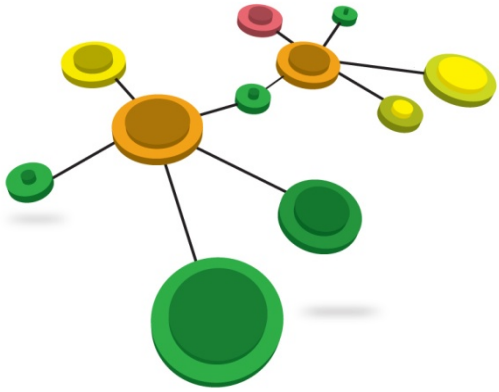

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Research on Italian Policies and Practices

ELGI – eLearning for eGovernment

WP3: Research on National Policies and Practices

Publication date (final version):

30.09.2012

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ABBREVIATIONS

CAD	Digital Administration Code
CERT-PAC	Certified Mail between Public Administrations and Citizens
CMS	Customer Satisfaction Management
CNS	National Service Card
EC	European Commission
ERP	Enterprise Resource Planning
EU	European Union
ICT	Information and Communication Technologies
IT	Information Technologies
IS	Information System
OPT	One-Time Password
PA	Public Administration
PAC	Central Public Administration
PAL	Public Administration Local
PEC	Certified Electronic Mail
RSS	Rich Site Summary
SIT	Geographic Information System
SPC	Public Connectivity System

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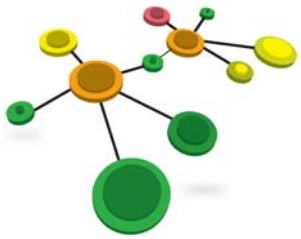
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INTRODUCTION

The aim of this document is to identify and summarize the national aspects and peculiarity in the field of interoperability for the partners' Countries (strategic frameworks, laws, regulations, implementation, specific requirements, organizational aspects, technical aspects, case studies, best practices, etc.).

The template is composed of five sections. Each of them is designed to receive and analyse all data considered preparatory to the final filling of the national dossier provided by the project and to prepare the learning materials for the course aimed to create a consistent common level of competence in the area of interoperability of online services.

Some sections require the filling out of open fields to answer, which, depending on the complexity of the latter are specifically limited to particular indications.

The first part of the template, related to more general information on the partner's Country in question, tends to make a rough estimate of the situation of citizens, companies and public administrations in order to identify the features of each Country involved in the project to understand dimensions and background of state of the automation in PA.

The second section focuses in particular on the regulatory and legal aspects that already exist or will help to create a list of legal changes on online services interoperability of each Country involved.

The third section focuses on the organizational aspects and the effects they have on PA structures and on the performance of the services provided. In addition, the goal is also to analyse the changes that have produced some valuable innovations.

The fourth section deals with the technological aspects, not only with the identification and exploitation of the best solutions in the field of innovation processes within the PA, but at the same serves to detect unsuccessful attempts, analysing the strengths and weaknesses of a given action taken in each case.

The final section includes a detailed description of a success example of a best practice and an in progress experiment of interoperability in each Country.

1. STATISTICS ABOUT ITALY

1.1 COUNTRY

Name of the Country

Italy

Other information

GDP at market prices: 24 300 million Euro (2010). GDP per inhabitant in PPS (Purchasing Power Standards, EU-27 = 100): 100.0 (2010). GDP growth rate: 1.3 % (2010). Inflation rate: 1.6 % (2010). Unemployment rate: 8.4 % (2010). Government debt/GDP: 119.0 % (2010). Public balance (government deficit or surplus/GDP): -4.6 % (2010). Area: 301 263 km2. Capital city: Rome.

1.2 POPUPATION

Population

60.626.442 people (Resident population on January 1, 2011)

Other information

- 9.249.299 people (population over 70 years);
- 9.500.000 people (population over 14 years), 35% of web users, browse the web to obtain information from a PA institutional website, 6.894.285 have made use of online services to download forms from PA's sites and 3.501.428 use the Internet to return completed forms[1].

1.3 PUBLIC ADMINISTRATIONS

Estimate of public organizations on the national territory

9000 public bodies (8.100 Municipalities)

1.4 COMPANIES

Estimation of the firms in the Country

4.383.544 firms[2]

[1] ISTAT - Cittadini e nuove tecnologie - 20_dic_2011 - Testo integrale - Prospetto 14 www.istat.it/it/files/2011/12/ICT-famiglie-2011.pdf?title=Cittadini+e+nuove+tecnologie+-+20%2Fdic%2F2011+-+Testo+integrale.pdf

[2] www.istat.it/it/archivio/43673

Percentage of companies listed on the web

62.6% of existing firms have a website (35% of site with high interaction services)

Comments

In 2010, 65.2% of firms have made use of information services offered online by the Public Sector and 39.3% sent to PA forms filled out online about statements, employee contributions, income bonds, tax and customs[3].

OTHER INDICATORS

- Percentage of households with Internet access: 59 % (2010)
- Percentage of enterprises with Internet access: 94 % (2010)
- Percentage of individuals using the Internet at least once a week: 48 % (2010)
- Percentage of households with a broadband connection: 49 % (2010)
- Percentage of enterprises with a broadband connection: 84 % (2010)
- Percentage of individuals having purchased/ordered online in the last three months: 9 %
- (2010)
- Percentage of enterprises having received orders online within the previous year: 4 % (2009)
- Percentage of individuals using the Internet for interaction with public authorities: obtaining
- information 15.9 %, downloading forms111.3 %, returning filled forms 5.5 % (2010)
- Percentage of enterprises using the Internet for interaction with public authorities: obtaining
- information 75 %, downloading forms 72 %, returning filled forms 48 % (2009)

[3] www.istat.it/it/archivio/48044

2. REGULATORY AND LEGAL FRAMEWORK

2.1 LEGISLATION – ESSENTIAL ELEMENTS

- Decree of the President of the Republic Law 1 of 28th December 2000, n. 4454 - Consolidating Act about administrative documentation;
- Decree of the Presidency of the Council of Ministers of 14th October 2003;
- Digital Administration Code (Decree Law 82/2005);
- Modifications and integrations of Legislative Decree 7th March 2005, n. 82,containing Digital Administration Code, according to Article 33 of Law 18th June 2009, n. 69 (Legislative Decree 235/2010);
- Conversion in Law, with modifications, of Decree Law 29th November 2008, n. 185, containing urgent measures for families, job, employment and firms support and to reshape the national strategic framework in an anti-crisis function (Law 28th January 2009, n.2);
- Decree of President of the Council of Ministers on 30th March 2009;
- Law of 18th June 2009, n. 69 - Regulation for economic development, simplification, competitiveness and well as in the civil trial field;
- Decree of President of the Council of Ministers on 6th May 2009 - Regulation relating to the issue and use of certified electronic mail box assigned to citizens;
- Deliberation CNIPA of 21st May 2009 n.455;
- Directive of the del Minister for Public Administration and Innovation for the reduction of the public administrations' web site for better quality of web facilities and information to citizens (Directive on 26th November 2009, n. 8);
- Legislative Decree on 27th October 2009, n. 150 - Execution of Law on 4th March 2009, n. 15, concerning optimization of productivity in public job and the efficiency and transparency in public administrations;
- Legislative Decree on 1st December 2009, n. 177 - Reorganization of the National Centre for Informatics in Public Administration, according to Article 24 of law on 18th June 2009, n. 69;

[4] Updated with Law of 12th November 2011, n. 183 - In force since 1° January 2012

5 Modified by DIGITPA Decree on 28th July 2010, published on the Italian Republic Official Journal general series n. 191 on 17th August 2010

- Deliberation CIVIT N. 105/2010 - Guidelines for the preparation of the three-year program for transparency and integrity (Article 13, paragraph 6, letter E, of the Legislative Decree on 27th October 2009, n. 150);
- Decree of the President of the Republic on 7th September 2010, n.160 - Regulation for the simplification and the reorganization of the rules about the unified desk for the productive activities according to Article 38, paragraph 3, of the Decree Law on 25th June 2008, n.112, converted, with changes, by law on 6th august 2008, n.113;
- Ministerial Decree on 13th July 2011.

2.2 LEGISLATION - A BRIEF DESCRIPTION

Law 1 Decree of the President of the Republic on 28th December 2000, n. 445 - consolidating act about administrative documentation[6]

Decree of the President of the Republic, updated with Law n.183/2011, collects and coordinates the rules of administrative documentation and the rules relating to the preparation and management of electronic documents. The text attempts to assimilate the discipline of traditional paper documents, and that of digital documentation, defining key terms that have raised doubts of interpretation as "administrative document", "electronic document" and "digital signature", regulating the effectiveness of the computerized procedure. The important novelty introduced is the validity of certificates only in private-to-private business because the PA will no longer require private information already in its possession or available to other PA. This is a real step forward for data sharing in the PA.

Law 2 Decree of the Presidency of the Council of Ministers of 14th October 2003 - Approval of guidelines for the adoption of computer protocol and the computerized processing of administrative proceedings[7]

This Decree, which brings together the rules for the management of computerized records, recognizes the centrality of the computerized protocol and the electronic management of document flows. These tools are aimed at improving the internal efficiency of offices by eliminating paper records, the reduction of protocol offices and rationalization of workflow. The adoption of such systems is to the advantage of transparency of administrative action if supported by tools aimed at the advertising of the state proceedings and related documents in private relationships and PA-

[6] www.tuttocamere.it/files/sempl/2000_445.pdf
[7] Official Journal of 25th October 2003, n. 249

Citizen and PA-PA. In this context organs and code provisions for safety and innovation procedures are summarized.

Law 3 (Decree Law 82/2005) Digital Administration Code[8]

This Code (CAD) is the main legal reference for Public Administration for the digitization of administrative activities, which is a prerequisite for real modernization targeted to greater efficiency, effectiveness and satisfaction of citizens and firms. This process focuses on the dematerialization of the data and procedures through the use and management of electronic documents and the complete accessibility to services through standardized informatics tools. The standards and guidelines are defined with the support of DigitPA that monitors the process of digitization of PA and provides a constant updating of technologies used.

Law 4 (Legislative Decree 235/2010) Modifications and integrations of legislative decree 7th March 2005, n. 82, containing Digital Administration Code, according to Article 33 of Law 18th June 2009, n. 69

The Decree, with Articles 32 to 37, redefines access to documentation and tools for use by the PA focusing on the computerization of procedures and instruments, in order to streamline procedures, eliminate costs associated with the production of paper material and ensure interoperability with already active foreign systems.

Another effect of the Decree 69/2009 was the reorganization of the bodies responsible for informatics innovation in PA that has led to the incorporation of CNIPA in DigitPA that has absorbed its duties (Article 24, Law 69/2009).

Law 5 (2/2009) Conversion in law, with modifications, of Decree-law 29th November 2008, n. 185, containing urgent measures for families, job, employment and firms support and to reshape the national strategic framework in an anti-crisis function

In order to reduce the administrative costs paid by firms in the fulfillment of administrative obligations, Article 16 establishes the conformity of the digital document that is sent by certified mail and affixed with digital signature of the sender, allowing the transmission of DURC digitally and exchange of official communications with INPS.

[8] Last Update on 12/01/2012 - www.digitpa.gov.it/amministrazione-digitale/CAD-testo-vigente

Law 6 Decree of President of the council of ministers on 30th March 2009 - Technical Rules about generation, placing and verifying of digital signatures and temporal validation of electronic documents[9]

In order to implement as provided by Legislative Decree 23 January 2002, n. 10 - Implementation of Directive 1999/93/EC on a Community framework for electronic signatures and, in particular, Annex III, as amended in response to the correction published in the Official Journal of the European Communities L-series 13 of 19 January 2000, this decree identifies all code provisions relating to procedures and instruments to be used for digital signatures, by identifying the CNIPA as the structure responsible for the definition of suitable criteria to follow for those purposes. The validity of digital signatures is established in Italy, by the certification Body of information security (OCSI) according to the National scheme for the evaluation and certification of security in the field of information technology established by decree of President of the Council of Ministers.

Law 7 (18th June 2009, n. 69) - Regulation for economic development, simplification, competitiveness and well as in the civil trial field

This Act recognizes the effect of legal disclosure only to acts and administrative measures published by the Public Bodies on their own websites, to comply with the requirement to use all means of communication available to report such acts.

Specifically, Article 32 (elimination of waste related to the maintenance of documents in paper form) that, with the first paragraph, provides that as from 1 January 2010 the publication of acts and administrative measures which have the effect of legal disclosure should be mandatory published on institutional websites of public bodies. The application of paragraph 5, which sets aside the legal validity to the paper publication of the same date, with the decree of the Council of Ministers of December 17, 2009 was later postponed by six months to allow the regularization of procedures for all the bodies involved. One of the tools activated immediately was the virtual court notice board. For transactions without legal disclosure, the deadline is set for January 1, 2013.

Law 8 Decree of president of the council of ministers on 6th may 2009 - Deregulation relating to the issue and use of certified electronic mail box assigned to citizens[10]

The decree defines the procedures of issue and use of certified electronic mailbox assigned to citizens and how to activate the service through public procedures. The PEC is assigned to the citizen by request to the Presidency of the Council of Ministers - Department for innovation and technology

[9] Official Journal on 6 June 2009, n. 129

[10] www.lavoro.gov.it/NR/rdonlyres/28698A86-EC47-4F43-8C64-6A4333FDF685/0/20090506_DPCM.pdf

and bears no cost to the user both in its activation and operation. The PEC allows you to send electronic documents via the network, ensuring the integrity and certifying the authenticity, and accessibility to computerized administrative records and procedures officially recognized.

Law 9 Deliberation CNIPA of 21st May 2009 n.45[11] – modified by DIGITPA decree on 28th July 2010, published on the Italian Republic Official Journal general series n. 191 on 17th august 2010

Deliberation, created to regulate the digital signature, introduces new and safer cryptographic algorithms, in addition to signature formats completely new, according to the European Community rules to allow the recognition of the legal validity of signed documents also in European countries. The Document, very technical, describes the characteristics concerning the conformation, characteristics and methods of verification recognized as valid. Digital Signatures with obsolete features are valid only when affixed before the entry into effect of the new legislation.

