

FOSS European and National Policies and practices: Analysis and Recommendations



Date: 18 Feb 2011
Project Partner: STROVOLOS, Cyprus

Project acronym: OSEPA
 Project name: Open Source software usage by European Public Administrations
 Project code: INTERREG IVC, 0918R2

Document Information:

Document title: FOSS European and National Policies and Practices: Analysis and Recommendations
 Date of Delivery: 18.02.2011
 Component: CP3
 Component Title: Exchange of Experience
 Component Leader: USFD
 Distribution (Restricted/Public): Restricted to the partners of the Consortium
 Nature: Methodology

History Chart

Date	Changes	Cause of change	Implemented by
Feb 2011	Initial Document		STROVOLOS

Authorisation

No.	Action	Partner	Date
1	Prepared	STROVOLOS	18/02/2011
2	Approved		
3	Released		

Disclaimer

The information in this document is subject to change without notice.

All rights reserved

The document is proprietary of the OSEPA Consortium. No copying or distributing, in any form or by any means, is allowed without the prior written agreement of the owner of the property rights. This document reflects only the authors' view. The INTERREG Programme is not liable for any use that may be made of the information contained herein.

Contents

1. Introduction	6
2. Purpose and Scope	7
3. Collection of National Policies	9
3.1 Czech Republic	9
3.1.1 Introduction.....	9
3.1.2 Findings	9
3.1.3 Conclusion	10
3.2 Greece	11
3.2.1 Introduction.....	11
3.2.2 FOSS Policies.....	11
3.2.3 Related projects.....	11
3.2.4 Open source Communities.....	12
3.2.5 Conclusion	12
3.3 United Kingdom	13
3.3.1 Introduction.....	13
3.3.2 The current situation in the Public Sector.....	13
3.3.3 Open Source Organizations	21
3.3.4 Conclusions.....	24
3.4 Spain	25
3.4.1 Introduction.....	25
3.4.2 National Initiatives	25
3.4.3 Regional Initiatives.....	28
3.4.3.1. The case of Extremadura: "open source key to development"	28
3.4.3.2 The Region of Andalusia and the FOSS.....	29
3.4.3.3. Other regional Best Policy detected: The Region on Galicia	29
3.4.4. Policy initiatives at local level	30
3.4.5 Conclusions.....	30

3.5 Belgium	32
3.5.1 Introduction	32
3.5.2 Findings	32
3.5.3 Projects.....	32
3.5.4 Conclusions.....	33
3.6 Germany	34
3.6.1 Introduction	34
3.6.2 Legislation.....	34
3.6.3 Political initiatives on the federal level.....	34
3.6.4 The example of the Open Source Network Lisog – fostering the use of OSS in Public Administrations	37
3.7 Italy	38
3.7.1 Introduction	38
3.7.2 FOSS National Policies	38
3.7.3 Regional Policies	39
3.7.4 Conclusions.....	40
3.8 Cyprus	41
3.8.1 Introduction.....	41
3.8.2 Local Communities /Initiatives	41
3.8.3 Use of FOSS in the public sector	42
3.8.4 Use of FOSS in the private sector.....	43
3.8.5 FOSS Related Projects	44
3.8.6 Examples to be avoided	45
3.8.7 Conclusions.....	46
3.9 Sweden	48
3.9.1 Introduction	48
3.9.2 National Initiatives	48
3.9.3 Regional initiatives	49

3.9.4 Conclusions	50
3.10 Romania	51
3.10.1 Introduction	51
3.10.2 Legal Framework.....	51
3.10.3 The current situation.....	53
3.10.4 Conclusions	53
4. Summary and Conclusions	54
Sources	56

1. Introduction

The use of Open Source Software (OSS) in the public sector and e-government is nowadays widely spread all over the European public administrations. Various initiatives are being undertaken across Europe examining the feasibility and possibility of implementing OSS in public administrations. The European Commission has established the Interoperable Delivery of European e-Government Services (IDABC) and has fully endorsed and encourages the implementation of FOSS in Member States. Free Open Source Software (FOSS) offers to its users the full access to its source code and the permission to use it, to modify it and to redistribute it. European governments are increasingly considering the use of Open Source Software as a means of reducing costs, increasing transparency and sustainability. Moreover the interoperability and respect of standards of the OSS are the main reasons for using OSS in the Public Sector. The main strength of open source software is that it is “constructed for interoperability” and “closely associated to open standards”. FOSS is considered to better respect standards because no proprietary standards are used to “protect” the vendor captive market and it is in the interest of everybody to achieve the best inter-operability. The permanent research for public common standards makes OSS more convenient for long-term interoperability. The broad adoption of open source software by the public administrations and the public sector in general is expected to result in **increased economic growth and employment**. Despite the many advantages offered from the use of FOSS, only a few EU Member States have explicit open source software policies and actually the most of them have not defined yet a clear policy line regarding this issue, because they seem to have other priorities, thus many initiatives are driven by more or less informal local groups or individual regional or local governments, which make it hard to collate comprehensive and detailed information on this aspect. For this reason collection of national policies regarding the use of open source from the public sector is not an easy task to accomplish.. This document is to

