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EU Services Directive – Design Approaches for Romania

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Modernizing public administration is the basis for implementation of the EU directive, and in order to ensure this successfully, collaborative procedures between administrative institutions and countries must be put in place and further developed. This paper will present some technical design options for an architectural framework of the Point of Single Contact imposed by EU Services Directive that takes into consideration the specific e-Government background of Romania.
Keywords: *EU Services Directive, Romanian e-Government, design, architecture, process, SOA.*

1 Introduction

The EU Services Directive should simplify access to the services market in all member states of the European Union.

The interpretation and recognition of points of single contact, which were first mentioned in the directive's suggestions, has been intensively monitored by academics and discussed in the administrative-political sphere since 2005.

2. E-Government in Romania

The Romanian background has to be taken in consideration when reviewing the requirements stated in the previous section. All aspects of e-government (institutions, laws, regulations, interoperability and legacy systems, and other constraints - even of technical nature) must have synergies to the evolving and specific requirements of the Services Directive implementation in Romania.

Therefore, in this section, we depict the main actors and their roles in the implementation, followed by an overview of the legislation to be used and to be changed. Finally, the most relevant e-government systems (in relation to the Directive) are presented.

2.1. Actors and roles

Generally, the main governmental actors involved in Romanian e-Government are the following[1]:

- MCTI (Ministry for Communications and Information Technology), which is the main actor on policy/strategy, but with attributions also in coordination and implementation area (mainly through its agencies, ANC – National Authority for Communications - is responsible for creating an institutional regulatory framework in the information technology field, in order to ensure transition to the Information Society and to harmonize national legislation with the EU legislation, ASSI – Agency for the Services of the Information Society – aims to regulate, implement, operate and manage at national level, the electronic systems that provide eGovernment public services, including the eGovernment Portal (e-guvernare.ro), the electronic System for Public Procurement (e-licitatie.ro) and the IT System for the electronic attribution of international goods road transport authorizations (autorizatiiauto.ro), ARS-The National Regulatory and Supervision Authority - has the role of registering and monitoring the providers of certificate services. The authority is obliged to keep online records of providers of such services, available through its web pages).
- MIRA (Ministry of the Interior and Administrative Reform), which has coordination and implementation duties, being at the same time the main beneficiary of e-Government systems
- MEF (Ministry of Economy and Finances) is one of the beneficiaries of the existing Nation-

al e-Government system (mainly devoted to collecting taxes and distributing them to agencies)

- MIMMCTPL – Ministry for SME, Tourism, Commerce and Liberal Professions

In the case of the EU Services Directive implementation in Romania, the coordinating institution is DAE - Department of European Affairs, which has formed a few months ago 4 Special Work Groups, coordinated respectively by:

Legal Framework	MIMMCTPL
Legal Analysis and Administrative Cooperation	MEF and MIRA
Point of Single Contact	ASSI
Electronic Procedures	MCTI

ASSI is in charge of conceptualization, implementation and operation of Electronic Point(s) of Single Contact.

2.2. Reviewing the Legislation

In recent years the Romanian Government has developed *a legal framework* favoring the development of the Information Society and e-Government[1]:

Government Decision no 1085/2003 - the application of some provision of Law no. 161/2003 has stipulations concerning the transparency in information management and public services' administration through electronic means by demanding that financial statements of public officials are published online. It also includes provisions for preventing and fighting cyber crime.

Freedom of Information Legislation - Law on Free Access to Information of Public Interest (no. 544/2001)

Law for the Protection of Persons concerning the Processing of Personal Data and the Free Circulation of Such Data (no. 677/2001) allows individuals to access and correct personal information held by public or private bodies and was complemented by recent additions such as *law no. 55, (OJ. no. 244/23.03.2005)***,** which ratifies the Additional Protocol to The Convention for the Protection of Individuals with regard to automatic processing of personal data, referring to control authorities and cross-border data flow. Furthermore, a National Supervisory Authority for Personal Data Processing was established in 2005 by law no. 102/2005 (O.J. no. 391/ 09.05.2005). All of the data protection files previously kept by the Ombudsman have now been handed over to the Authority, which supervises and controls the legality of the personal data processing falling under the law no. 677/2001.

Law on the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector (no. 506/2004) closely follows the Directive 2002/58/EC on personal data processing and privacy protection in the electronic communications sector.

Law on electronic commerce was adopted in June 2002 (no. 365/2002) and modified *law no. 121/2006*. It transposes the main provisions of the directive 2000/31/EC on eCommerce. The main points addressed by the law are the following: free movement of Information Society services, contracts concluded by electronic means, commercial communications through electronic means and ePayments forgery. The law also establishes who can start an eBusiness registered in Romania and how.