Law 10 (directive n.8/2009[12]) Directive of the Minister for Public Administration and innovation for the reduction of the public administrations' web site for better quality of web facilities and information to citizens

The Decree defines policies and tools for the reduction of obsolete public websites and improvement of those active, in terms of general principles, management and updating and minimum content (specifying the key aspects of the process of continuous improvement of services and information addressed to the citizen through the communication via the Internet) which must mark the actions of any Public Administration.

In this way, the Public Administration adopts its own tool easily identifiable and accessible on the web, bundled with all the services provided, identified in order to facilitate dialogue between citizens and governance.

Law 11 (legislative decree on 27th October 2009, n. 150) - Execution of Law on 4th March 2009, n. 15, concerning optimization of productivity in public job and the efficiency and transparency in Public Administrations (Brunetta Decree)

The document, aimed at regulating digital signatures and cryptographic algorithms introduces new, more secure, as well as completely new signature formats, as already defined in the EC to permit recognition of legal validity of signed documents in European countries. The document is very

[11] www.digitpa.gov.it/sites/default/files/normativa/Deliberazione_CNIPA_45_9_novembre_2009_GU_modificata%20dalla%20DT%2069_2010_0.pdf

[12] www.funzionepubblica.gov.it/media/339253/dir_n_8_09.pdf

technical, describes the features of conformation, characteristics and verification methods recognized as valid. Digital Signatures with obsolete features are valid only if used before the entry into force of new legislation.

Law 12 (Legislative Decree on 1st December 2009, n. 177) - Reorganization of the National Centre for Informatics in Public Administration, according to article 24 of Law on 18th June 2009, n. 69

In 2009 the National Centre for Information Technology in Public Administration (CNIPA), according to Article 24 of Law No 18 June 2009. 69., took the name DigitPA. This new body has expertise in the field of Information and Communication Technologies in Public Administration. It was established that DigitPA performs planning, technical and operational functions, with the mission to contribute to creating value for citizens and businesses by Public Administration, through the creation of Digital Administration.

Law 13 (Deliberation CIVIT n. 105/2010) - Guidelines for the preparation of the three-year Program for transparency and integrity (article 13, paragraph 6, letter e, of the Legislative Decree on 27th October 2009, n. 150)

This resolution, following the determination in Articles. 11, 13, 14, 15, 16, and 68 (amending art. 55, paragraph 2, of d. Lg. N. 165 of 2001) of Legislative Decree 27 October 2009, n. 150, establishes the plan to conform to criteria of transparency and integrity, and for this purpose requires the publication, on the Bodies' institutional websites, of all the information required by the standards imposed to web portals of PA and confirms the mandatory use of electronic means to combine with traditional ones. This measure is meant to make data accessible to citizens and ensure the transparency of the Administrative Acts and Procedures. The document also provides an attachment with the specifications for the implementation of a section dedicated to "transparency, evaluation and merit."

Law 14 Decree of the President of the Republic (7th September 2010, n.16 - Regulation for the simplification and the reorganization of the rules about the unified desk for the productive activities according to article 38, paragraph 3, of the Decree Law on 25th June 2008, n.112, converted, with changes, by law on 6th August 2008, n.113

The SUAP is a territorial single access point to all proceedings which concern the exercise of productive activities and the provision of services, and those relating to the actions localization, creation, alteration, renovation or conversion, extension or relocation, and cessation or reactivation of such activities. The Decree 160/2010 requires that applications, statements, alerts and reports

relating to these activities are presented exclusively in electronic mode, to SUAP of the competent municipality, which provides electronic forwarding of documents to other authorities involved in the process, providing the applicant with a unique and timely electronic reply. The website "Impresa in un Giorno[13]" assumes the role of connecting between those involved in the procedures, ensuring interoperability between Administrations. It also sets out the timetable for implementing the steps necessary to enable full and effective use of SUAP in 120 days for the municipalities to certify to the competent authorities that subsist conditions necessary; in 180 days SUAP will be managed only electronically via the automated process and the "process of completion of work" and safeness; in a year all procedures for business activities will be unified in the "single authorization procedure", the " variation proposal process" and "preliminary view proceedings".

Law 15 (13th July 2011)Ministerial Decree

Defines the duties and responsibilities of the Department for Digitization of Public Administration and Technological Innovation reformulated to be the instrument of the President of the Council of Ministers for the coordination and implementation of policies promoting the development of Information Society through computerized systems. It is also responsible to provide, to those who request it, Certified Mail Boxes.

2.3 SUBJECTS INDICATED OR INVOLVED

DigitPA[14] - National Body for the Digitalization Of Public Administration

DigitPA is a body governed by public law, with expertise in the field of information technology and communication within the Public Administration with technical and functional, administrative, accounting, financial and property autonomy and performs planning, technical and operational functions, with a mission to contribute to the creation of a digital administration. The areas on which this organization is to focus are:

- digital identity and PEC - Certified Electronic Mail;
- document management and digitization;
- SPC - Public Connectivity System;
- reuse of software;
- IS PA Operational continuity;
- public open data;
- PA e-payment;

[13] www.impresainungiorno.gov.it
[14] www.digitpa.gov.it

Department for the digitalization of the public administration and technologic innovation[15]

With the Ministerial Decree of July 13, 2011 - *Reorganization of the Department for the digitization of Public Administration and technological innovation*, it is defined that this Body is the facility used, by the President of the Council of Ministers, for the coordination and implementation of policies promoting the development of Information Society, and of related innovations for Public Administrations, citizens and businesses, with particular attention to information technologies.

The Department is also responsible for providing, to anyone who requests it, a box of certified mail free of charge, as established by the Decree of the President of the Council Of Ministers on May 6, 2009 - Provisions relating to issuance and use of the certified electronic mailbox assigned to citizens.

Formez PA[16] - Service center, support, studies and training for the modernization of Public Bodies

This is a recognized association with legal personality under private law, which operates nationally and which, with the Shareholders' Meeting of March 17, 2010, has identified a new mission, which takes function to support the reforms and the diffusion of administrative innovation of partners (Abruzzo, Basilicata, Region of Calabria, Region of Campania, Lombardy, Molise, Puglia Region, Region of Sardinia, Sicily, Rome City, City of Bari, the City of Pescara, Pescara Province).

One important tool is the managed by FormezPA website accessibile.gov.it, which aims to collect feedback from users who use the web services provided by the PA, with particular attention to accessibility, simplicity and effectiveness.

InfoCamere[17]

This is the consortium of information technology companies of Italian Chambers of Commerce. It has built and manages the national online system that links the 105 Chambers of Commerce and their 300 branch offices. Its institutional role is the management and dissemination of information assets of chambers, with particular reference to information derived from the Business Register. The Chamber databases are made available directly to companies, governments, professionals, and citizens through the portal www.registroimprese.it of the Chambers of Commerce.

CONSIP[18]

[15] www.funzionepubblica.gov.it/link/digitalizzazione-e-innovazione-tecnologica.aspx
[16] www.formez.it
[17] www.infocamere.it
[18] www.consip.it

This company, in which the Ministry of Economy and Finance is the exclusive shareholder, operates totally for the procurement of public administrations and with the main Italian ministries, departments and authorities. Promotes the development of processes aimed at continuous improvement of purchases and activities of the PA through advanced know-how and ability to anticipate, understand and process requirements. It defines and provides integrated solutions through innovative content consulting and acquisition of goods and services and by highlighting the best opportunities offered by ICT technology and the market with its continued involvement.

Consip, the central purchasing body of Italian Public Administrations, launched www.acquistinretepa.it, the national eProcurement platform for the purchasing of public goods and services. The new platform presents a more efficient performance overall and has been completely revamped and enriched with new and more advanced functionalities. The major innovations are:

- comprehensive coverage of eProcurement functionalities (end-to-end platform);
- more tailor-made system that responds to specific and additional customised needs of the users (both buyers and sellers), and allows for the creation of a 'personal area' for each user;
- single and integrated eCatalogue - the platform allows to carry out all the eProcurement tools introduced by the EU Directive 18/2004/EC (framework agreements, dynamic purchasing systems, eMarketplaces, eAuctions, etc.), but in order to make it easier for the buyer, the platform has a unique catalogue in which the user can search for products, compare quality and cost, compare bids and store all the research activity carried out;
- different and multiple eProcurement tools are offered, but there are just two simplified ways of buying: direct order from the eCatalogue or request for quotation for more customised bids, and a single shopping cart;
- more advanced search engine, also in English, to easily spot the most appropriate and suitable product or service;
- more effective and efficient support to all users by means of online assistance, videos and clips to guide the user during the different procurement phases and a dedicated help desk.

Agenzia Innovazione[19]

The agency was founded with the goal to coordinate and make consistent European, national, regional and local authorities' plans of action targeted at small and medium enterprises working to ensure effective access to the PA by the citizens, promote regulatory and procedural simplification, and exploiting and enhancing the innovative tools on the market.

[19] www.aginnovazione.gov.it

2.4 MAIN INSTRUMENTS ACTIVATED AND/OR USED

Some of the most consolidated tools that enable the exchange and access to data sharable between the PUC and PAL are:

SPC- SPC coop

The Public Connection and Cooperation System is a complete system, including technical communications infrastructure, services, a registry and rules and guidelines for connecting. SPC has reached a mature stage and is still being improved. SPC provides a set of common, shared connectivity services for administrations, ensuring interaction of central and local administrations with any other persons connected to the Internet, promoting the provision of quality services for citizens and business. Every skill is guaranteed by the use of a central communications infrastructure that works like a central tool for all the administrations who wish to connect to it. One of the most important features is the system`s capability to ensure data security, confidentiality and privacy.

SIOPE

The Information System on the Operations of Public Bodies, is a system of electronic detection of receipts and payments made by the treasurers of all public bodies, which was developed jointly by State General Accounting, the Bank of Italy and ISTAT, in actuation of Article 28 of law n. 289/2002, ruled by Article 14, paragraphs from 6 to 11, of law n. 196 of year 2009.

SIATEL (Interchange System Tax Registry Local Bodies)

Connecting to the website by the Inland Revenue, called SIATEL public bodies can see the tax domicile of the taxpayer (to be notified of any decision the institution), see the statement of income of citizens in order to verify the veracity of statements ISEE presented in order to obtain special reductions of local taxes, make contracts and recorded.

SISTER (Exchange system inter-Territory)

With SISTER, offering cadastral and mortgage title search services, local authorities can now access the database of Agency of the Territory and control the tax base reported by the citizens for the payment of municipal property tax or disposal municipal solid waste tax, to know the owner of a property (land and buildings) located on their territory.

Online Purchases

This is a database of providers that the public body must consult before implementing a purchase of goods or services for the public service because it brings together a number of offers on various types of products, from computers to food , from furniture for office to office supplies with low prices to compare with other competitors.

Telemaco

It is a service developed by InfoCamere to allow access to the information assets of the Chambers of Commerce throughout Italy concerning the Register of Companies with which institutions may realize the online certified company registration of firms, corporations and individual firms.

INPS online[20]

The INPS, to promote the computerization of the transmission of data on the recruitment and payment of employee contributions to fixed-term uses for public bodies just information channel available through the website of INPS online.

Impresa.gov.it and Impresainungiorno.gov.it

There are also other more general services, and more individually oriented - to citizens and private enterprises: impresa.gov.it and impresainungiorno.gov.it[21].

These are two web portals that feature all the online services available for communicating with Public Administration and the business community and trade through a unified recognition by smart card, permissions check, data sharing (which are introduced in this way for the first time) and management and consultation results from systems of different bodies. These portals for integrated services to businesses are therefore computerized branches, through which you can perform certain operations such as sanitary, commercial, construction, trade/services licensing or online payment services for enterprises, generic services or penalties.

In this way is possible, without resorting to the traditional desk in charge, to perform the administrative duties related to relationships with organizations such as Chambers of Commerce, the INPS and INAIL. The effectiveness of service is guaranteed by a receipt delivery bearing a specific protocol number, through which you can check the progress of the practice and the possibility, by the enterprise, to affix its digital signature.

[20] www.inps.it/portale/default.aspx?iMenu=2&bi=-2&link=servizI
[21] www.impresa.gov.it and www.impresainungiorno.gov.it

Italia.gov.it[22]

As specified in the site itself, this tool is a search engine and an index of websites of Public Administration, developed and managed by DigitPA. The purpose of the service is to facilitate the G2B and G2C relationship. The indexing of a corporate website and its addition to the domain "gov.it" certify the reliability of the administration or public body and ensures accessibility features, usability, efficiency, identification and access control, privacy and security. DigitPA provides technical assistance for the registration to domain ".gov.it" and its operative management. The data and services are continuously updated and user feedback is also collected for continuous improvement.

On Italia.gov.it you can search through different indexed content:

- Historical Official Journal of the Italian Kingdom from 1860 to 1946 (about 42.000 Official Journals);
- domains like "gov.it" (about 1.200 registered domains);
- web site content of the main Public Bodies (more than 60.000 pages);
- web certified mail addresses (about 26.700 addresses);
- on line Facilities, especially dedicated to central Public Bodies (more than 540 online facilities);
- public relations offices' address of more than 5.100 Public Bodies;
- on line notice boards of quite 6.000 Italian Municipalities;
- facilities' quality paper (about 570 facilities paper);
- online forms of Central Administration Bodies (more than 1.120 forms).

dati.gov.it[23] **- Web portal for the data sharing between Public Administrations**

This website is a compilation of recent information on the appropriate licenses designed to allow free circulation of data with Italian open data license 2.0 that the PA uses for the information contained in their institutional sites.