report on the current situation regarding FOSS national policies and will present information collected from the partners' countries (UK, Czech Republic, Greece, Cyprus, Italy, Spain, Sweden, and Belgium) in relation to FOSS procurement and use in Public Administrations. Every partner had to collect its respective FOSS national policies and report it in the current deliverable. More analytically the document aims to describe the situation of the national policies regarding free open source software (FOSS) promoted by National Level and moreover will briefly outline some current FOSS usage in Public administrations, some of the FOSS organizations influencing policy, and then proceed to identify National Policy and plans for the future. Complementary, some remarkable regional and local policies are also presented. Finally a summary section will close the document

2. Purpose and Scope

This document is an analytical report towards the collection of data from every individual partner, having in mind legal restrictions, and possible other barriers imposing from each country's predefined rules and policies. The objective of this document is to report facts, to make reference and finally to complement the document "Guidelines and checklist for the collection of national policies" also delivered from Strovolos Municipality and has been involved with this issue and moreover to provide information regarding the situation as far as it concerns the use of open source from the public administrations all over Europe, the existing foundations, initiatives and other bodies that are established in each of the partners' countries and other relevant issues. Obstacles, possible risks, examples to follow, examples to avoid, limitations and difficulties in assessing this kind of policies will be examined and a summary of the findings will be presented. To achieve these objectives, the study will collect facts and directions related to the actual and potential use of open source software into the public sector in the majority of the European countries. As referred above, this document has a direct relation to the deliverable "Guidelines and checklist for the collection of national policies" and will use it as a base, guide and reference

as it can be considered as its continuation. The purpose of that deliverable was to provide general guidelines and methodologies for helping the partners of the consortium in the collection of national policies for the use of open source within the public sector in their countries. For succeeding this, the partners had to use the guidelines and the checklist provided through that document then, in order to report the findings of their “research” meaning to collect the national open source policies in each of their respective countries. The present report has as an overall target and purpose to summarize the partners’ findings regarding the current situation in their countries and provide a concrete and detailed report as well as a comparison with the data collected and reported in the “Guidelines and checklist for the collection of national policies”.

3. Collection of National Policies

3.1 Czech Republic

3.1.1 Introduction

The aim of this section is to describe the situation in the Czech Republic regarding free open source software (FOSS) national policies

3.1.2 Findings

There have been rather isolated attempts to take advantage of FOSS potential. Yet, there is no common strategy and the FOSS subject does not receive much attention of decision makers.

Currently, there is one existing strategy concerning FOSS in the Czech Republic in total, i.e. ‘Smart Administration’ linked to projects financed from European Structural Funds; in frame of ‘Smart Administration’ there is ‘Strategy for Services for Information Society’, which does not really deal with software strategy and interoperability, but it rather gives space to open source initiatives. The requirement for compilation of a more elaborate strategy comes especially from local municipalities; public administrations on higher level (regions, ministries etc.) do not occupy themselves with the issue or do not view it as topical. A key issue for the strategy is the correlation with the conception of schooling system development. Unless FOSS is integrated in school education and promoted, it is unlikely it will be adopted in a large scale. Currently, the power for compilation of such strategy seems to be insufficient on national level. No changes can be expected unless the FOSS issue is discussed on all levels of public administration, since this would bring the issue to the attention of politicians on corresponding level.

The Czech Ministry of Interior declares their readiness to elaborate on FOSS strategy as a gesture of public administrations if there is the demand in the future. Vysočina Region would also like to promote discussion on the topic and have introduced the subject to partners in Association of Regions of the Czech Republic (Asociace Krajů České republiky) which associates all existing Czech regions and covers the area of the Czech Republic. There is also the Society for Research and Support of Open Source (Společnost pro výzkum a podporu Open Source) who is the most active organization in the field. Their establishment was encouraged by the City of Prague in 2001. Their main aim is to support schools and public administrations.

3.1.3 Conclusion

There is neither an overall strategy regarding adoption of FOSS nor a major strategic document in favor of FOSS.

