

Inclusion of institutions in e-Government

e-Government in Slovenia reached an admirable achievement on the European or even global level, coming up second among the European states competing for the title of the best solution in the field of public administration. This achievement was no accident, as it was the result of hard work and excellent collaboration between many people, among which we should absolutely mention some experts on the subject at hand as well as IT specialists who were able to translate the expertise and concepts provided by the relevant experts and turn them into skills and concepts in the language of technology. e-Citizen is a common name for a bundle of services whose main purpose was to bridge the gap between the population and public administration institutions. It is therefore a group of systems which form a complete range of services available to the Slovenian population.

The entry point for public administration services, or e-Citizen services, available to the Slovenian population, is the e-Government web portal. The portal lists most life situations in which citizens can find themselves and which require them to establish contact with the public administration or a state institution. Public administration provides services for all such events, and these are accessible from the ESJU (Electronic Public Administration Services) sub portal. There citizens can lodge applications which could previously only be lodged in paper format directly to the administration clerk. Public administration institutions can create applications themselves via the administrative application called ŽDAdmin. We should point out a specific module of this administrative application called Form Generator, which allows creation of new forms in a simple and intuitive manner. These applications allow the relevant public administration institution to create a new form and publish it on the ESJU portal. The user of the e-Government portal can first select the relevant life event, which already contains links to suitable services within the ESJU portal. The user then finds the form they need and fills it out. If this form

is subject to a fee, the user can pay via the e-Payments system, and they can also sign the form electronically if required by the relevant institution which published and created the form. The user then files the application and from their point of view the procedure is completed. In the background, the application is sent to the CIS (Central Information System) which forwards the application to the relevant institution, according to the procedure specified by the relevant institution in the administrative application. Several delivery channels are supported, as evident from the image. This year's acquisition is a new delivery channel, called "Web Services". This allows institutions for which other delivery channels are unsuitable, to collect electronic applications via web services. Of course, this is subject to integration of office institutions with the ESJU system. The reason for creating this delivery channel is simple: competition. Each institution operates independently and can choose their own office system. Initially this delivery channel was designed for municipalities which for the most part have their own office system and which wanted to offer their citizens the possibility to lodge applications

electronically. Of course, the idea soon spread to other institutions which saw a certain added value in this integration. Any state institution wanting to do so can participate in the ESJU system. In the process of planning this delivery channel a great deal of emphasis was placed on security. Registration of external systems is done using a certificate and the server IP address, and another condition is integration in the HKOM network, which is highly secure in itself. Additional data security is provided on the transport level by the SSL protocol, which allows encoding of all data transmitted across the network. To sum up: in order to successfully register with the ESJU system, the certificate serial number, name of the agency issuing the certificate and the IP address of the server which is going to be connecting to the ESJU system need to be provided to the system administration before first use. Of course, the basic precondition for integration in the ESJU system is integration in the HKOM system. J2E platform components were used in application development, such as Servlet, JSP, JMX and JMS. For the web applications ESJU and ŽDAdmin we used the open-source Struts framework to define the application workflow

and the Tiles open-source framework for setting up the website structure. The reason for this is that our company has years of experience working with these framework and therefore the choice of technology was not a difficult one. The Oracle database is used for the database, where base procedures were written in PL/SQL meaning that SQL phrases are not used in the application. One particular aspect of accessing the database can be seen in the Forms Generator module, where we successfully used the Hibernate open-source tool, although opinions vary on whether or not the choice of tool was correct. People who work with the Oracle database were not thrilled with the fact that a tool automatically creates base objects and makes dynamic changes to the database, but the application developers thought it was a good idea.

CIS is not a web application, as it plays the role of a sort of router, meaning that it reroutes arriving applications to the appropriate institution via a delivery channel, which can

be defined for each individual institution. Also, there are different web services and special components comprised in this system, whose purpose is to carry out tasks which should be performed without interruption in predefined intervals. If we think about it, these CIS components are actually the components of any ESB (Enterprise Service Bus) system. ESB is a central backbone concept, onto which smaller components are installed. This concept is also the basis for the Service Oriented Architecture style. It is therefore clear that in this application we were looking for solutions to problems in the field of integration between systems. In the process we used integration planning patterns we had not used prior to developing this system, which was a learning experience for us. Among other features, CIS ensures delivery of applications filed through the ESJU system. This is done using JMS technology or via implementation of Oracle Advanced Queuing, which is an implementation of the JMS specification tightly linked to the Oracle

database. Web services are implemented with the help of the Axis open-source tool. This is possible due to the relatively standard code generating based on web service descriptions, for which the WSDL specification is typically used in combination with the XML Schema specification.

e-Citizen is therefore a concept which introduces a new way of collaboration between the population and public administration institutions, and it also helps bridge the gap between the two. Citizens can therefore communicate with public administration institutions from the comfort of their home in an increasing number of cases.

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Picture 1. e-Government system architecture