CEC-PAC[24] **indicepa.gov.it e postacertificata.gov.it**

In order to make available the services provided by the digitization of PA, the PEC - Certified Electronic Mail becomes an essential tool and therefore obligatory for all public authorities. Through the portal it is possible to access indicepa.gov.it, the index of active addresses of Public Administration and, to ensure access to this tool, the website www.postacertificata.gov.it was

[22] www.italia.gov.it
[23] www.dati.gov.it
[24] www.governo.it/Presidenza/PEC/pec_cose.html

activated, from which the citizen or the enterprise can request a free certified mail box. There are also other free services, such as Own Dossier, the Address Book of Public Administrations, the Notification on the traditional electronic mail, and some for sale, such as the Digital Signature, the Calendar of Events and Notification Service on Mobile.

SIT – Geographic Information System

The SIT is the system of obtaining and sharing data on a specific geographic area. The sharing of data, mostly by the PA facilitates administrative procedures by making available existing data in the provisions of various bodies that simply make them available to everyone for permitted uses. There are several SIT according to the areas in which they are activated and bodies that join.

Registroimprese.it[25]

Provides an online information service on the Italian and European Enterprises, their shareholders and directors.

2.5 NATIONAL INTEROPERABILITY FRAMEWORK

The services mentioned up to now SIATEL, SISTER, Online Purchases, Telemaco, INPS online, postacertificata.gov.it andregistroimprese.it are all examples of interoperability Framework already activated and used by Public Administration and firms, used to share data and create a unique virtual PA that provides several different online services to make administrative procedures and acts faster, easier and cheaper. As of today the goal is not yet fully reached since the data are not common, but are only shared in case of need, which does not protect from the possibility of duplication or errors.

What may be called a National Interoperability Framework is the SPC, the Public Connectivity System, which defines the rules and infrastructure needed to connect to the PA various ICT facilities and generate a real network of integrated and shared services. The Digital Administration Code defines it as follows: the set of technological infrastructure and technical regulations for the development, sharing, integration and dissemination of government information assets and data, necessary to ensure basic and advanced interoperability and applicative cooperation of informatics

[25] www.registroimprese.it

systems and information flows, ensuring security, confidentiality of information and preservation and autonomy of data resources of each Public Administration.

2.6 EGOVERNMENT ROADMAP, COUPLED WITH GOALS, VISION AND STRATEGY

The crucial step for effective interoperability of systems used by the PA is to move to a nearly exclusive use of digital document, carefully evaluating modalities of its management.

DigitPA coordinates the instruments and procedures` modernization for the activities of PA. This body has also established working groups to define the technical requirements and guidelines relating to strategic aspects of the process:

- creation of electronic documents, preservation tools, management of document flows;
- digital Identity management;
- P.A. data access;
- Operational Continuity and Critical Infrastructure in PA;
- Digital Signature.

The result of action taken was the study of current situation, the drafting of guidance documents, for now still a draft, and the definition of guidelines on which to create, at a later stage, a well-structured program of PA digitization.

The gradual abandonment of traditional practices in favour of electronic information systems, although they cannot be the only tool available to the user, ensure the effective modernization of PA resulting in cost savings in management practices, short waiting and processing times, streamlining of procedures, transparency of process and accountability of public employees.

3. ORGANIZATIONAL ASPECTS

3.1 ORGANIZATIONAL ADVANTAGES OF ONLINE SERVICES INTEROPERABILITY – FOCUS ON PA VS CITIZENS-BUSINESS RELATIONSHIP

Transparency

The participation of citizens in democratic life is a principle that descends directly from the right of popular sovereignty and the right of citizenship, endorsed by the European legislation.

The principle of active participation and transparency of administrative action, with particular reference to information technology, establishes four fundamental rights: the right to access the proper information, the right to education, the right to participation. Specifically, the use of technology is the main instrument for change in relations among people, especially public ones, which are required to make known and useful data in their possession, ensuring its quality and updating. Making the PA transparent means also acting on the front of the open data, opening and releasing public data, making available raw data, providing them on media readable and editable format opened to citizens / customers. For this reason a web portal (Dati.gov.it) has been realized which acts as a hub for the open data of the Italian PA. Already today there are links and descriptions of 148 databases made available by public government. In the initial stage, these gave feedback of the initiative. In particular, with the section "I want to understand more" in which the following are present:

- the Handbook on Open Data according to the Guidelines of the Web sites of the PA;
- the license IODL defined for the needs of the PA on the basis of international standards;
- learning Objects and Wikipedia to introduce the theme of Open Data in PA;
- periodic webinars to disseminate the culture of Open Data;
- examples of reusing and application of Open Data;
- References and cases from other countries.

Monitoring of responsibilities

Monitoring is a form of quality control process which is related to the administrative records. In accordance with national regulations, there must be application within the context of a public process (competitions, announcements, contests, contracts, simpler administrative procedures). The adoption of interoperable information systems allows you to locate the head of the procedure, as well as the status of working practices, to identify any responsibility in case of default, to verify the performance of the various offices.

The Title II (l.d. 150/2009), on "Measurement, evaluation and transparency of performance," is certainly an element of considerable change for the government. It seeks the establishment of a comprehensive system of performance management with four main actors, three internal and one external: the administrative political head, the top management, independent assessment bodies and externally, the Commission for assessment, transparency and integrity of Public Administrations (CIVIT commission).

The Title II provides the following dynamics for the performance management cycle:

Phase	Head
Identify the basic methodologies of the cycle	Commission
Political prioritization	Political-administrative
Translating the political priorities, through the activities of management, services for citizens	Executives and employees
Methodologically support the development cycle of performance management, ensure the application of methodologies prepared by the Commission	Body Independent Evaluation

Through the performance management cycle it is possible to achieve five goals: better planning, better measurement, better assessment, better rewards and better reporting, from the result and transparency point of view (i.e.: making available, even on the Internet, the results of this system). The need to review arises from the lack of effectiveness demonstrated in public. In part, they are dependent on the fact that these systems have been always seen as separate rather than integrated and interdependent. The phase of self-diagnosis of the administrative capacity to implement reform is the first action that any government must take. This first step is to trigger the mechanism of performance improvement, in order to increase potential service quality and are competence of employees. The first phase of the cycle involves planning (Article 5) which lays down requirements regarding the definition of objectives, directly related to the adoption of strategic guidelines, which are the responsibility of management. The link between resource allocation and strategic objectives is a fundamental dimension on which the administration will be assessed. This will be to the extent that the implementation of plans and projects are connected both to the timing, the standard and the absorption of resources (Article 8). It will, therefore, acts as a single integrated system based on the quality of the transmitted information at the top political and administrative level. This integrated structure is reinforced in particular by 'Article 6 of this Title II to the extent that attaches to the political-administrative and management governing bodies the responsibility of monitoring and any corrective actions. Clarifying the responsibilities of line management, stressing the role of independent evaluation organs that monitor the overall functioning of the system (Article 14, paragraph 4, letter a).

Validation and better data management

The innovation of the Italian Public Administration, in addition to a total re-engineering of the entire procedural administrative apparatus, includes a new approach offered to citizens. Through technological innovations and information technology in recent years comes the offer of new tools with which governments can effectively communicate with citizens. We are witnessing an ever growing range of online services by the PA, such as the Drawer Tax, Estate Acts, applications for retirement. Institutional communication online have undergone acceleration through the European Action Plan prepared by the European Commission, which established objectives and priorities for improving the efficiency, quality and accessibility of services provided online. These guidelines have been implemented by the Italian government with the proposal of a series of interventions to strengthen the bond between the PA and the web in order to make onlineservices which are priority available online. These online services support the city, which serves to ensure the management of data already stored in the information systems of state administration. The system also allows the user to update their data, again using the online services, updating the information content more quickly. In Italy, there is the Health Card Project (TS), which is an important element in implementing the monitoring system designed to meet the expenditure on health and grooming resources in health care costs. It uses a lot of public funds available for the de-materialization of paper. Some regions have adopted for their patients a health card with a microchip, which also performs the function of National Services Card (CNS) to access network services made available to the Public Administration through the Internet, ensuring security and privacy.

The cases in Italy:

- CRS Lombardy: (http://www.crs.lombardia.it/ds/Satellite?c=Page&childpagename=CRS%2FCRSHomeLayout&cid=1213346611964&pagename=CRSWrapper);
- CRS Sicily: (http://pti.regione.sicilia.it/portal/page/portal/PIR_PORTALE/PIR_Servizi/PIR_CartaRegionaledeiServzi);
- CSE Tuscany: (http://www.regione.toscana.it/cartasanitaria).

Uniqueness of data processed

The integration of information is the fundamental premise of a new unity that is rediscovering the Italian administrative system through the participation of all the public thought a model of public

management, considered as a whole, actually shared and aggregated according to a common assessment of the system development of information resources specific to each institution. The new technology facilitates the implementation of the principle of subsidiaries, thus constituting the basis of a technological system in which distances and barriers will be removed and an integration between the widest possible public will be achieved. This dual meaning of ICT as a tool enables integration and connection among the various levels of government and acts as a means of implementation of the principle of subsidiarity, and is positioned in its legal response, where, as the Constitutional Court has repeatedly said, matter of information technology in Public Administration is the responsibility of state legislative exclusively as to what regards the technical coordination, while the use of IT in the organization of the offices is the responsibility of local authorities. The Integrated System Register is a project that provides network integration of the municipal registry data. It is a typical application, without having to create a centralized register, since each municipality will remain the sole owner and manager of their data, andthey will get a single virtual registry by simply connecting the various electronic municipal registries. Immediately, there will be a substantial decrease in the number of registry certificates for public authorities and agencies which require provision of public services to citizens, thereby reducing costs and time dependent on the national bureaucracy, as well as work time and cost of the cycle public production, while you can produce precise data that can be personally certified.

Administrative load reduction (Time savings)

There are several guidelines for the preparation of plans for reduction adopted by the Italian Government and monitoring and evaluating the progress of reduction activities, time-keeping and effective achievement of objectives. Each administration is bound to structure the ad hoc indicators. Like other European experiences, it is contemplated, first, to develop indicators of king mentation of interventions to reduce the time compared to the maximum provided for by law. Secondly, there the structuring of impact indicators is provided, or monitoring tools developed for evaluating the perception by the stakeholders of the benefits of lightening the bureaucratic load. The simplification of procedures and quality control are key factors for competitiveness and economic growth on the political agenda of the European Union and governments of many countries.

The Region of Tuscany, from the Regional Development Program (PRS) and the Regional Integrated Project (PIR) 4.4 "Efficiency re-organization and simplification" has done a careful analysis of survey and investigation on the state of simplification in the relationship between Public Administration and enterprises. It has led, in collaboration with the Observatory on Simplification (Tuscany Region and Unioncamere) analysis of the steps necessary to start business activities, with particular reference to

15 specific cases with the aim of highlighting operational weaknesses and possible solutions. The processes involved have analysed the various productive sectors (tourism, commerce, industry, agriculture). For each sector the analysis showed the procedure for starting the activity and the organizations involved, with careful reference to national and regional industry, and has consulted trade associations and professional bodies to find out their needs and their proposals for simplification.

This activity has revealed the existence of a number of critical legal-procedures in nature, including:

- the significant number of administrative tasks required by the regulations;
- the multiplicity of authorities involved in individual cases;
- the diversity of tools such as simplification, Statement of login (Dia), self-certifications, silence gives consent;
- the lack of detailed explanations on technical standards that prevent the application of the institution from self-certifications and causes numerous requests for inclusion to the documentation required;
- the inhomogeneity of the mode of presentation of instances (forms not homogeneous) in the territory;
- regional initiative in terms of computerization and telematics;
- an unsatisfactory use of solutions of digital administration able to improve the levels of service.

The effects of critical opinions collected from businesses are perceived as excessive red tape in the form:

- cost information related to regulatory compliance (collection and delivery of information to the various governments involved);
- costs arising from the excessive length of time of completion of proceedings. Finally, the low efficiency of public action constitutes an additional cost to the government.

(http://www.regione.toscana.it/regione/multimedia/RT/documents/1207308471437_semplificazione_normativa.pdf)

ADMINISTRATIVE LOAD REDUCTION (COSTS SAVINGS)

The new Plan for reducing administrative fee in Italy (2007-2012) provides, for the advantage of the citizen, these results:

- elimination of the obsolete information;
- elimination of duplication;
- standardization of forms;

- telematics procedures (less paper);
- reducing the frequency of compliance;
- reduction of administrative burden and bureaucracy in the event of changes in personal data (short procedures);
- reducing delays and inefficiencies generated by errors or delays in the communication of changes in personal data to third parties (errors of data entry, etc.).
- simplifying of the consultation registry and request of certificates without having to go to the counter, through a unique way on the national territory;
- civil servants reduction.

(http://www.semplificazionenormativa.it/approfondimenti/dottrina-e-commenti/la-semplificazione-nella-legge-n-133-del-2008/riduzione-degli-oneri-amministrativi.aspx)

Better accessibility to online services

Ensure maximum accessibility to information and full utilization of services provided: this is one of the fundamental requirements of online communication in the Public Administration.

The Department for Digitization of Public Administration and Technological Innovation Centre has promoted accessibility of services provided by Public Administrations via the web. The Observatory, made by FormezPA, has set up the website accessibile.gov.it which will be a meeting point between the citizen and the administration to improve the quality of public services delivered online. The Portal is thus dedicated - without discrimination - to all Italian citizens, Italians abroad, foreigners in Italy, people with disabilities, people with little experience, to all those who, using online services and information made available from government, find it difficult to use. "Accessible" is therefore, a tool available to citizens to improve the quality of public sites. To allow us to resolve any deficiencies encountered, use the form "Quality" prepared in the "Report". Another example in Italy is the new portal for Italians and the related service "Linea Amica", a free service to assist citizens with each contact, request, problem with the Public Administration and is an initiative that enhances the work and services of all Italian Public Administrations. “Linea Amica”, the center for response to citizens initiated in January 2009 together with the most important public institutions in the country, collects now about 1,200 contact structures of the Italian PA: Public Relations Office, toll-free numbers, contact centers of all major central and local governments. This Network improves responsiveness to citizens, promotes a unified perception of the system of Italian PA, develops confidence in public services, enhancing the professionalism of civil servants who work in contact with the public and all those of the back office roles who are working for the operation of services. Every day, the network “Linea Amica” responds to the needs of hundreds of thousands of users. The second level response

center responds on average within 30 seconds, resolves 97% of cases and has levels of consensus above 92%.