Ordinance on access to the electronic communications networks and to the associated facilities, as well as their interconnection (no. 34/2002). Its provisions are organised around the following points of interest: defining new concepts related to electronic communications, rights and obligations of the operators, powers of the national regulatory authority and possibility for the regulatory authority to impose specific obligations on operators with significant market power. This law transposes the European Directive 2002/19/EC (Access Directive) into national legislation.

Government emergency ordinance on the general regulatory framework for communications (no. 79/2002), transposes into national legislation the European Directive 2002/20/EC (Authorisation Directive) as well as the European Directive 2002/21/EC (Framework Directive).

Law regarding the Universal Service and the Users' Right related to the Networks and Elec-

tronic Communications Services (no. 304/2003) implements principles such as the interdiction to grant any special or exclusive rights for the provision of directory services and transposes the European Universal Service Directive into national legislation.

Law on the processing of personal data and the protection of privacy in the electronic communications sector (no.506/2004) transposes the European Directive 2202/58/EC on privacy and electronic communications into Romanian law.

eSignatures Legislation - Law on electronic Signature (no. 455/2001) grants to an eSignature the same legal status as a written one. The Ministry of Communications and Information Technologies (MCTI) is the authority in charge of the regulation of eSignatures. The procedure for approving, delaying and recalling the decision of accreditation of the certification services providers is also defined (OJ no.209/ 11.03.2005).

Government Emergency Ordinance concerning the Award of Public Contracts, Public Works Concession Contracts and Services Concession Contracts (no. 34/2006) revoked all the previous acts containing provisions on public procurement and merged the two EC eProcurement directives (2004/17/EC and 2004/18/EC) in a sole act.

Law no. 337/2006 for the approval of the Government Emergency Ordinance no. 34/2006 regarding the award of the public procurement contracts, public works concession contracts and service concession contracts, introducing amendments and supplements.

Government Decision no 1660/2006, Government Decision no.925/2006, Government Decision no. 1337/2006 - regarding the approval of application norms for the award of public contracts by electronic means from the "Government Emergency Ordinance no. 34/2006 concerning the award of public contracts, public work concession contracts and services concession contracts."

Government Ordinance no. 94 on the modification and completion of The Government Emergency Ordinance no. 34/2006 on the award of the public procurement contracts, introducing important changes in the existing eProcurement legal framework.

Government Decision no 198/2008 is the legislative expression of Manchester Declaration from 2005 of ministers in charge for e-government politics from member states, candidate states and EFTA countries.

Re-use of Public Sector Information (PSI) - Romanian Public Sector Information Law no. 109 - realize the full transposition of the Directive on the re-use of public sector information (2003/98/EC).

eTaxation Legislation - Law regarding the electronic payment of local taxes no. 291/2002 regarding the electronic payment of local taxes stipulates that the local public administration authorities have to take all the necessary measures to inform the citizens about the electronic payment of local taxes. As regards preparations for the VAT Information Exchange System, VAT on e-services and the System for Exchange of Excise Data (SEED), significant additional delays occurred in setting up these systems, mainly due to the lack of preparations on the side of the Tax Administration.

ePayment Legislation - In January 2006, an amendment to an ordinance regulating electronic payments between government and citizens was adopted. As the first stage of the Ministry of Communication and Information Technology's *Virtual Payment Office* project, it allows for the electronic payment of fines, taxes and other fiscal obligations.

Government CIO Office Legislation - The Government Emergency Ordinance no. 25/2007 reshapes the structure of the government. Beside other modifications, the government CIO office is created as Agency for Information Society Services. The organization and functioning of the Agency is regulated by Government Ordinance no.73/2007 which establishes the legal attribution of the agency in the field of providing public services designated for governing by electronic means.

A part of the legislation that must be reviewed

or changed under the new circumstances is given below:

- Law 359/2004 regarding the registration procedures with the Trade Registry and for tax purposes of individuals, family partnerships and legal entities and the authorization procedure for legal entities (in force starting October 12, 2004) and its subsequent amendment through Government Emergency Ordinance 75/2004;
- Law no. 343 of 17.07.2006 for the modification and completion of Law no. 571/2003 on the Tax Code;
- Law no. 85/2006 (the "Insolvency Law") regarding the insolvency procedure;
- Government Emergency Ordinance no.27/2003 regarding tacit authorization;
- Government Decision no. 1422/2006 for the modification and completion of Government Decision no. 913/2004 on the approval of taxes and tariffs applied to operations done by the Trade Registry Offices attached to each court.