3.2 Greece

3.2.1 Introduction

The aim of this section is to describe the situation in the Greece regarding free open source software (FOSS) national policies. **In general there are no official FOSS policies in Greece.** As a reaction to the governmental policies and the lack of open source software policies of the government, Linux and open source software supporters are attempting to take matters into their own hands. Meanwhile the Greek Research and Technology Network, which supports Greek universities, schools and technological institutes, has launched an open source software working group to study the potential use of open source software across Greece (Aslett 2008).

3.2.2 FOSS Policies

The reality in Greece is that there is little political support for Open-Source software at the national level. In contrast, the Greek government signed a public private partnership agreement (albeit a non-exclusive one) with Microsoft in 2006 to help implement its National Digital Strategy. Fortunately this agreement ended at February of 2010. As a result there are no Official FOSS Policies in Greece. We have witness many times cases of Software Procurement that excluded Open-Source Software. The excuse is usually based on the higher cost of Proprietary Software! The most efficient way of cutting off Open-Source is the demand for “cost of ownership” due to licenses. Although the zero license cost should be an advantage, it has many times become an excuse for cutting off Open- Source Software Solutions for the Public Sector.

3.2.3 Related projects

Despite all the above we can see some exceptions where Open-Source is used in Greek Public Sector. For instance the **LGAF** (Local Government Access Framework (Project for "Coordination of Local Government Authorities) project: It's a platform that supports the provision of Online Services to local citizens (e.g. family record certificates, municipal tax

payments, recycling of electrical appliances etc), business (e.g. municipal tax payments etc.) and establishes online task management of the activities related to online services delivery (public employees). The **objective** of the **LGAF project** is to define a framework for digitizing e-gov services provided by Local Government Authorities through the automation of business processes:

- Enterprise Technologies-based Content Management
- Business Process Modeling and Execution
- Data components Modeling and Document Modeling

Currently it's adopted by few municipalities. Besides that there are some examples of Linux adoption on client PCs due to the efforts of IT Managers.

3.2.4 Open source Communities

The Open-Source community in Greece is very vivid trying to raise Open-Source Software and Open Standards to the political agenda. Meanwhile the Greek Universities and Research Centres have join forces and launched a non-profit initiative for promoting Open-Source. It's called Greek Free / Open-Source Software Society and it's very active on the past two years.

3.2.5 Conclusion

As stated in the beginning of the report there is no official FOSS Policy on Software Procurement. The Greek Government has stated many times its will to support Open-Source and Open Standards but till now there is now strategic plan on migrating or enforcing FOSS to public services or even education.

3.3 United Kingdom

3.3.1 Introduction

This section is to report on the current situation regarding National Policy in the UK in relation to FOSS procurement and use in Public Administrations. This report will briefly outline some current FOSS usage in PAs in the UK, some of the FOSS organizations influencing policy, and then proceed to identify National Policy and plans for the future. A summary section will close the document.

3.3.2 The current situation in the Public Sector

Any national or governmental policy regarding FOSS was suspended in the UK in May 2010 due to a General Election and a change of Government. This has resulted in promises of new policies and some preliminary plans but no definitive policy so far.

3.3.2.1 IT in the Public Sector

- Population of the UK - approximately 62million
- 433 Local Authorities and one Central Government
- Central Government
- More than 130 data centres in Central Government
- 90,000 servers within Central Government running at <10% utilization
- 600 desktop licences in Central Government
- Wider Public Sector
- Thousands of data centres and comms rooms
- More than 200,000 servers
- 10,000+ distinct applications

- 4 to 5 million desktop licences

What is apparent in Public Administration in the UK is that there is **no aggregation of application demand, no mobility between departments and a problem of under or over software licensing at a departmental level**. IT spending in the UK is massive and there are savings that can be made. Because 90% of Government spending in IT is spent with the same 5 suppliers the public sector is cutting itself off from small and medium-sized companies who are innovatively using open source. A survey by Accenture in April 2010 looked at 300 large organizations in the private and public sector across the UK, Ireland and the US. It found that 38 percent are moving mission-critical software to open source in the next 12 months with the financial services sector leading the way and unfortunately the public sector lagging behind.[1]

3.3.2.2 FOSS in the Public Sector

It is understood that FOSS use in the UK substantially lags behind that of other European countries but there are a number of examples of successful FOSS installations in PAs throughout the country. Some of these are:

- National Institute for Health and Clinical Excellence
- Parliamentary and Health Service Ombudsman
- Parliament
- Government Communications HQ
- Health Protection Agency
- Legal Services Commission
- Wales Cooperative Centre
- NHS connecting for Health
- Warwickshire Police
- Schools
- Royal College of Paediatrics
- The Drinkaware trust
- Voluntary Service overseas
- The Electoral Commission
- Carmarthenshire CC
- Digital UK
- Scottish Care Commission
- DirectGov
- Camden Council

Over 25% of secondary schools in the UK use the Linux operating system on at least one computer. The National Health Service (NHS) uses a Linux ‘Spine’ which supports 300,000 users, which represents 35% of all NHS organizations.

