GIC Service Registry Demonstrator (Online)

The European Services Directive is stressing the need for Interoperability Management Infrastructures at national and international levels of operation, opening the way for federated management of service definitions and semantics. The long-standing goal of "one-stop" service provision is now being replaced by truly transformative ideas for drastically changing the definition – and even existence – of manual or electronic services.

Addressing the immense complexity of information and knowledge management around public services, the **Service Registry** is a service utility devoted in assisting administrations in formally modelling, discovering and transforming electronic services. Being an integrated infrastructure and not a paper-based specification, the system provides more specifically an automated methodological modeling framework for e-Government Services and aims at engaging the public sector in the process of describing information (service descriptions, governmental forms' schemas and web services definitions) that is usually dispersed in the public authorities. The common understanding and the explicit eGovernment knowledge ensured by the proposed approach contributes to bridging the gap between decision making and technical realization of e-Government services while supporting all phases (design, configure, deploy, run) in the lifecycle of public services.

The **Service Registry** is driven by the e-Government Ontology and emphasizes on the formalization and the representation of the basic entities:

- Services provided in conventional or electronic means by the public authorities to the citizens and businesses.
- Documents, in electronic or printed format, that constitute the inputs or outputs of a service or are involved during their execution.
- Information Systems, which support the service provision and encompass the web portals as well as the back-office and the legacy systems.
- Public Bodies embracing all the service points and the authorities of the public sector that provide services, issue documents, create XML Schemas and code lists and own supporting information systems.
- Web Services for the interconnection and the interoperability among information systems during a service execution.
- Legal Framework that regulates the service provision, the documents issuance and the overall operation of the public bodies.
- XML Schemas with which the electronically exchanged documents comply and which are exploited in web services.

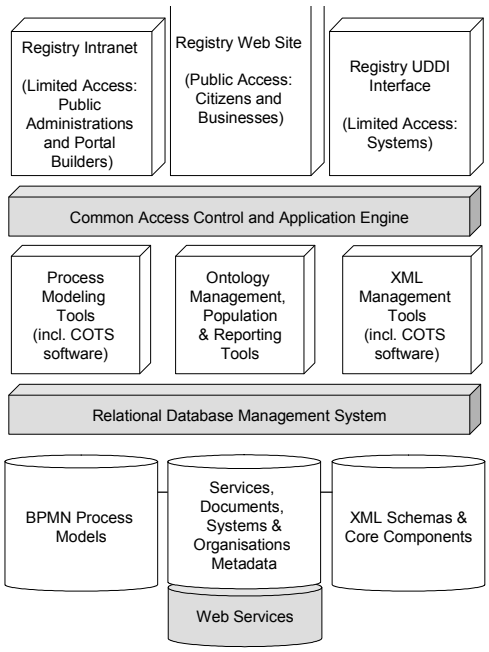
The architecture that implements the Interoperability Registry comprises of **three layers**:

(a) the **Web-based and UDDI** (Universal Description, Discovery and Integration) **interfaces** for various groups of users,

(b) the **tools layer** including ontology management, process and data modelling and

(c) the **information repository** for interconnected data elements, process models, XML schemas and Web Services descriptions.

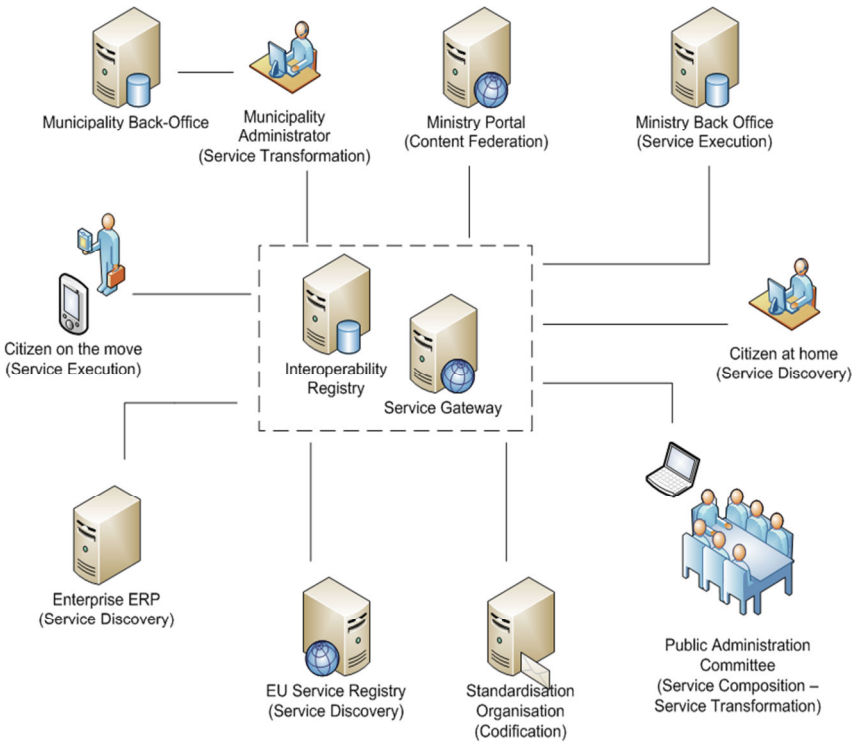
These **three layers** are integrated through a relational database engine (based on Microsoft SQL Server) and common access control and application engine integrating the tools level with the various interfaces.