2.3. E-Government Systems relevant for the Services Directive

Relevant Romanian e-Government systems for the Services Directive are: *eGovernment portal*, *National Electronic System, The Virtual Payment Office, E-forms system and List of taxes.*

The eGovernment portal was launched in September 2003, providing a one-stop shop to central and local public services and forms online, and incorporating a transactional platform.

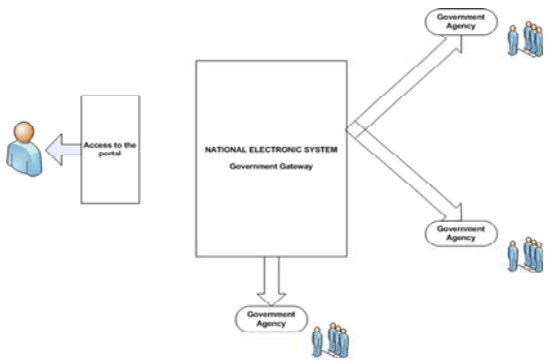

Fig.1. SEN Architecture[1]

In order for the portal front-office to be a single point of access to eGovernment services, the *National Electronic System* (SEN) was developed in parallel to serve as the infrastructure of the portal and is operated by ASSI. SEN routes requests to a back-end system using XML-based Web services. It works as a data interchange hub that ensures interoperability with back-end systems across government[3].

SEN offers online services for ANOFM, CNAS, CNPAS, Taxes & VAT– MFP. It features are:centralized system for routing documents, centralized security, interoperability, standard communication mechanism, standard messages format (XML). The SEN modules are: Transactions Engine (TE), Enrollment Engine and Access Control (EEAC), The Server for Departmental Integration (SDI), Administration and Monitoring (AM) , Applet for Digital Signature (ADS)

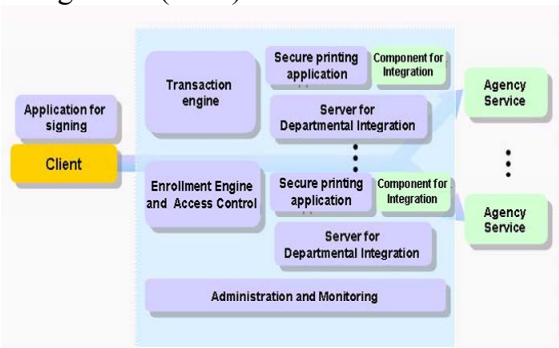

Fig.2. SEN modules[1]

SDK is used by the developers in order to create new integrated applications. SEN-SDK is a collection of documents, services and functions. The executable module is available as a .dll file. Client application can be developed in .NET or .non .NET – Java and VB.

"The Virtual Payment Office" (*Ghiseu virtual de plati*) project aims at facilitating citizens' interaction with the public administration by allowing for the electronic payment of fines, taxes and other fiscal obligations by means of bank cards.[1]

The *E-forms system* of the *National Trade*

Register Office(ONRC) provides access to the intelligent forms(legal changes of the company) that can be electronically signed and sent to the competent authority.
List of taxes from Ministry of Finance give us useful information about the legal taxes and their cost.

3. Towards the Architecture Definition for the Point of Single Contact

The architecture for the Directive implementation can be defined only after making choices with regard to the organizational design options. Important issues to be answered include:

- owner of PSCs
- number of PSCs
- location of PSCs
- types and tasks of PSCs
- targeted audiences
- level of responsibility
- business model for PSCs

Because the first three issues are interrelated, we will first try to present the alternatives in their case. Points of Single Contact can be situated as part of the state administration either on a national level - in existing state authorities such as ASSI in Romania (the existing agency model) or in an autonomous agency (new agency model), or in the 8 development regions of Romania (regional model) or as part of a county or city authority (county/local model). Other possible models are to include PSCs as part of chambers and professional guilds (all chamber model or business chamber model) or by chambers and county authorities together (cooperation model), or even to include private initiatives (open model). When designing the architectural framework the high number of individual points of contact and the fact that all models could be realized simultaneously must be taken into consideration.
In Romania, the preferred solution seems to be the centralized Agency solution (in which case ASSI would be the operator of the IT system).
As a side note, on the regional model the existing „Territorial Offices for SMEs and Cooperative Work" can provide some support.

