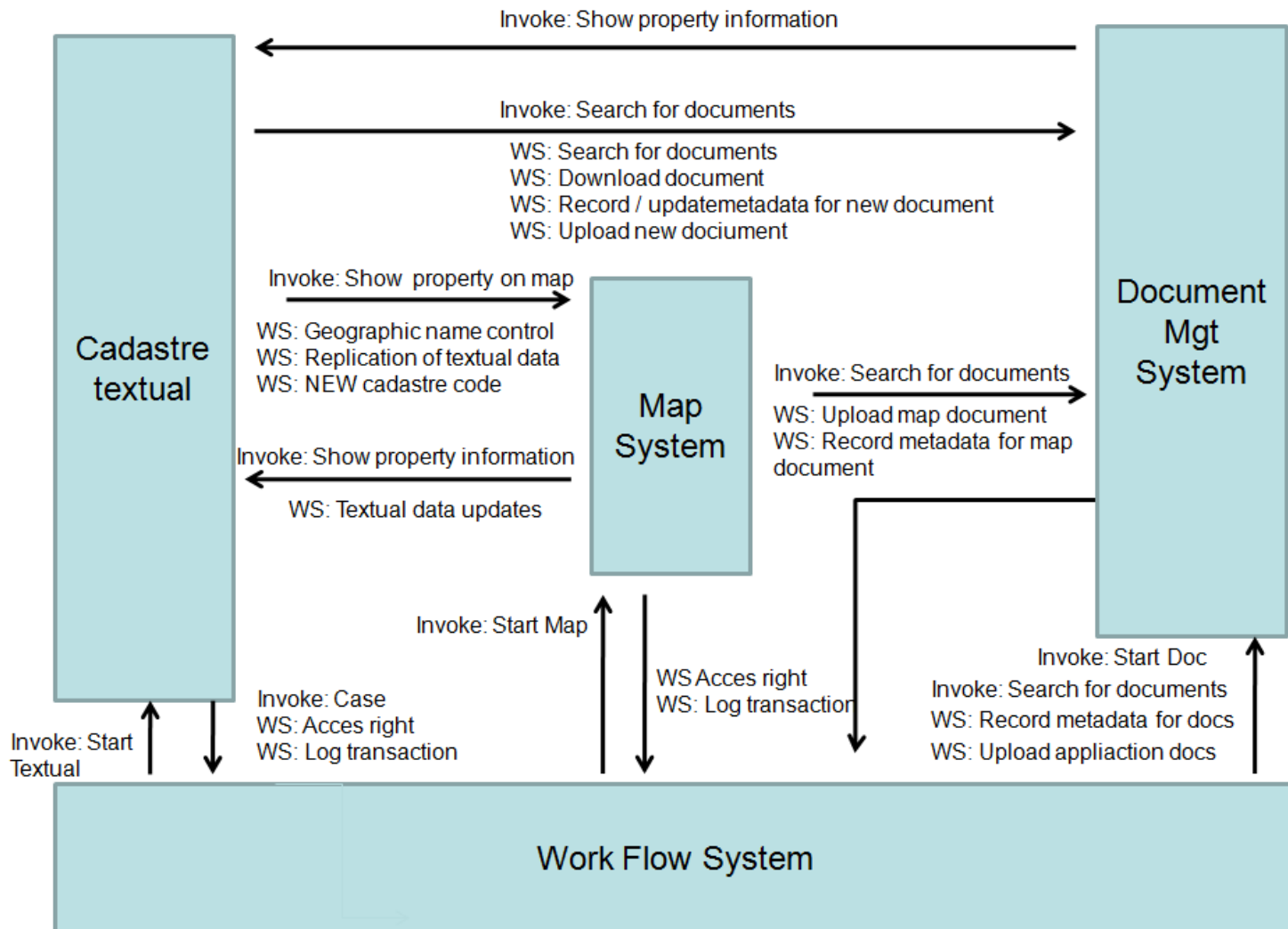
SOA - Service Oriented Architecture

Service Oriented Architecture (SOA) is a well accepted and up-to-date approach to Information system design, implementation, and operation.

- SOA consists of loosely-coupled functional modules
- Communication between the units takes place in the form of “data services”
- Use of standard communication protocols
- Web-based
- Flexible and scalable

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SOA - EXAMPLE



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SOA - Service Oriented Architecture

Some advantages

- Standard system components can be applied for implementation
- Different technologies can easily operate together
- Data will only be registered once
- Flexibility: Change of software components without changing the whole system

Thank you for your attention.