(http :/ / www.accessibile.gov.it; www.lineaamica.gov.it)

Better accessibility to documents

Access to administrative documents is one of the cornerstones of the discipline of administrative procedure and measurement of certain democratization of Public Administration.

The online services for citizens gave free access to the forms on various sites on the institutional form of the compilation prepared for the request for information and/or documentation; consulting Competition published in the Official Journal. For example, through the website of the Territory Agency one can access the data of the cadastral income (certified company registration), and the records of Advertising Real Estate Inspection (mortgage). In case of errors found in the cadastral about their properties, interested parties may request the correction of the register in the database. Other services offered include the consultation of the lists of parcels of land on which farm buildings are not declared in the register.

(http://www.agenziaterritorio.it/?id=1267)

Reusing of existing IT infrastructures, services and their monitoring

"Software reuse" means the possibility for a Central Public Administration (PAC) or local (PAL) to reuse for free application programs made exclusively by or on behalf of another PA, adapting them to their needs. Reusing or sharing existing software allows you to rationalize expenditure and reorient economic flows to areas not yet covered by computerization.

DigitPA has established a Competence Centre on repurposing that has collected in a catalogue application assets available and reusable by central administrations (Catalogue Projects reuse Central Government). DigitPA intends to co-finance projects that involve the transfer of eGovernment solutions already implemented and in operation, by the transferor to aggregations of administrations concerned to reuse the solution. In order to enable the Government to identify originators to other administrations, the eGovernment solutions that intend to offer reuse, a descriptive card solution was prepared that should be compiled by each person assigned for administration of each solution to be reused.

Another important example is the Public System of Cooperation (SPCoop): a set of specifications that regulates CNIPA managed by the methods of communication and organizational requirements for communications between application entities, which is commonly called Cooperation Application. Before you begin to assert the idea of standardizing a paradigm of application cooperation, communication must take place in Public Administration through point-to-point connection between the application servers involved. Since these servers were typically located on private networks, and then only accessible from other servers located on their own private network, it was necessary to create virtual private networks (VPN) between the administrations concerned to cooperate. This solution has rapidly proved unsuitable in the management of the process of eGovernment, which provides that any two bodies should be potentially able to communicate with each other. SPCoop solves this problem by relying on a standard framework for communication between Public Administrations. In this way, once the infrastructure has become fully operational. The connection of an administration infrastructure will be sufficient for enabling the same. One of the main components of the SPCoop is the Domain Door that defines the boundary of responsibility of an agency or administrative entity and contains within it all the applications it serves. The Domain Doors exchange requests and responses in a standard format, called envelope "eGov", which must also be converted depending on the application requirements in a proprietary format.
(http://www.digitpa.gov.it/riuso/pac);
(http://riuso.cnipa.gov.it/soluzioni/iniziativa.bfr);
(http://archivio.cnipa.gov.it/site/it-IT/Attivit%C3%A0)

Homogeneity / compliance of online services' front-end provided by public organizations

The use of innovative technologies in Public Administration shows its utility only if its contribution to improving the final performance of the service provided to users is clearly perceived. This approach stems not only from a correct, but general affirmation of the centrality of the end user - individual or business – through eGovernment implementation. But from the knowledge that organizational change processes are rapid and intense it can only be at the front-end of organizations, in the place where the organization feels more strongly the pressure of demand for services by its customers. This approach is particularly necessary in the public sector, where the need to change organizational behaviour is more acute and often far removed from the culture of service and those who have frequently addressed the processes of technological innovation only to attempt to improve service processes internal to the administration. The proposed approach does not exclude the need to reorganize innovative back-office processes that prepare the final delivery of the service, but requires that such reorganization is explicitly aimed at improving the service user. Participation,

discussion and interaction with users are more and more elements of value, not only for citizens but also the administration that runs the web site.

The main Front-end services are the following:

1. The **CMS** (Customer Satisfaction Management) can greatly enhance the dialogue with users, as there can be easily implemented forms of interaction at various levels.
2. **RSS** - The RSS (Really Simple Syndication) is used for the dual purpose of disseminating and aggregating content, making it particularly easy to use and ensuring interoperability across multiple platforms. With the creation the CMS, dissemination of RSS becomes very simple, since there are procedure tours that activate this service.
3. **Web forms (form).** The creation of CMS online forms to receive feedback from users or create special questionnaires, allows them not only to be more aware of their visitors, but also to avoid the creation and publication of email addresses made ad hoc and potentially subject to spamming. The form of a web CMS may in fact prevent, if not eradicate, the problem of spam with a few, but effective technical devices, such as the application of filters, avoiding the use of solutions that can make inaccessible request forms (e.g.: CAPTCHA).
4. **Newsletter**. There on the market dedicated to sophisticated commercial programs management newsletter. But now, many CMS, including open source and free, offer Public Administration the possibility to reach an even very high number of users, managing registrations and invalidations in full automatic mode.
5. **Multilingual**. The CMS easily manages content written in multiple languages, allowing not only the rapid transition between the different languages of written content, but also, the translation of the entire interface of the site.
6. **Content for Mobile**. The sharp increase in recent years of the use of enabled smartphones used to consult online content, should urge the PA to make the information easily usable even by last generation mobile devices. The best CMS is meeting these minimum requirements: selection of content, published and managed on site by the same CMS, the automatic generation of a layout for consultation display, and the identification of the type of device, in order to adapt the best presentation of information.
7. **Taxonomy**. A proper indexing of content allows the user to more easily reach the information of interest, increasing the availability of documents and easy reference to information. Many CMS allow the creation and tagging, opened or controlled, of a single

content, thus allowing the aggregation of transverse similar content, or which refer to the same semantic area, beyond the navigation paths fixed.

(http://www.funzionepubblica.gov.it/lazione-del-ministro/linee-guida-siti-web-pa/indice/cap4-garantire-la-qualita-dei-siti/servizi-di-front-end.aspx)

Capability to provide and manage online payment services by online outlays

In Italy, one of the advantages of digitization is surely part of public spending. In the text of the new objectives there are CAD and a road map on the topic of electronic payments, which is the final piece for the full computerization of online services (for the PA and not only), indeed article 5 of the new CAD, provides that:

1. The government allows you to make payments due to them, except the activities of collection of taxes governed by specific regulations, with the use of information technology and communication.
2. The central government may use service providers to make payments through the use of debit, credit or prepaid cards and other electronic payment instruments available. The provider of payment services receives the amount of the payment, making the repayment of the amount transferred to the treasurer of the institution, recording it in a special computer system, available to the administration. The payment is made and a with-drawal slip is issued, the correspondence of each payment, the chapters or the special accounts involved.
3. By decree of the Public Administration and Innovation's Minister and the ministers responsible for the field, in consultation with the Minister of Economy and Finance, after DigitPA, identifies the payment transactions covered by paragraphs 1 and 2; the times from which the provision of paragraph 1 shall commence; the method for repayment, reporting by the provider of payment services and the interaction between the operating systems and those involved in the payment, and the conventional model that the payment provider services should sign up for the service.
4. The Regions and Local authorities must somehow allow online payments.
5. Among the services offered by Treasury and Cash for PA the case of Bank of Monte Paschi of Siena can be cited. These services are characterized by a specific treasury system (single, unique mixed, ordinary) and is carried out in full compliance with applicable law, using the opportunities offered by computer systems. The advantages are to ensure a constant and continuous updating of the regulatory environment and operational evolution of reference thanks to the presence of an active bank partner that participate as pilot projects of the Bank System, and historically tied to the world of Public Administration and of the Broader Public.

(http://www.mps.it/Per+gli+enti+e+le+istituzioni/Servizi+per+Enti/Servizi+di+tesoreria+e+cassa.htm)

Customer satisfaction, feedback analysis to identify or define better services

As part of the transparency and effectiveness of services to citizens, Public Administrations are obliged to adopt appropriate tools to detect immediate, continuous and secure judgment of its customers online services (Customer satisfaction based citizens (Articles 54 and 63)). The approach to "customer satisfaction" uses the opinions and expectations of users to redesign services during construction, to make them more transparent, and hence, "pliant" by citizens. The Customer Satisfaction Management requires such a government, to design and implement a proactive and attentive approach to the various interventions that aim to ensure the on-going satisfaction of users, citizens and stakeholders. The theme of the CSM is particularly important at European level and has been systematized in the European Primer on Customer Satisfaction Management , made by EUPAN with the intent to provide countries with a set of methodologies and practices to see and experience. In terms of national policies, the recent reform of Public Administration has placed strong emphasis on the management of user satisfaction and on improving relations with citizens and stakeholders with a view of strengthening the capacity of governments to engage in politics more effective and improved public services. As part of this strategy points have been developed and tested from the Department of Public Function with the objective of accompanying the administrations in various stages of Customer Satisfaction, the goal of the survey, to conduct the investigation, data analysis, implementation of the improvement plan and related communication activities.

Tools for Customer Satisfaction:

1. Guidelines for the CS in depth: is a tool for detecting users' satisfaction, flexible and tailored to specific needs of the administrations. This tool is designed with optical multi-channel and allows users to obtain information comparable in time and space between different administrations, or by directing the systems design of public services on the actual needs of the citizens. There are four sets of instruments applicable to the services of an online web portal, a single service provided online, for a single service or supplied at the counter to the overall services provided at the counter.
   (http://www.qualitapa.gov.it/fileadmin/mirror/i-migliora/strumenti/Linee_guida_CS_on_line.zip)
2. "Mettiamoci la faccia" is an activity for systematic collection of customer satisfaction in government services through emoticons. The goal is twofold: the citizen-customer can express

their opinions in real time, at the end of each transaction made through various channels (branches, telephone and web); and administration will have a brief description of the users' perception of services.
(http://www.qualitapa.gov.it/iniziative-in-corso/mettiamoci-la-faccia/)

3. Checklist for defining the survey plan: allowing the collection of information needed to compile the survey plan (objectives, type of services affected, devices which must be acquired, integrated communication venture/external to build).
(http://www.qualitapa.gov.it/fileadmin/mirror/i-mlf/strumenti/checklist_indagine_preliminare.pdf)
4. Guidelines: describe the areas of application and methods of use for a creation of a continual detecting through the emotional interfaces. The administrations wishing to join the initiative "Mettiamoci la faccia" shall endeavour to follow the precautions contained in the guidelines and to adopt the system of reporting and communication provided.
(http://www.qualitapa.gov.it/fileadmin/mirror/i-lf/strumenti/Linee_guida_emoticons_010409.pdf)
5. Directions to the classification of services: listing of all services/products that the government can deliver. This classification allows the combination of the assessment made by the citizen and not only the administration, but also the bit of service that has been granted, by encouraging benchmarking between services.
(http://www.qualitapa.gov.it/fileadmin/mirror/i-mlf/strumenti/Vademecum_20classificazione_20servizi.pdf)
6. MiglioraPA. Customer Satisfaction with the quality of public services, launched under the NOP Governance and System Actions ESF 2007-2013 is aimed at promoting a culture of customer satisfaction and dissemination of tools for Customer Satisfaction Management. The objective of this project activity is to promote the improvement of the quality of public services by strengthening the capacity of governments to introduce practices of Customer Satisfaction Management in manufacturing processes and service delivery. Furthermore, a research was also constructed and completed and its first experiments devoted to measuring customer satisfaction for multichannel services .

(http://www.qualitapa.gov.it/?id=2603);
(http://www.qualitapa.gov.it/fileadmin/mirror/i-migliora/strumenti/Primer_Final_ITA_UNICOriv.pdf.pdf)

Citizens collaboration and e-participation

In the Public Administration, the digital age has allowed the emergence of new modes of participation in public life by citizens through new forms of relationship and inclusion of citizens. We are talking about e-Participation, a variation of the concept of e-Democracy. Web 2.0 introduces the foundations for a new mode of participation in public life and collaboration among web users. The need for these terms emerges as the benefit of the citizens which have received less attention in eGovernment development, compared to those of service providers, and the need to distinguish the roles of citizen and customer has become clearer. The tools of e-Participation and e-Collaboration become the means by which to enhance the level of citizen involvement and interaction between users, even in phases which determine the decision-making processes of social life. The platform also allows you to provide the services according to a logic multi-channel and multi-device and facilitate access to data and information.
(http://www.urp.it/allegati/e-democracy.pdf)

Multi-channel PA services

The increasing complexity of information required, the services to be provided and the heterogeneity of the public involve the need for a differentiation of the channels with the users. To meet this need, the Italian PA through a strategy of multi-channel, defined as the combined use of multiple channels to build relationships, interact with the citizen / user and offer services. The strong push on multiple channels can be attributed to the development of new technologies that have been made available to the PA and citizens, a plurality of communication tools. The body that adopts a multi-channel logic offers users the opportunity to access information and services through multiple and diverse instruments (from your computer or desk, by phone to the public portal).

The work of organization and integration of supply is operated from a multi-level back office. It is supposed to not only implement the communication channels or to choose the tools, but also to produce content that is tailored to the specifics of the support which will be released (for example, a questionnaire in paper form, must be reconsidered in form and content. The moment in which they are moved to electronic media. A multi-channel front office needs to have databases like "multi-access" to help public authorities to provide the same services on multiple channels, both physical and virtual. To exclude non-citizens not connected to the Internet, the development of information services accessible to the citizen regardless of the technology at his disposal must be ensured. Moreover, to facilitate the face to face impact it is expected to support an operator and "accessories" for help, which allow the user to resolve doubts or ask for explanations. The choice of instruments is part of the operational phase of the design and occurs downstream of the strategic

phase. The distribution of the various communication media should also be considered, in relation to the reference target. The criteria that can be followed in selecting a channel and a tool are: accessibility, attractiveness, flexibility and adaptability to the post / service, cost / benefit analysis, innovation, delivery modes, diffusion of the instrument and the space-time coverage. A further distinction of instruments may be as follows:

- Information tools: allowing it to diffuse information and communications to the citizens and therefore play an informative, dissemination of knowledge;
- Relational tools: which allow the creation of a report and a bi-directional communication between administrators and citizens, which makes possible dialogue, listening to user participation;
- Settlement instruments: it can be exchanged between user and PA, can make service delivery, optimizing time and cost resources.