The Health Protection Agency described the use of FOSS solutions as ‘a no brainer’ as they recognize that they will be using tools developed by scientists for scientists. They have identified cost savings, find that support is readily available and find FOSS solutions reliable and flexible.

One council that is using FOSS solutions is Carmarthenshire County Council. They have identified increased productivity and found that by outsourcing support they have freed up their internal IT support team to focus upon core IT activities. Another council, Camden Council, has used FOSS successfully. It represents an area of 22 KM² of inner London and delivers almost 600 different services to nearly 228,000 residents. It has combined three of its most used services into one merged FOSS solution representing a single view of the citizen. This reduces multiple contact points for residents in order to improve service. This has resulted in reducing costs by 80%, cut resident enquiry time by up to two-thirds, and merged three teams together to boost efficiency.

The successful FOSS solutions seem to fall into a number of categories, namely:

- Search solutions
- Content management
- Document management
- Databases
- CRM systems
- Servers
- Web services

However, documented attempts to implement FOSS desktop software have generally failed or had limited success despite very committed attempts to succeed.

One example is **Bristol City Council**, one of the most pro-OS authorities in the public sector in the UK. They have an OS strategy written into their IT strategy but when trying to implement StarOffice on every workstation they were forced to return to MS Office. This

was partly due to the lack of interoperability between them and their external partners who have not kept pace with open source solutions. They are still committed to use as much Open Source as possible and OpenOffice is installed alongside MS office on every PC and their strategy is to move from MS Office within three years. In addition they are increasing the use of OS software for back office and administrative functions and they are promoting open data, open standards and open source with their partners.

Another council that attempted to use OS desktop software was **Birmingham City Council**, the largest local authority in UK with 50,000 staff and a population of 1 million. In 2005 they planned 1500 OpenOffice PCs in Libraries across the authority. In actuality only 200 were implemented and of these many failed and reverted to MS Office leading to the abandonment of the project. They found that implementing an OS solution was more expensive than a Windows solution with the OS solution costing £534,710 in contrast to the Windows solution costing £429,960. They identified the following reasons for the failure of the project:

- Initial cost of setting up the project
- Additional costs for technical definition and design
- Development
- Testing
- Training
- Expertise requirements
- Key legacy applications wouldn't run
- The Operating System was storing information about the contents of public users' removable media
- They were given big discounts on Windows

The Council is now reassessing OS in view of budget cuts.

3.3.2.3 The New Government's position

3.3.2.3.1 Core principles

The new Government is starting to define its position with some initial core principles.

These are:

- Open Data – government data must be transparent
- Open Source works – its concepts should be applied to processes as much as to IT
- Open Standards will drive interoperability, save money and prevent vendor lock-in
- Open Markets – competition creates efficient market-based solutions.

In Cabinet Office written answers and statements on 14 September 2010 Adrian Sanders (Torbay, Liberal Democrat) asked of Francis Maude (Minister for the Cabinet Office; Horsham, Conservative):

“To ask the Minister for the Cabinet Office what steps are being taken to encourage the procurement of open source software in Government Departments; and what estimate has been made of the savings which could be made by transferring to open source software.”

Francis Maude responded: “The Government are committed to using more open source solutions where possible. The Cabinet Office along with the Office of Government Commerce are working on "Guidance for Procurers" specifically covering open source software. A key principle is that Government will actively and fairly consider open source solutions alongside proprietary ones in making procurement decisions.

Procurement decisions will be made on the basis of the best value for money solution to the business requirement, taking account of total cost of ownership of the solution.

Where there is no significant overall cost difference between open and non-open source products, open source will be selected on the basis of its additional inherent flexibility.

No estimates on the likely level of savings that will accrue from transferring to open source software have been made. While more open procurement can undoubtedly save money, it is difficult to ascertain precise cost savings from open source software alone as it is one element in the overall solution.” [2]

Moreover, recently, at the Public Sector Enterprise ICT Conference 2010 in London, Bill McLuggage, the Government Deputy CIO stated:

"Legally we're not allowed to specify a product, but we can push open standards and government departments to consider open source"

He admitted that our European counterparts were more advanced in the use of FOSS and in order to justify and OS policy he asked for PAs to provide his department with case studies to demonstrate the business benefit of using FOSS. The Government is pushing to solve the budget deficit and recognizes that FOSS solutions could assist with this. The Government is planning to include in its procurement policy that they require any suppliers to provide evidence of consideration of open source solutions during procurement exercises. If this evidence is not provided, bidders are likely to be disqualified from the procurement.