PSC-Model	Number	Orientation
Agency	1	National Agency
Regional	8	NUTS II Regions
County	42	NUTS III „Judete"
Local	103 / 211 / 2827	Municipalities/ Cities / Communes
Business Chamber Model	43	Chamber of Commerce and Industry
Profession Chamber Model	15	Chambers for Liberal Professions
Cooperation Model	100	Chambers and Professions and Counties
Open Model	110+	Cooperation plus private initiatives

Table 1. Estimation of possible number of PSCs for Romania

Within a government the work of the point of single contact can be transferred to business development, business administration, top level management, the citizen's office, call centers, IT providers or it can be established as an autonomous institution. On the one hand institutions assigned as points of single contact should be fully supported by information technology. On the other hand it should also be possible to prepare and present the complete range of tasks electronically, as with high performance portals. Local agents might use these portals as a shared service, to introduce their own telephonic (call center) and personal (business advisory agency) channels.
The PSC can be classified according to the executed activities in one of the following classes[2]:

Messenger	Messenger services, no insight in applications
Consultant	Messenger, simple inquiries and consulting
Pilot	Messenger, consultant and pilot with an insight, but without a mandate
Intermediary	Intermediary with a mandate for simple decisions
Manager	Instructed manager with a full mandate
Super Agency	Bundling of all responsibilities and tasks in a new agency

Fig.3. PSC types by activities and objective responsibilities

Local Responsibilities	**1:1**	Local directory-based responsibility finder Direct contact only to the responsible agency on the local level (one local area) and to other points of single contacts
Regional Responsibilities	**1:n**	Regional directory-based responsibility finder Direct contact only to the responsible agencies in the region (several local areas) and to other points of single contact
All Responsibility	**m:n**	Federation of directory-based responsibility finders Direct contact to all responsible agencies and to the federation of points of single contacts

Fig.4. PSC classification according to the means of finding/assigning responsibility

The targeted audiences could include, beside service providers from EU (firms, associations etc.), existing or prospecting investors from Romania (wanting to open a business, a new branch, or a new business domain).

A possible business model for the PSC establishment could be based on the existence of so-called PSC-Light private sector managers[4]; there could be some new private institutions with a limited portofolio that take care of client's demands. The offered functionalities could be provision of information, helping while preparing applications, handling and checking of applications, forwarding to PSCs.

The existence of this business model is determined by the level of complexity and centralization of the government's PSC, mainly if the governmental PSC is limited to a Messenger type or has Local-Responsibility or a lower quality of the IT implementation.

The organizational options presented above are only the first milestone to be overcome. Some important technical issues (presented below in a rough chronological order) must also be solved[4]:

- Trust, security, identity management, electronic document safes
- Knowledge management
- Accessibility: multilingualism, assistance, multi-channeling
- Collecting charges
- Use case identification, process analysis and definition/optimization
- Services: sharing, storage and communication, aggregation
- Standardization to provide interoperability on all levels (organizational, technical, semantic)

An important feature is that of *multilingualism*. The most important commercial partners of Romania (as of 2007, EU member states, cf. [3]) are, in decreasing order: Germany, Italy, Hungary, France, Austria, Netherlands, Poland, Bulgaria. These are first candidates for the translation of the information presented on PSCs. Besides these and the obvious Romanian and English versions, other important non-EU commercial partners such as Russia, Turkey, China, and neighbors (i.e. Serbia, Ukraine) could use a PSC extended with translations in their languages. A comprehensive list of translations must be updated regularly.

The technical implementation demands the *definition of shared services* (in order to eliminate redundancy, inefficient parallel developments and to reduce costs). These could be provided by shared service providers and offered by way of integrated portals.

Shared services for points of single contact (front office)	▪ PSC portal (high performance portal) ▪ Knowledge management system ▪ Case management system ▪ Identity management system ▪ Basic components
Shared services for the competent authorities (back office)	▪ Public sector software ▪ Processes of public sector services ▪ Communication components ▪ Basic components
Shared services for the service providers	▪ SD portal (PSC entry point portal) ▪ European Federation of SD portals ▪ Document safe

Fig.5. Opportunities for Shared Services

From a technical viewpoint, there would be at least the following components [2]:

- Electronic data-safes for service providers
- Knowledge Management systems and ontologies (directory based institution-, responsibility- and service-finders, organization of information and human procedures)
- Case Management systems (based on CRMs with multiple channels)
- Basic Components/Services (database, direc-

tory, content management services, archival, e-payment, signature, identity management, auditing, virtual mail etc.)
- Shared Services
- General Processes (automated procedures aggregating separate electronic services)

4. E-Government status in Germany and recommendations for Romania

In Germany, there were a number of successful initiatives (most notably BundOnline and eGovernment 2.0). Deutschland Online (http://www.deutschland-online.de/) is the latest defined programme, having 5 prioritized projects (one of which is implementation of Services Directive). In the scope of enhancing business opportunities through e-Government, a classification of business events, and activity areas was defined. The following figure describes the coarse classification of business-events as seen by a service provider, and can be helpful to establish a common ontology for doing business in European countries[4].