(http://www.urp.it/Sezione.jsp?idSezione=812)

Others organizational advantages

No information about “others organizational advantages”

3.2 ORGANIZATIONAL ADVANTAGES OF INTEROPERABILITY OF ONLINE SERVICES – FOCUS ON PA VS PA RELATIONSHIP

Improved circulation / exchange / delivery of data and information between PA organizations

The Public Connectivity System (SPC) is the network that interconnects all the Italian Public Administrations, enabling them to share and exchange data and information resources. Established and governed by D. Lgs. of February 28, 2005 n. 42, in turn merged into the CAD and the Legislative. n. 82, it is defined as "the set of technological infrastructure and technical development, sharing, integration and dissemination of information assets and data of Public Administration, necessary to ensure basic interoperability and application cooperation and advanced information systems and information flows, ensuring security, confidentiality of information, and the preservation of information resources and autonomy of each PA. The Public Connectivity System is managed by CNIPA.

The Public System of Cooperation (SPCoop) is the enabling infrastructure for the integration of information assets using government services connectivity of the SPC. The process integration and data administration, in cooperation application, occurs through the availability of architectural interface with which the different systems and different organizations are presented and exchange their data and services.

Through the deployment of SPCoop you get a single infrastructure, based on shared standards, which allows citizens and businesses to have an integrated view of government services and local governments, independently from the delivery channel. A critical step to enter the SPCoop is to qualify your domain port component through which you access the application domain of the Administration for the use of services, which acts as a input port to data and services available inside the domain considered, and output port from the domain to receive services provided externally. In particular, a domain port defines the boundary of responsibility of a body or subject administrative and contains within it all the applications it serves. In the Central Public Administration there are 39 qualified domain ports.
(http://www.spcoop.it/spcoopit/jsp/index.jsp)

Responsibility

The Certified Mail (CERT-PAC) ensures the integrity of the message and certifies they have been delivered to the process of giving legal status. These messages are then delivered in accordance with the rules DPR 11/2/2005, n. 68 and DPCM 2/11/2005 available at the site of CNIPA. It allows you to send / receive with a high level of safety and service levels are guaranteed an electronic document by electronic mail. The addresses will be subject to inspections required during the activation. You, too, can certify your domain email accounts getting certified. In this case there are no limitations to the name assigned to the email address.
(http://www.digitpa.gov.it/pec)

Validation/data processing

The digital signature is a validation system which allows the network to exchange documents with full legal validity. They can acquire digital signature from all individuals as individuals, directors and employees of companies and Public Administrations. To provide the digital signature you must be referred to accredited certifiers authorized by DigitPA, which guarantee the identity of persons using the digital signature. DigitPA also performs supervision of certifiers. Italy is leading in the legal use of digital signatures. It is the first country to have given since 1997 full legal effect to electronic documents and has a greater dissemination of signatures in Europe.
(http://www.card.infocamere.it/infocamere/pub/);
(http://www.digitpa.gov.it/categoria/argomenti3/firma-digitale)

Workflow management. Managing the process of drafting, review and approval of documentation flows is completely customizable by the user. Organize documents in folders with hierarchical links or logical. Using the workflow engine can develop more specific modules. The workflow management solution used by the Italian PA is currently based on Web based architecture which allows the use over the Internet/Intranet for collaborative work. It's an integrated management protocol, documented flows and administrative processes for Public Administration. It manages the lifecycle of the procedure and the dossier of documents that make up, with the integration of the storage module with subsequent capture by scanners and digitization.
(http://www.digitpa.gov.it/sites/default/files/3.4.2%20WFM%20Gestione%20Elettronica%20dei%20documenti%20v4_0.doc)

Uniqueness of data processed

The process of managing documents of a Public Administration consists of the transmitting of files via computer, the computer protocol, management of document flows to the proceedings and the records management archiving replacement.

1. **Inbound Document Management**. It collects and stores all incoming documents (mail, email, fax ...) and manages the entire process by contacting the offices concerned to "practice" created.
2. **Document Archiving**. Minimize paper documentation internal and external. Store and search for any document type including fax and e-mail. Keep an archive of previous versions of documents. Simplify the dissemination of information and documents.
3. **IT Protocol**. Comprehensive management of information protocol according to the directive that ascribes to all public authorities the duty to acquire information systems for electronic document management, for external access to the conduct of practice, to provide greater administrative transparency. Increased efficiency and productivity of government and transparency of administrative action is the objective of these provisions. Moreover, the activities of logging certify the origin and date of acquired documents, identifying them uniquely in a numerical sequence related to the chronological indication. The information protocol is therefore the focal point of all the workflows between the government and the interior of each of them.

(http://www.pubblicamministrazioneonline.it/Applicazioni/GestioneDocumentale/tabid/638/Default.aspx)

Administrative load reduction in terms of time savings

The theme of the dematerialization of documents produced as part of the government is currently one of the major elements in the processes of reform of administrative management of the environment and it is one of the most important lines of action for the reduction of public spending, both in terms of direct savings (paper, spaces, etc..) and in terms of savings (time, efficiency, etc..). The processes of managing paper documents, in fact, are characterized by lots of burden, difficulty sharing and storage, lack of transparency, high seek times, facilitate the making of mistakes, losses, losses and more over inefficiency. For a change in the management of Public Administration the PA goes digital, the dematerialization of documents produced by the Public Administration assumes a role whose centrality is evident between the objectives of the Plan eGovernment 2012. Among the planned actions:

- the project electronic invoicing to general government has the objectives to reduce costs for businesses and Public Administrations through the integration of the processes billing and payment;
- the project for online payments to the Public Administration has as its objective to make payments due to the central government, through the use of information technology and communication. The technical infrastructure for payments, currently under design will be a service available for all general administration of SPC. The solution will enable a significant reduction in time and costs and increased safety.

(http://www.urp.it/Sezione.jsp?idSezione=1874);
(http://www.digitpa.gov.it/amministrazione-digitale/CAD-testo-vigente)

Administrative load reduction in terms of Administrative load reduction in terms of costs savings

The package "Semplifica-Italia" takes a step forward in improving the efficiency of Public Administration. The basic principle is to intensify the use of new technologies, in order to make life easier for citizens and businesses.

The most interesting news is:

1. communications between central and local administrations (municipalities, regions, but also state social security institutions such as INPS) will take place in an exclusively electronic form. Saving time and money (think of the reduction of printing costs, shipping and storing paper documents) is consistent;
2. within each public office a leader is identified with substitution power. In practice, if the administration doesn't respect the time of closing practices, citizens and businesses can contact the manager, who will be responsible to arrange that at short notice. The discipline and

accounting for an official, who does not respect the times, already required by law, will be applied with greater frequency and severity. The final measure will be indicated if the timing of the procedure was observed;

3. it improves the procedures for tendering, with benefits for companies and administrations.

(http://www.governo.it/GovernoInforma/Dossier/semplifica_italia/semplificaitalia_opuscolo.pdf)

Documents' accessibility

Regulations in force, the relationship between the rules governing confidentiality and the public directors is composed of two separate and independent spheres of action. The first change of the original organization, between the two disciplines was in 2003 with the Consolidated Law on Personal Data Protection, which merely extends and also explains some of the principles used by the Guarantor in connection with some rulings delivered in to the DIRA 1996 (Art. of 59 TU).The article on privacy requires that the assumptions, methods and limits for exercising the right of access to administrative documents remain governed by the law 241/1990, classifying all future legislation and regulations as "activities of public interest ". Directive no. 1/2005 of the Ministry for Public Administration emphasizes the need for the PA to carry out timely reconnaissance data processed "in the light of existing provisions and to revise the procedures for managing them, paying particular attention to the need to ensure the people concerned have the right of access to data concerning them and the other rights enshrined in art. 7 of the Code, as well as issues relating to access to administrative documents and the need to balance the demands of transparency of the administration with protection of the right to protection of personal data". The Digital Administration Code (Legislative Decree no. No. 82/2005) is grafted onto this fabric regulatory, expanding the functions of Public Administration and directing it to the public. The spirit of the code is aimed at creating a new form of government, more "user friendly". Thus the envisaged interoperability of the public information systems, the connection between access points and exchange of information would seem aimed at a greater assurance of access to administrative documents and better knowledge of the rights of the citizen concerned.

(http://www.governo.it/Presidenza/DICA/4_ACCESSO/direttive.html)

Reusing of existing infrastructure and systems

The concept of reusability indicates the degree to which a module or another software component can be reused in one or more of a software program. Software reuse is a concept which applies to all components of the product software, defined as "the set of programs, procedures, rules,

documents, relevant to the use of an IT system". We consider and understand the reuse of software applications as the ability to reuse a software product and / or its components made by or on behalf of a government in one or more computer systems of other Public Administration. The convenience to undertake a project of reuse provides first four phases:

1. defining the needs of the administration;
2. selection of reusable applications;
3. verification of the solution found;
4. verification of cost-effectiveness of solution reuse;
5. feasibility study and begin to set, this step aims to verify the adequacy and affordability assumptions made earlier, if it does spell out the technical and economical solutions for the project.

Since the costs involved and the potential cost savings achievable from a project of reuse compared to traditional solutions depend on how they reuse the same, a brief description of possible types of reuse is adopted:

- reuse in a simple assignment: a simple transfer of an application from one administration to another;
- re-use management with the assignor: in addition to transferring the application, the administration of the proprietary software takes care of the maintenance thereof;
- reuse in facility management: in addition to software maintenance, administration transferor is responsible for preparing and managing the service environment for the administration making the reuse;
- reuse in ASP is a variant of the previous case in which a third party is responsible for the maintenance and operation of the software for several administrations, recognizing the consideration received in connection with the service.

(http://www.digitpa.gov.it/sites/default/files/allegati_tec/Linee%20guida%20riuso%20applicazioni%20informatiche%20nelle%20PA.pdf)

Homogeneity / compliance of online services' front-end delivered between public organizations

SUAPtel is the platform developed by Ancitel SpA. Allowing municipalities to manage online business processes and process flows related to the simplification and reorganization of the OSS. A real web interface that acts as a single point of contact between companies interested in manufacturing activities in the territory, and the City, with an added advantage to the local authorities that, with SUAPtel, can effectively weigh the regulations dictated by the Presidential Decree 160/2010 thanks

to the interaction and display of web services for the electronic filing practices by businesses to the City. The service is aimed at municipalities and associations which maintain the function of the One Stop Shop on behalf of these entities (eg.: unions of municipalities), and those who have not yet decided whether to delegate or retain the OSS function, and those that ' have delegated authority to the Chamber of Commerce. SUAPtel is a front-end system that can interface with most back office systems already used by municipalities, as long as they prove flexible enough for exchanging data with the solution of Ancitel.

(http://www.suap.ancitel.it/index.cfm?m=44)

Definition and adoption of precise expertise

Information Systems (IS) interoperability in Public Administration (PA) is a main goal and a major challenge for PA professionals. Achieving interoperability among IS that are technologically disparate and that exist in different organizational contexts is a complex task, being affected by multiple aspects, not yet satisfactorily known and characterized. An example of cultural heritage interoperability system is: the project “Archivi Storici per la Lombardia”” - PLAIN was started in 2000. The “Lombardia Storica” portal is configured as a kind collector for the work of institutions and operators.

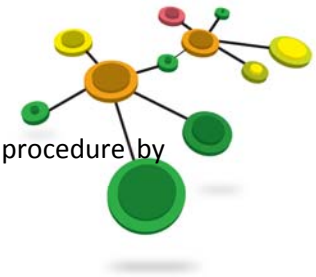
(http://online.ibc.regione.emilia-romagna.it/I/libri/pdf/interop/Savoja.pdf)

Others organizational advantages

No information about “others organizational advantages”

3.3 CHANGES IN ORGANIZATIONAL STRUCTURE AND LOGISTICS AS CONSEQUENCE OF AUTOMATIC PROCESSES

In recent years it (who?) has established a map of Italian Public Administration reform, implementation of which is regulated by various laws enacted since 1990. This path of reform is essentially based on the need to respond to objectives of improving the PA in terms of increased effectiveness of public action (effectiveness), containment of operating costs of government and reducing the time needed to perform various activities (efficiency), to increase the visibility and the possibility of user control on administrative (transparency). These objectives are combined with two basic principles: decentralization and simplification. With this decentralization there is a transfer of responsibilities and operational tasks by central government to regions and local governments: Local governments become, with the obvious exception of certain specific areas, the main place of delivery of public services and the relationship with the outside while the Central administration focuses on their particular tasks and coordination. The simplification will tend to reduce compliance,



often inappropriate, required for citizens and businesses and to revise the rules of procedure by eliminating unnecessary steps, checks and controls often only formal.