Service Registry High-level Architecture

Business Case

As a ubiquitous infrastructure for storing and retrieving standardized components, the **Service Registry** is addressed to all Public Administration bodies (ministries, prefectures and other governmental organisations) providing any type of service through interaction with the external environment as well as citizens and enterprises as beneficiaries of the registered services.



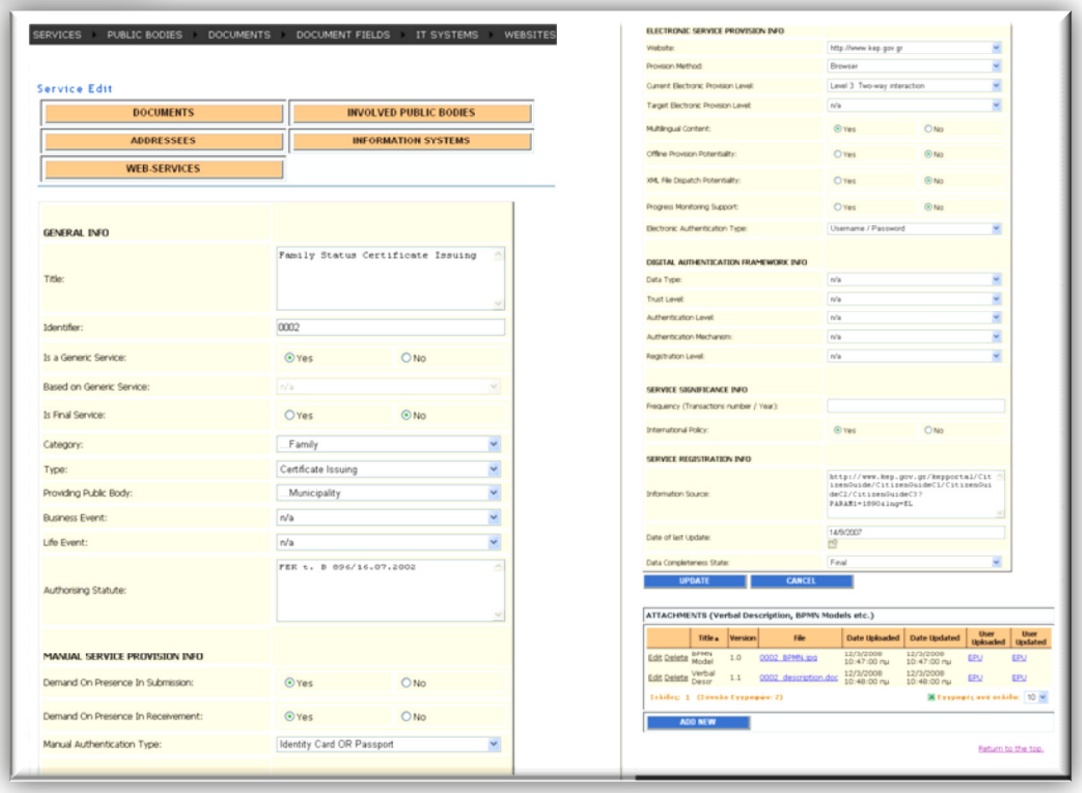
Application of a Service Registry in e-Government

In the direction of facilitating the process and data modeling of e-government services the Registry provides through its front-end component standard management functionality (create, edit, delete) for all the main and secondary eGovernment elements, each of which corresponds to a menu item. Thus, the items of the elements' management menu are Services, Public Bodies, Documents, Document Fields, IT Systems, Websites and Other Elements such as Projects, Addressees etc. Users can list all the available elements, view the details of any element and search for a particular element providing the keywords that describe its properties.

Authorized users can moreover create, update and delete instances of the eGovernment elements via details-view web forms. The three main categories of reports provided by the registry include:

- **Main Elements Reports** (Type A): simple or advanced reports related to the main elements of the Registry, representing requested properties, relations etc. Authorized or anonymous users (with limited data access) can choose among a plethora of criteria and also select the details' level which they are interested in.
- **Integrity Control Reports** (Type B): a specific type of reports which have a notifying role for the integrity and in/completeness of data, relations and constraints stored and represented in the Registry.
- **Sophisticated Reports** (Type C): complex reports representing indirectly derived results and statistical information crucial for further utilization and public sector further development and improvement.

The **Service Registry** provides patterns and guidelines for systematically transforming service and document definitions and can be used to coordinate the business process re-engineering efforts in the public sector.



Service Registry Overview

Interoperability Features

The **Service Registry** facilitates interoperability at organizational, semantic and technical levels in the public sector. The system is easily deployable and scalable and can be used as a central repository to support federated management of services' descriptions as well as on the-spot electronic service composition from existing services and immediate propagation towards all administrations involved.

Deployed Technologies

- ASP.NET for the Web Interface
- Source code in Visual Studio 2005 C#
- Reports in ActiveReports
- SQL Server 2005 for the DBMS