Fig.6. Coarse classification of business-events

On a more granular level, there are some best-practice examples that should be taken into account. For instance, the German land Baden-Württemberg developed a portal (http://www.service-bw.de) for the pilot-project of EU-SD implementation that groups applications according to life events and business events, has index and keyword search, on-line-forms and contact data, notices and application tracking, guides and assistance, forums. The user is helped to filter and decrease the amount of information by specifying his language (from 3 languages), location, and role (8 roles are defined for citizens). For the implementation of the Directive in their land (which was regarded as a kind of pilot-project by the other lands), the Baden-Württemberg Ministry of Interior devised a partner model (with over 40 partners), 3 scientific projects, and 3 Working Groups (Processes, legislation and organization; Portals and information management; IT Architectural Framework). It is important to compare this organization to the 4 Romanian Special Working Groups coordinated by DAE.
Another example is a portal developed by the German Ministry of Economy and Technology (http://wegweiser.softwarepaket.de) to ease the creation of firms and organizations in Germany from outside and inside Germany and EU.
Other best-practices go even further with the idea of user-centrism: in Austria (http://help.gv.at/) and Estonia (http://www.eesti.ee/eng/) most of the administration is online; even the public sector servants use the same portal as the citizens, while being granted various roles and permissions with regard to the applications and documents.
The recommended general steps in Romanian e-Government would be the following:
- *standardized and/or recommended document formats for human interchange*
- standardized *data formats for automatic data exchange* (i.e. similar to Germany's OSCI-XÖV-Standards: XMeld, XBau, XDomea, XFinanz, XJustiz, XKasse, XKfz, XPersonenstand, XPlanung, XSozial, XStatistik etc.)
- *standardized protocols for secure communication, routing, document distribution* (e.g. similar to SEN and OSCI-Transport, covering trust, integrity, authentication, non-repudiation)
- *software architectures and frameworks* (similar to the SAGA standards and recommendations, http://www.kbst.bund.de/saga)
- *directory of public administration services/software,* analogous to the German DVDV; this would increase private participation together with software/service quality.
The specific technical steps for the implementation of the Directive in Romania (i.e. PSC) would be:

- Usage and extension of Romania's SEN as the "Government Service Bus", analogous to the OSCI-Transport; it is essential not to duplicate previous efforts and to define only the data formats for the interchange
- Use case identification for foreign and national service providers
- Full architecture definition
- Process analysis and definition/optimization
- Creation of a pool of shared services

We made an initial evaluation of the procedures that must be handled by the IT system implementing the Directive, guided by the World Bank's report "Doing Business 2008" ([2]) applied to Romania. The basic use-cases are: Starting a Business; Dealing with Licenses; Employing Workers; Registering Property; Getting Credit; Protecting Investors; Paying Taxes; Trading Across Borders; Enforcing Contracts; Closing a Business.

5. Conclusions and Outlook

EU Services Directive is really important for Romania, given that it is an obligation assumed by each EU member state within a clear timeframe (until end of 2009). Its European dimension and importance is highlighted by the need to avoid pressures from other member-states and from service providers, in case the implementation is delayed. There are also positive outcomes: first, full and timely implementation can give a competitive edge in stimulating the New Economy, in regard to both internal and external service providers; second, the Romanian public administration is forced to document, reform and simplify its procedures.

A newly created association dedicated to applied research on electronic services (e-CAESAR, Center for Advanced Studies on Electronic Services, http://www.e-caesar.ro/) was created to strengthen the cooperation between Academy of Economic Studies (ASE), University Politehnica of Bucharest (UPB), and the German Fraunhofer Society. Fraunhofer FOKUS Institute is Germany's leading technological think-tank on major e-Government projects - from requirements, analysis, design, simulation, pilot-project and proof-of-concept implementations, to practical scenarios and tests; having good contacts and close bonds Europe-wide with other research centers, the German Institute brings its expertise on EU-Services Directive and e-Identity Management on national and European level.

The next steps towards the Romanian implementation of the Services Directive, as envisioned by e-CAESAR, are the creation of an exhaustive architecture covering all possible use-cases, and the identification of the use-cases that have the biggest impact in Romania; here close cooperation with DAE, MCTI and ASSI is mandatory. The next logical phase is the definition, modeling and simulation of business processes for the selected use-cases.

Finally, together with industry partners and their technologies, e-CAESAR aims to implement and demonstrate such scenarios for public administration in laboratories and pilot-projects.

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