This path has gone beyond a vision of "self" of Public Administration and has established a culture that sees the government mostly as providing services throughout the country, which is based on the empowerment of its executives and officials, which provides measurements and tests in terms of actual achievement of expected results and productive use of resources.
(http://archivio.cnipa.gov.it/site/_contentfiles/00131300/131335_bpr.pdf)

3.4 RE-ENGINEERING OF ADMINISTRATIVE INFORMATION SYSTEMS: PROCESSES AND ORGANIZATIONAL ASPECTS

The interest for the problems of re-engineering of processes comes mainly from the observation of widespread problems in the administration to define, initiate and lead to implementation of computerization projects are able to achieve visible and tangible results in terms of improvement of services provided to citizens and economy in operations. In particular, this difficulty has emerged as a failure in developing projects and definition of applications able to seize opportunities for improvement offered by the network unit of government. The Authority's goal is therefore to help improve the ability of governments to propose efficient projects, the ability to exploit the possibilities offered by RUPA to improve its operations. The re-engineering process seeks to redesign the whole process, starting from the mission and strategies and by acting simultaneously on all components of the processes (flow, organization, personnel, logistics, information processed). This will tend to ensure consistency between the various types of intervention, eliminating the ability of disorganized automating business processes and overcoming the old approach of looking at these issues only as an assessment of '"organizational impact" of IT solutions resulting mainly from technological options. Based on this, the Authority has set up a working group, which also involved the Department of Public Administration, ISTAT, the National Research Council and representatives from universities and external expertise. The initiative is aimed at developing a methodological proposal for the reengineering of service processes to be proposed to the government and in particular of a methodology:

- able to integrate with the current methodology for the three-year planning of information systems;
- suitable for both assumptions of radical change or minor improvement of existing processes;
- be used in interventions aimed primarily at restoring efficiency, both in actions aimed at improving the quality of products / services provided;

- focused on the opportunities arising from the implementation of the network unit, in terms of availability of services for interoperability, sharing of information bases, the possibility to realize cooperative applications between different administrations;
- flexible and adaptable to specific situations of the various administrations and in particular scalable, that is applicable to areas restricted to contexts of complex processes that often involve a plurality of administrations;
- pragmatic and results-oriented, used by the subjects of change, and able also to enrich the cultural heritage of the PA staff involved.

On this basis, these three documents were produced:

1. a background paper and summary of the proposed methodology for re-engineering and processes of the Public Administration;
2. a document of "operational guide" which contains a more detailed description of the different planned steps and illustration of some case studies proposed and discussed;
3. a document containing support materials including literature, specific laws, description of the main techniques used and the glossary.
   (http: / / archivio.cnipa.gov.it/site/_contentfiles/00131300/131335_bpr.pdf)

3.5 CERTIFICATION PROCESS FOR INTEROPERABILITY

Among the processes certified for interoperability, the most common international standards of reference are in the field of electronic signature systems. The digital signature mechanism is based on fundamental concepts such as a certification authority (Certification Authority) and public and private keys to be used for signing. Among the main functions that a CA must ensure is that we have to produce the certificate that establishes the link between the private key and the rightful owner, to guard the public key in a list available and to ensure the validity of the temporal power of signature (validity). About a year after the publication of technical regulations, seven certifiers have already been officially included in the list publicly held AIPA. To ensure operational uniformity and good interaction among the users who use the digital signature, all registered or pending registration certifiers have agreed on the need for a document of guidelines that would give clear guidance on how to deal with problems around the structure of the certificate and its extensions, the structure of revocation lists, and those of electronic envelopes, thereby bridging the gaps due to an interpretation owns some syntactic and semantic rules of the standards.

To ensure interoperability, at least with reference to the field of Public Administration, the AIPA in 2000 issued Circular AIPA/CR/24 of 19.6.2000 on "Guidelines for the interoperability of certifiers ",

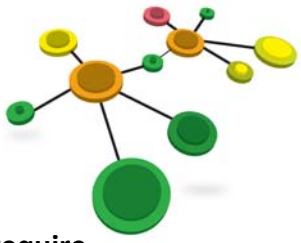
consisting of a set of specifications defined by the unique contribution of the first certifiers enrolled in the public directory and with the assistance of the Bank of Italy:

These guidelines consider, for interoperability:

- the contents of the certificate and their presentation and format;
- extensions of the certificate and its contacts;
- Suspension and revocation lists and related content;
- the representation of information in PKCS # 7 envelope.

For its part Assocertificatori, after having contributed to the definition of the circular on interoperability AIPA, has institutionalized this activity, constituting within itself the "Technical Committee for the digital signature", which were assigned by the Board of Directors the following tasks:

- analysis of issues related to interoperability and preparing proposals for operating procedures for the full implementation of interoperability among members;
- execution of a plan for periodic checks of interoperability among members;
- study and investigation of technical issues related to new technical standards, all 'to adoption of new standards, amendments to standards or existing standards, or the CEO and the compatibility of international standards and development of proposals for operational partners;
- processing of documents, studies, information or recommendations to members on technical norms and standards;
- study and investigation of the need for intervention or change of procedures operations and safety of members due to the possible occurrence of problems and applications and proposals for action in collaboration for members elaboration of proposals for improvement of the technical aspects generally related to the activity of the CT certification. (http://www.assocertificatori.org/interoperabilita.htm)



4. TECHNOLOGICAL ASPECTS

4.1. Analysis of administrative information systems that meet interoperability requirements

Administrative information systems include all information systems that support the storage, retrieval and maintenance of information supporting the administrative services of the Public Administration. As PAs work to transform their environments from an internal resource optimization to a process integration and external collaboration focus, integrated systems stand at the forefront of solutions that will achieve this goal. Enterprise Resource Planning (ERP) is proven to significantly increase efficiency, improve information access, reduce total cost of ownership, and help government achieve the highest levels of accountability and constituent service. Yet implementing ERP in a manner that achieves its promises is no easy task. Public sector organizations often rationalize their ERP modernization initiatives within the context of budgetary constraints and are faced with multiple ERP providers that, on the surface, are difficult to discern. In addition, adjudicating between competing ERP solutions on their functional merit is not only difficult because of the complexity of ERP systems, but it is further complicated by the intricacy of the government acquisition process. Therefore, it is particularly important that the business value be sold at the executive and political levels of government and, to be successful, that government embeds the ERP solution within its culture and processes. What's more, the level of detailed analysis required to map functional requirements to ERP solutions is an arduous task that, even if done thoroughly, hasn't always delivered a successful implementation. In this article, we will address these issues by examining the evolution and shortcomings of ERP solutions; by defining the features and functionality needed to address government transformation; and by recommending the steps to take to position for success.

MIS - ERP - Payroll / Personnel for Public Administration

The main Italian solution is the implementation of an Integrated Information System for enterprises / organizations / institutions of the public sector. Full coverage of all functional requirements of the Department of Financial Services, which is responsible for the efficient handling of all financial, management transactions of the public enterprise. The software application ensures the availability of financial resources necessary for the efficiently operation of all the company's departments. Main subsystems of the applications are:

- Financial Management;
- General and Analytical Accounting

- Public Accounting;
- Accounts receivable - payable;
- Budget Management;
- Financial Control;
- Asset Management;
- Inventory Management;
- Warehouse Management;
- Purchasing Management;
- Maintenance of Equipment;
- Contract Management;
- Economic Management of Project;
- Costing;
- Economic Monitoring;
- Decision Support system;
- Data Processing;
- Information Analysis;
- Reports;

HRM – Payroll. The subsystem supports Organizations on issues such as:

- human resource management;
- recruitment;
- appointments;
- promotions;
- licenses;
- evaluation skills;
- Issue all types of payroll;
- Vacations.

With this Information System PAs are able to manage efficiently and professionally its human resources.

Protocol and Document Management. A software application for the creation, management, workflow and tracking of all types of electronic documents.

Research, Documentation, Project Design and Planning. The aim of this software application is to monitor and manage the political, operational and financial planning of projects and activities of

these public organizations. It is a tool, for example, to monitor the time plan of a project, to produce a strategic plan for the management of internal and external work of all departments, and to support the allocation of resources, in a proper and efficient way.

DigitPA is the Public Administration entity delegated to the definition of standards, architecture and guidelines about the development of e-services in the Italian eGovernment domain. DigitPA has defined the SOA based interoperability technical rules for the Italian SPC - Public Connectivity and Application Cooperation System - for the Italian Public Administration, and is currently in charge of the entire lifecycle relevant to the administration and management of the SPC itself.

DigitPA applies and leads the Italian "Cloud Computing Workgroup" who has the goal to define the cloud computing architectures for Public Administration e-services domain; industry leaders, Public Administrations and research entities actually join this group. DigitPA also leads the Committee for the definition of the technical rules of Spatial Data Infrastructure in the Italian Public Administration domain.

DigitPA is currently responsible for the entire lifecycle of the Public Connectivity System and Application Cooperation for Italian Public Administration. DigitPA is also developing the Italia.gov.it project, the public government search engine dedicated to information retrieval of any information (both on public web sites and on structured databases) relevant to digital Italian Public Administration. The developed search engine gets data coming from a web crawling process and from structured data sources, meshing the results up in order to provide a guide for the users to digital administration.
http://www.digitpa.gov.it/notizie/stipulato-il-contratto-quadro-s-ripa-la-rete-internazionale-della-pa

4.2. STANDARDS AND TECHNICAL RULES FOR IMPLEMENTATION

Standard 1

A standard for XML representation of norms. A specific format for Italian legislation has been defined, with particular regard to the peculiarity of legislative documents structure, metadata representation and other significant information useful to provide advanced automatic functions. Moreover, the availability of documents marked-up according to shared formats allows the creation of advanced search and retrieval functions operating on distributed data bases effectively.

Standard 2

A standard for norms persistent identification, based on IETF Uniform Resource Name specification that allows to identify each document regardless of its physical address (e.g, URL) and to automatically hyperlink resources through a resolution system.

Standard 3A portal as a unique point of access to the Italian legislative corpus, www.normeinrete.it provides search and retrieval functions operating on all Italian laws from 1904, published on more than 50 different web sites. It also provides utilities to automatically transform references contained in the laws into navigable links. The portal contains the entire project documentation (in Italian) and other information related to the project. It includes e-learning tools on technical matters, a software download section and a best-practices section to encourage experiences sharing, in order to create a virtual space for knowledge sharing within the Public Administrations community.

4.3. IS THERE AN OFFICIALLY ADOPTED LIST OR REGISTRY OF STANDARDS RELATED TO INTEROPERABILITY?

In parallel to the bottom-up process for the definition of SPC and SPCOOP, the Government issued in February 2005 a Law Decree, namely the Digital Administration Code (CAD), Law decree n. 82/05, that defined the legal interoperability framework, CAD defines rules regarding the digitalization of the PAs, grouped in the following sectors: (i) The rights of citizens and enterprises on Public Administration; (ii) Citizens and enterprises must be placed at the centre of PAs services; (iii) Digital signatures and legal validity; (iii) Contracts, payments and accounting deeds; (iv) Development, acquisition and reuse of software in PAs.

Moreover, as far as SPCOOP and SPC is concerned, CAD establishes the scope, the sectors of interest, the governance, the technical rules of the Italian Enterprise Architecture, and the subsidiarity principles among National authorities and local ones. Additionally, CAD establishes two important principles:

1. the cooperation among administrations is exclusively carried out on SPCOOP, with its tools and according to its technical rules; it has legal value and no further decree or official publication (e.g., on the Gazette) is needed (e.g., when defining standard XML formats for data exchange);
2. the public ICT managers need to organize their information systems, including organizational and management aspects, in order to accommodate SPCOOP rules.

4.4. EXISTING METHODOLOGIES IN THE MANAGEMENT OF IT SERVICES

Consip, the Italian Central Purchasing body and the Ministry of Economy and Finance announced the winners of the 'e-Proc Awards 2011'. In their fifth edition, the prizes are awarded to the Public

Administrations and companies that made the most efficient use of the central eProcurement system 'Acquistiinrete' in terms of economic, organisational and process benefits. In the 'Public Administration category' of the 'MEPA awards' there are two ex equo winners, namely the University of Catania and the Local Health Agency 1 of Turin (ASL 1 of Turin).

In another section, the 'Supplier Training Desks awards' (Sportelli in rete), a category aimed at assisting companies to enable them to participate in public eProcurement procedures through the national eProcurement portal, the prize went ex equo to two organisations: Confcooperative Toscana and Comufficio Milano. A new section in this year's edition was the 'eTenders awards' (Gare online) section. In the 'Public Administration category', two public entities received this prize ex-aequo - namely, the Finance Police and the Public Hospital Corporation Villa Cervello of Palermo.

At the end of 2011, three eInvoices based on specifications of the PEPPOL project (Pan-European Public Procurement OnLine) are exchanged by Italian PEPPOL partners and their suppliers. All three eInvoices were received through the Access Point of Intercent-ER, thus proving the capability of the PEPPOL transport infrastructure in several scenarios. Intercent-ER is operating as the PEPPOL Italian Authority for the Transport Infrastructure, and its Access Point will be available to all Italian Public Administrations wishing to participate in the current pilot phase of the project.

The update of the eGovernment National Action Plan 'eGov 2012' was published on 11 November 2011 on the website of the Ministry for Public Administration and Innovation, summarising the status of the different actions implemented by the Department for the Digitisation of the PA together with DigitPA, Formez and the main responsible Administrations (Health, Education, Justice, etc.).

The Italian Minister for Public Administration and Innovation adopts the project 'Open Government, open data and App'. This initiative is the natural evolution to web 2.0 for the Internet and job mobility that the Government began three and a half years ago. To make this possible, a new portal was created, www.dati.gov.it, meant to be a benchmark for open data in Italian Public Administration. To date, there are links for about 150 public databases and their description, made available by the Public Administrations, which were the first to adhere to this project: the data is in fact available to anyone who intends to use it to develop applications for analysis or study purposes, in a complete, quick and readable format from all computers, reusable and easy to find.

4.5. IS THERE A NATIONAL CLEARING-HOUSE OF DATA ELEMENTS AND XML-CONSTRUCTIONS AND IF NOT, IS THERE WHETHER THEY WORK IN THIS DIRECTION?

No information about this theme.

4.6. AUTHENTICATION TOOLS FOR ELECTRONIC IDENTIFICATION INTEROPERABILITY

The European Union has been promoting for years projects and standards that encourage the adoption of secure-authentication tools online. Each Member State is committed to enacting these initiatives into law and establishing a regulatory framework for the spread and use of these standards. The major examples in Italy are the CIE electronic identification card and the CNS social security smartcard. The DigitPA (formerly CNIPA) project has been promoting the use of the CNS (National Services Card) for more than five years. This tool already enables citizens of Lombardy, Friuli, Tuscany, Sicily, Molise, Piedmont and Sardinia to prove their identity online with full legal effect. The Codex Digital Administration law on digital governance states (Article 64, Commas 1 and 2) that local government has the authority to establish specific methods for user authentication but is required to accept the CNS and the CIE as tools chosen for online citizen identification.

Current state-of-the-art PKI solutions ensure interoperability and the non-repudiation of all transactions within I-AM and establish the security of the entire architecture. One-Time Password (OTP) technology has become not only a de facto standard but also a standard regulated by RFCs (cf. RFC 2289 and RFC 4226 – HOTP), as well as broad interest groups (http://www.openauthentication.org/).

The OTP represents the most effective way to meet the requirements of the law for standardization and widespread adoption, unlike other exclusive authentication mechanisms. The spread of smartphones and other thin, networked devices offers the technological grounding for a capillary distribution of this solution and for its efficient management. The DigitPA and OCSI government agencies have opened the way to obtaining a qualified digital signature certificate (either local the user's device or remote) through CNS or CIE authentication. That amounts to stipulating that a citizen who holds a valid CNS no longer has to physically appear before a registration authority to obtain a qualified signature certificate. Several Italian banks, which have been active in using and administering PKI services, are starting to launch innovative functionalities backed by remote signatures in order to enable contracts and orders to be underwritten. This is creating a series of new, entirely online services. These signature methods call for a remote signature that is "unlocked"

by an OTP released by the bank itself. However, as usual, this authentication allows NO interoperability and NO standardization.

4.7. TOOLS FOR UNATTENDED ACCESS TO SERVICES AND INFORMATION IN PUBLIC PLACES

While previous sections analysed availability of multiple channels, it should be noted that multichannel public service delivery means more than just using multiple channels. In multichannel service delivery, all channels are integrated and coordinated. Front office applications communicate with each other and support the service provision with centrally stored and accessible data.

Citizens always receive the same response and see the same information no matter which channel they use to access public services. They can select their preferred channels given their needs and circumstances and, especially with the availability of mobile channels, they can reach governments anytime, anywhere, anyhow. Central data storage and reuse of data increase governments' performance and responsiveness on the supply side. Storing data centrally means that data need to be collected only once and that they can be accessed (reused) by back office applications.

In Italy, "Reti Amiche" (User-friendly Networks) is an initiative adopted with the aim of bringing the Public Administration closer to the citizen by offering as many channels as possible that provide access to the various services and by adopting a user-friendly rationale in interacting with the citizens. "Reti Amiche" utilizes the networks and channels existing in the private sector (Post Office, Tobacconists, large-scale retail trade outlets, ATMs, etc.) to provide information and deliver services through points of access that are easily found and close to the citizens. More than 70 per cent of the front desks are Lottery and Betting Offices and Tobacconists, activated by Reti Amiche on the basis of memorandums of understanding signed with the Italian Tobacconist Federation and with Lottomatica. Two types of transactions that are the most frequently used are requests for the issuing of documents such as passports, birth, marriage and death certificates and residence permits; and payment transactions such as social contributions for domestic help, taxes, and fines. Reti Amiche is an initiative of the Ministry for Public Administration and Innovation.

4.8. ACTIVATION AND DELIVERING OF SERVICES WITH A WEB 2.0 LOGIC

While there are tremendous benefits associated with multichannel public service delivery, realizing these benefits is not easy. Multichannel provisioning requires substantial institutional change as well as coordination within government agencies and in some cases with outside organizations. The complexity of multichannel projects further increases when considering the challenges that public agencies sometimes face in eGovernment implementation. These include a bureaucratic culture, outdated policies, budgetary constraints, inadequate technical skills and lack of leadership.

Fast moving technology creates another challenge for public officials implementing multichannel platforms.

Web 2.0 technologies such as social media, e-participation tools and recent paradigms such as open data have only added to these challenges, and public agencies have been slow to adjust to these new concepts of openness and interaction. There is also a growing number of available devices, especially mobile ones such as smart phones and tablets that citizens are using. Finding the right balance between applications and devices and investing wisely on technical platforms in an era of rapidly changing technology is a difficult task that public officials face in the design of multichannel service delivery systems.

Public officials tasked with designing multichannel service delivery systems have the knowledge of the availability of different devices and their bandwidth requirements. For example, the proportion of mobile phones to personal computers in Italy can be a deciding factor on the type of channel to be implemented. Limitations of mobile devices and adaptation of information and services that can be provided by these devices should also be considered while designing new channels. During the assessment of government portals, it has been noted that many portals are laid out for presentation on desktop size displays and exploit capabilities for desktop browsing software. Accessing such a web page on a mobile device often results in a poor or unusable experience. Contributing factors include pages not being laid out as intended. Because of the limited screen size and the limited amount of material that is visible to the user, context and overview are lost. Mobile phones, therefore, may not be appropriate for submission of long forms such as those needed for filing taxes. Instead, phones can be used for provision of emergency and other time-critical public information to citizens. To overcome limitations of mobile devices and offer a better user experience, it is important to utilize mobile-based technologies such as SMS, a separate m-government site or mobile applications. SMS is one of the most widely used data applications in the world.

4.9. ONLINE SERVICES DIRECTORY AND/OR SEARCH ENGINE PLATFORM FOR PA ONLINE SERVICES

The role of eGovernment in treating information as a key service to the citizen becomes increasingly important and lends credence and significance to the need for maintenance and sustainability of online service delivery.

Search engines and intelligent directories of public websites are able to facilitate and connect via the Internet thousands of digital services and information provided by the Public Administration. Thanks to management systems and the participation of 'digital citizens', it is possible to manage the exchange of services through the web and improve the ability of public authorities to use ICT.

An example is the Italia.gov.it. The website is based on the experience of the 'Citizen Portal' (launched in 2002 by the Committee of Ministers for Information Society), a tool that is now outdated due to the advent of web 2.0 era as well as the complexity of public communication through the Internet. Initially designed as a place for collecting the information contained in institutional websites and aimed at families in priority, the previous version of the portal became no longer able neither to follow with timelessness and efficiency the information to be processed, nor to convey it in a consistent and reliable manner.

Over the last years the number of Public Administration websites, as well as their dimension, have increased at an impressive pace, so much that the daily monitoring of the information proved more and more complicated, both quantity- and quality-wise. Moreover, in terms of complexity and economical and planning efforts, the investments of the Public Administrations in Information Society tools turned out to be comparable with those of the most advanced private sector; the information that is potentially usable through web research has fulfilled almost all the informational needs of any citizen.

The borders between services for citizens, businesses and professionals are more and more undefined. It is the case for instance when one searches for a unique certified email address or for the institutional address of a given public entity. 'Italia.gov.it' will thus act as the global eGovernment search engine and will provide web users with connections and search tools, for those to easily and securely obtain all desired information and digital services offered by the Public Administration.

The website undergoes constant updates at all levels (search tool, content, technology used, etc) thanks to an internal working group of the Public Administration. Apart from the departments of the Ministry of Public Administration and Innovation, DigitPA, FormezPA and the National Research Council (CNR) are involved in this initiative. 'Italia.gov.it' intends to be a dynamic place where the information is not processed by editors but retrieved straight from the source, by looking for the most appropriate solution and taking the user directly to the sites of the public authorities.

4.10. RE-ENGINEERING OF ADMINISTRATIVE INFORMATION SYSTEMS: TECHNOLOGICAL ASPECTS

At present, online web services are not the only integration technology available on the market. Moreover, they have only recently appeared. Still in their infancy, compared to technologies like XML and DCOM, they are much less well-known and far less widely accepted. While any integration technology can help organizations to benefit from their IT investments, Web services are the only one which are characterised by the strategic combination of a particular set of key features. These are: contract-based reusability (typical of component-based technology, like DCOM), extensibility and the use of Internet infrastructure. The latter two (i.e. extensibility and use of Internet infrastructure) are typical of XML, but until now, no integration technology has been able to incorporate all three mentioned features, as Web services do. As such, because of their ability to easily enable inter-application communication, ubiquitous access and incremental adoption, Web services show a great potential to help heterogeneous and distributed systems to work together. Thus, in the context of public organizations, the value of Web services could range from enabling the development of entirely new services (by exploiting existing software applications) to the integration and optimization of internal processes.

'Italia.gov.it' is an intelligent search engine and directory of websites, designed and managed by the National Agency for the Digitisation of Public Administration (DigitPA) to facilitate the access of citizens, professionals and businesses to digital services and information for the general public. Furthermore, it serves as an 'engine of change' for all online government services in order to improve their use of digital communication technologies, through the tools of electronic participation, the integration of connecting channels, the monitoring of all updates and the provision of innovations within the digital world.

The search engine released on 'Italia.gov.it' is key among the tools made available by DigitPA. The portal is realising an extensive repository of digital services provided by the PA and eGovernment in Italy based on major institutional sources (index of Public Administrations, the directories of the Italian National Institute of Statistics, the Department for the Civil Service, the ministries and the local authority associations). The recently updated portal provides immediate access to some of the repository's information, including more than 30.000 certified email addresses, 22.500 online services and modules, 6.000 municipal notice boards and 150.000 web pages. A feature of the portal and the engine is the search for information published on public sites and its subsequent transfer to the system via innovative selection and guidance tools.

4.11. WEB-SERVICES ADOPTION

At present, within Italian public agencies, situations characterized by substantial innovation co-exist with situations in which progress towards innovation is still hampered by substantial obstacles. Thus, the process of the accumulation of IT assets is still in its initial phase. Given this situation, what role could Web services technology play in order to improve the IT conversion effectiveness? IT conversion effectiveness is positively influenced by the degree of integration of the application portfolio. In fact, a high level of integration among software applications enhances an organization's ability to benefit from IT investments. A full and seamless integration with "legacy systems" is a key requisite for IT investments to be efficiently converted into IT assets.

In recent years, there has been a change in emphasis away from structural devolution, disaggregation, and single-purpose organizations towards a more integrated approach to public service delivery. The movement from isolated silos in Public Administration to formal and informal networks is a trend driven by various societal forces such as the growing complexity of problems that call for collaborative responses, the increased demand on the part of citizens for more personalized and accessible public services, which are to be planned, implemented and evaluated with their participation, and the opportunities presented by the Internet to transform the way the government works for the people. The reform process aiming at the modernisation of the Public Administration is focused on:

- merit, with a view to reward the most worthy and skilled employees, thus encouraging commitment;

- a performance assessment system that will help Public Administrations to reorganise their activities targeting an overall enhancement requirement, customer satisfaction, transparency and merit-rewarding;
- an alignment of collective bargaining provisions with the private sector;
- the increased importance of effective management;
- the simplification of disciplinary proceedings.

The Government will pursue an overall simplification target, with the aim of reaching the EU-wide goal to reduce administrative burden for business by 25 % by 2012.

Italy has set up several portals that aggregate large amounts of information and services into a single website. A key objective of such portals is to facilitate citizen navigation and use of the content. Although in Italy no portal completely integrated all information, services, and features assessed, several came close. A common approach in this model includes organizing content around life themes and/or specific audiences, such as the young, elderly, women, job seekers, students, etc. These portals also typically include an advanced search feature that may index content from dozens of government websites.

Therefore, though the present analysis is only a brief sketch and would need further elaboration, we could argue tentatively that Web services may significantly enhance IT conversion effectiveness in the Italian PA. Precisely because it involves a maximization of the potential for integrating software applications, it provides significant opportunities for effectively realizing the process of the accumulation of IT assets. However, it is useful to note that, as in any other emerging field, the current generation of Web services tools shows the typical problems of early software. Some issues relating to security and performances are still unsolved.

The above considerations lead us to suggest that Web services should be adopted as the preferred technology when interoperability projects occur entirely within an agency rather than among distinct agencies.

It is important not to forget that Web service is just a technology. In order to obtain better benefit from it, organizational aspects are absolutely essential.

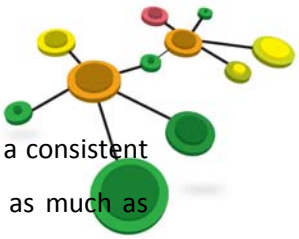
5. BEST PRACTICES AND SYSTEMS ON TRIAL

5.1 BEST PRACTICE

ITALIA.GOV.IT CASE

Web address of the case: www.italia.gov.it.

An innovative approach to the governance of knowledge management systems and services, currently applied in the Italian Public Administrations domain, which we believe could be easily replicated in other countries as well. This approach is being applied in the framework of Italia.gov.it, a governmental on-going project aimed at the establishment of a big knowledge management system and at vertical search services for Public Administrations' data. The Italia.gov.it project comes after a three year period of studies and experimentations jointly performed by DigitPA and research groups from several Universities, with the aim to define an effective project aimed to provide highly specialised search services on big data. The accurate organization and integration of these data and the possibility to make them available also to other kind of users can transform them into organizational knowledge for each community. So we try to summarize some organizational aspects and lessons learned during such activities and briefly describe the overall system adopted for Italia.gov.it project. Italia.gov.it project, aimed at the development of a new interoperable knowledge system. The Italia.gov.it project comes after a three year period of studies and experimentations jointly performed by DigitPA and research groups from several universities with the aim to define a technical and economically viable project able to provide a portal containing highly specialised search services to suit the citizens informative needs. The project has been started in August 2010 and involves the Departments of the Ministry of Public Administration and Innovation. The goal of the project is to build-up an interoperable system able to collect, process, merge and update data and information crawled from PAs websites and from other PAs public data bases and archives. The key idea is that available state-of-the art technologies in the fields of information retrieval, natural language processing, semantics and machine learning are now adequate to build a common knowledge management system (KMS) able to collect and automatically manage big quantities of data and information with a level of quality (in terms of correctness and completeness) comparable or higher than human teams could reach. The consistency of the data collected and processed by the KMS can be assured by a small team of "knowledge managers", in charge of validating only the data and information the system is not able to manage automatically. All search services provided by Italia.gov.it rely on information stored in the KMS that has been verified, either manually by the knowledge managers or automatically by the system. This is an innovative approach to the development of e-gov portals, collecting and providing



information gathered from a number of different, heterogeneous, independent sites in a consistent way. In fact, the mid-term goal of the project is to build a system able to automate, as much as possible, the process of data insertion and update into a PAs knowledge base: this would result into high technical scalability and economic sustainability. In the following section, we explain and motivate some strategic choices made during the overall design of Italia.gov as a result of preliminary study of some information retrieval tools. Existing general purpose search engines (e.g. Google and Yahoo!) are generally not sufficient to satisfy the citizens' needs of accessing public information. There are several reasons to justify this claim, among which:

- a general purpose Internet search engine tries to index, by definition, all the Web. From the citizen point of view, this implies mixed result sets, containing both governmental and non-governmental URLs. This is not acceptable for a citizen, who should be able to easily distinguish results coming from official sources;
- even if a general purpose Internet search engine filters non-governmental URL in result sets, it implements general purpose retrieval techniques that are not specialized for the PA setting. As an example, consider PageRank, the well-known link analysis algorithm used by Google to assign a score to each web page, with the purpose of "measuring" its relative importance within the Web. Clearly, PageRank, like any other link-structure based methods, does not provide, by itself, an acceptable scoring method in the setting we are considering, where the relevance of a web page may depend on more domain-dependent issues, such as jurisdictional matters;
- general purpose search engines can often return misleading or out-to-date results.

Even if many commercial enterprise search engines often provide advanced retrieval functionalities, they only address general purpose search. Furthermore, commercial enterprise search platforms are not, in general, extensible since they are not open-source. Building up a specific search engine for Public Administrations is a really challenging work due to the large amount of data to crawl and index. Interestingly enough, in the last few years a number of highly valued frameworks supporting data-intensive distributed applications have been developed and released by the open-source community. Among others, Hadoop implements the map-reduce programming paradigm in order to enable data and time intensive tasks to be transparently executed on thousands of computing nodes. Many IR open-source systems already support Hadoop: Nutch, Solr and Terrier already allow highly scalable solutions for crawling, indexing and querying. The open-source community is also quite productive on Machine Learning (ML) and Text Mining (TM) tools. In the first case, frameworks such as LingPipe (which requires a license in the highest-level configuration), Mahout, SVM-Light

allow to face a number of mining problems useful to support search services, such as clustering and classification. In the latter case, the analysis of unstructured contents such as texts, audios and videos, can be performed by extending frameworks like UIMA and GATE. Finally, in the last years significant advances have been made in the development of NoSQL databases, useful to manage large and sparse data like the ones collected by Italia.gov.it. In many cases information about PA is replicated on several information sources. In order to provide consistent information to citizens, it is crucial to maintain these information sources as synchronized as possible. Unfortunately, this is a tricky problem especially when information sources are managed by different PAs. This is the case, for example, of the Index of the Italian Public Administrations (IPA). IPA is a public e-Service, based on a centralized archive, where each Italian Public Administration publishes, by law, its institutional contacts (address, emails, phone numbers, etc.), together with some information concerning its organizational structure. Interestingly enough, each PA has to publish, by law, the same information on their institutional Web sites. Another strategic choice regards the possibility of leveraging institutional collaboration to improve the quality of the system while maintaining costs at an acceptable level. The quality of the knowledge base can be significantly improved through a suitable contribution of operators working in PAs' call centers.

5.2 SYSTEM ON TRIAL

PROJECT MUSEID-ITALY FOR THE DEVELOPMENT OF A PERSONAL DATA OF PLACES OF CULTURAL
Plan as part of the E-Gov 2012 of the Department for Innovation and Technology, Ministry of Public Administration and Innovation, integrated with the Portal of Italian Culture.

The system DBUnico, from the point of view of software architecture consists of a database (MySQL) that contains the data of cultural property and other information of interest to the Ministry, and a web application (php) for their maintenance (research, creation, update, removal).

From the point of view of network architecture, the management application resides on a machine exposed on the Internet network that responds to the address: http://dbunico.beniculturali.it, while the data base resides on a machine that has as sole purpose of managing data and resides on a machine inside the network MiBAC and therefore visible to any other node in the intranet.

The sharing of data with other applications in DBUnico interested in adding information to the master data or simply to restate these details for the creation of new ones, can be as follows:

1. Extending the schema DBUnico;

2. Direct access to the DBUnico (read only);
3. Application integration;
4. The server DBUnico;
5. Rest XML HTTP / JSON;
6. FTP (get / push);
7. OAI-PMH.

Expected results from the project: to collect in one important project strategic activities and current projects in the field of the museum system and enhance the results by placing them in a broader context of the establishment of a "national museum system." The project involves the digitization of the communication on the web, e-commerce, the creation of "Museums impossible", through the consolidation, within the same virtual environment, works (by the same author, of a current Art, a particular type) actually located in different institutions and different countries. (http://www.e2012.gov.it/egov2012/?q=content/culturamica-%E2%80%93-musei-d%E2%80%99italia-%E2%80%93-cultura-tutti)

ITALIA.GOV.IT: THE ARCHITECTURAL SOLUTION

The Italia.gov.it system is an information system including all hardware, software and data management components yielding support to the provision of a set of value added search services. The logical architecture of the Italia.gov system is composed by the following subsystems: information presentation and user interaction;

- knowledge management;
- management of knowledge base contents;
- infrastructure;
- monitoring.

The whole system and all subsystems are organized as a SOA (Service Oriented Architecture). This architectural choice supports a clear separation of tasks among subsystems, with a possible use of different technologies in the development of different subsystems.

This subsystem takes care of information and service presentation to the final user. It is composed by two sub-modules: the Front End module and the Content Management module. The Front End module is the multichannel user; it supports basic needs of information access to foreign speaking users and gathers feedbacks from end users about the quality of the services and the information

provided. For what concerns communication channels, the subsystem, apart from the usual web application/web services interface, allows the development of client applications on mobile systems, tablet PCs, and, possibly, digital TV appliances. A most relevant task for the Front End module is the gathering of user feedback. Apart from explicit feedback, the one gathered through an explicit interaction with the user (such as, for example, question answering), the front-end module will provide mechanisms for implicit feedback collection (for example, through user click recording). Feedback analysis will be applied with different objectives, such as auditing, user profiling, suggestion techniques implementation, service improvement, and new services identification. At the functional level, the Front End module interacts with the Content Management module by exchanging contents to be published. The Content Management module allows the structured organization of Italia.gov.it contents, manages all processes related to data gathering, approval and publishing. It also manages all information relevant for user interface personalization. At the functional level, the Content Management module auto-feeds its content by interacting with the underlying Knowledge management subsystem. The Knowledge Management subsystem is the core of Italia.gov.it, and it is devoted to:

- storing and managing all rules, both formal and heuristic, which influence the state and the evolution of the digital administration;
- maintaining, indexing and storing the Knowledge base of the digital administrations, as obtained from gathering content from institutional sources, from Public Administrations web sites, from call centres reports and logs;
- managing and making use of user feedback, as provided by the system for the management of Knowledge base contents, to update the Knowledge base;
- implementing techniques for quality assessment of the information;
- providing tools for the creation and the management of knowledge resources, such as dictionaries, thesauri, ontologies, white/black lists.

Data gathering for the KM is performed in a semi-automatic way: it is mainly supported by a limited number of specialized human operators (“knowledge managers”). At the functional level, the Knowledge Management subsystem interacts with the Front-end subsystem, which provides user interfaces for data insertion in the Content Management module. This subsystem provides support for the management of the knowledge base and for consistency maintenance among all data stored in the Knowledge management subsystem, in the Content management module, and in data sources. These tasks rely on a set of knowledge managers, specialized in the management of

knowledge base contents and in the identification, manual validation, correction and structuring of external data sources.

(Describe a model of organization of administrative activities in accordance with interoperability in your Country)

Each PA call center needs to manage a knowledge base to support its operators in dealing with inbound calls.

Several public operators are involved in the Italia.gov project. Such operators will highly profit from specialized search services, which will allow them to effectively improve the quality of their result-sets. Some experimentations will also be conducted with the aim to estimate benefits obtainable by involving citizens in updating the knowledge base by applying a “Web 2.0” approach.

Operators will be supported by software tools for the semi-automatic validation of data, able to derive and learn new validation rules from the analysis of human operators’ activities and choices. The infrastructure subsystem includes all computing, storage and networking resources used by Italia.gov.it and all services related to their management. It also provides all functionalities related to communication, information protection and security, and interoperability with other data sources, such as the Index of Public Administrations (IPA).

The infrastructure is composed of three subsystems: crawling and data source connection; KMS hosting; Front end hosting. The subsystems have different computing power and availability requirements. In particular, only the third one must be characterized by high availability, due to its interaction with end users. The monitoring module provides all functionalities related to the continuous and orderly tracking of Italia.gov.it data sources, including the monitoring of the infrastructure, the knowledge base contents, the content manager and the user access.

It is also increasingly important to understand which is the best way for public organizations to find information from their big database, partners’ archives and citizens/SMEs email and documents. So another essential service is the Web search engine. The interoperable search engine used, built by using open-source software tools, is highly extensible, thus allowing the integration of ad-hoc search components and making it possible to fully exploit additional information in the KM (e.g. linguistic resources such as list of acronyms, or formalized knowledge such as, organization charts, the institutional mission of PAs and their jurisdictional boundaries). These ad-hoc search functions are

designed and experimented with the contribution of researchers from several Universities, who take advantage of the Italia.gov.it project to gain access to data and information typically available only to commercial search engine providers.

(Describe a model, a method or a tool for business process interoperability adopted in your Country)

SPC & RIPA CASE

Web address of the case: http://www.digitpa.gov.it/spc/servizi-connettivit-interopera-base and (http://www.digitpa.gov.it/spc/servizi-interoperabilit-evoluta)

SPC (Italian Network for Public Administrations) and RIPA (International Network for Public Administrations) are two initiatives, leaded by DigitPA, to build an efficient telecommunication motorway in order to give the Public Administrations the tools to promote eGovernment services, improve back-office applications, increase security, decrease paper utilization, increase efficiency and then generate savings. Both the initiatives are supported by a legislative framework: the CAD (Digital Code for Public Administrations). Two European tenders have been issued by DigitPA (CNIPA) to find the best Service providers and to implement the SPC&RIPA project.

Domain: eGovernment

Topic: Policy| Efficiency & Effectiveness, Benchmarking| Interoperability| Infrastructure

Sector: Communication (infrastructure)

Target Users: Citizen | Administrative | Civil society

Target Users Description: The target group is the Central Public Administration and its 20.000 sites. It is mandatory for them to use SPC and RIPA services to connect their sites. For the Local Public Administrations, SPC or RIPA services are optional.

PROJECT SIZE AND IMPLEMENTATION

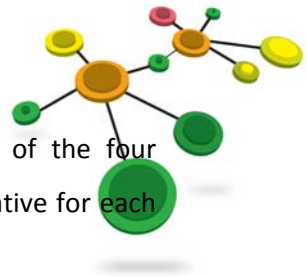
Type of initiative: IT infrastructures and products

Overall Implementation approach: Public Administration

Funding source: Public funding national

Project size: €5,000,000-10,000,000

Implementation and Management Approach: DigitPA manages the whole project with a federative approach. The Management Committee, whose chairman is the President of CNIPA, consists of Central and local PAs representatives. The technical bodies supporting the Committee are: the SPC Management Center, the QxN Consortium and the Security Operation Center. The SPC Management



Center monitors the SPC security system through the Security Operation Centers of the four providers and the security representatives of the PAs (there is one security representative for each PA).

Technology solution: The procedure is simple: the PAs choose the appropriate services (IP multi-channel services, voip services, security services, etc.), to connect their offices from a list managed by CNIPA. If they are located in Italy, the SPC qualified Service Providers will be used, if they are abroad (embassies, consulates etc.) the RIPA Providers will be used. RIPA can be considered the worldwide extension of the SPC project.

The first significant impact is the cost saving that is about 50% compared to the previous expense. Another important result is decupling the bandwidth available to PAs. Further the quality and security of eGovernment services have been improved. The project involves 56 central PAs (20000 sites to be connected), 20 regions, 110 provinces and potentially 8000 Municipalities.

The case is an innovative multi-providers model that promotes competition between ICT providers. The SPC can be considered as a set of infrastructural tools and rules allowing the interoperability of PAs applications. The underlying idea is to choose the best Internet Service Providers to supply qualified and secure connectivity services to all the Italian PAs. All the qualified providers are connected to the qualified exchange network (QxN) made of different Neutral Access Points and managed by CNIPA through a specific Consortium. In order to implement their networks the PAs choose the appropriate services from a list (IP multi-channel services, voip services, security services). Depending on where those sites are located (Italy or abroad) the SPC or RIPA qualified Service Providers will be used. An innovative model of tender (open procedure) has been implemented which foresees multiple Service Providers: the Provider with the lowest price gets the biggest part of the supply. Four SPC Service Providers have been identified by CNIPA: Fastweb, BT, Wind and Telecom Italia. The estimate cost saving is about 50%. The deployment phase has been started on June 2006 and 46 out of 56 PAs have already signed the contracts. The RIPA connects four Ministries (Ministry of Foreign Affairs, Ministry of Defense, Institute of Tourism and Customs Agency) for a total of 450 sites. The tender has been assigned to a Consortium made by EDS and BT. The network is already operational and almost all ministries have deployed their networks and activated the main services on their sites, including VoIP (Voice over IP). Now the Application Services phase is going to be started. Several services are planned to be on the network, such as the Electronic Visa and the Electronic Passport (Ministry of Foreign Affairs). Several countries all over the

world have asked for information and details on SPC & RIPA project: China, some African countries. The LINX of London asked for information to propose the same model to the English Government.

Advantages:

1. the multi-provider model promotes a real competition among providers of telecom and data services;
2. the impact of the project on the digital divide is remarkable as it is improved because of the competition model.

The cost saving and the consequent price reduction of ICT services due to the competition doesn't apply only to PAs but indirectly also in other areas like finance, industry etc.