3.3.2.3.2 The Government Action Plan – OSS

The Government Action Plan is an updated, revised version of the “Open Source, Open Standards and Re–Use: Government Action Plan”. It is a Cabinet Office document published online which invites anyone to engage in debate and discussion. The document encourages government agencies:

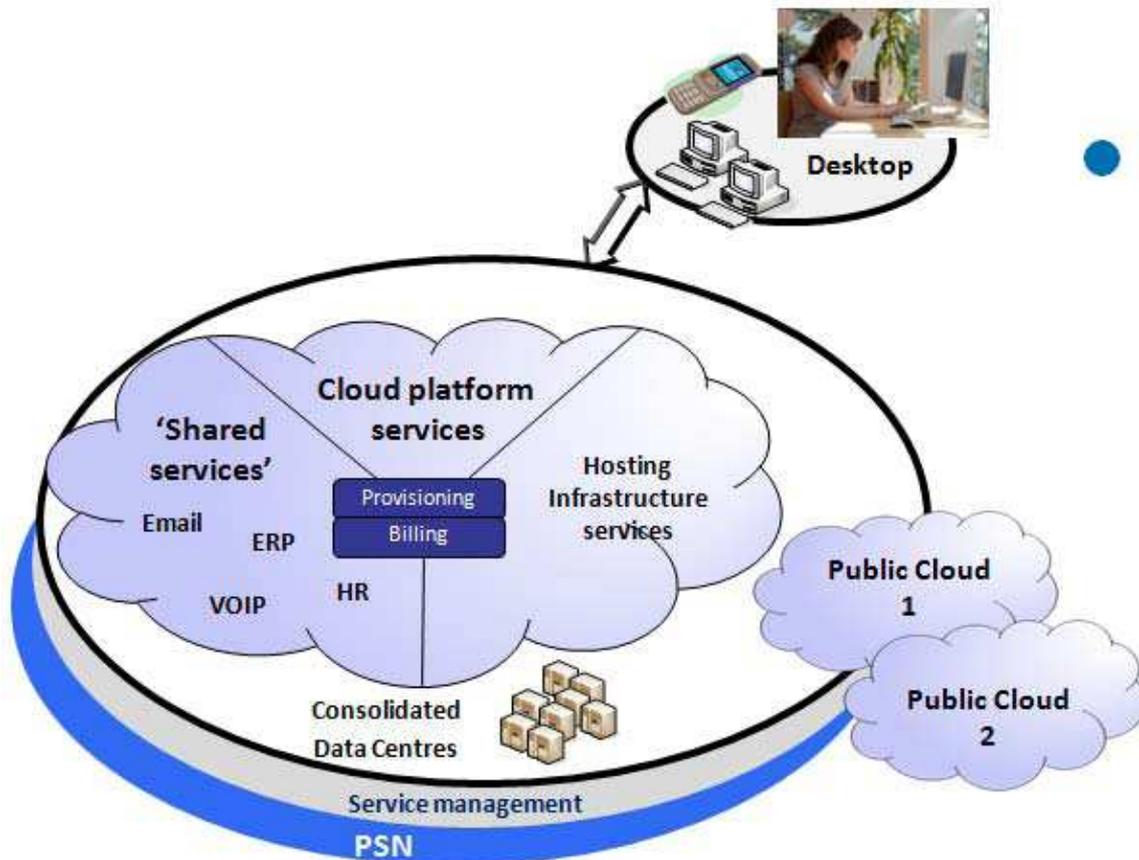
- To ensure that Open Source products are fully and fairly considered throughout government IT
- To ensure that requirements are specified and data is published in terms of Open Standards
- To seek the same degree of flexibility in commercial relationships with proprietary software suppliers as are inherent in the open source world.

3.3.2.3.3 The Wider Plan for IT in Government

The Government has so far not published a formal policy but has extensively spoken on its plans for IT policies in the future. FOSS solutions are a part of a larger plan including sharing and extensive consolidation of data, hardware, software and services. The plan in brief includes:

- Government G-cloud
- App store for government (ASG)
- Consolidated data centers
- Community Source/Open Source

- Government assistance to collaborate with other public authorities
- 25% IT contracts to SMEs



The intention of this plan is to reduce ICT costs, supplier lock-in, time from idea to service and carbon footprint. It will create open, vibrant competitive marketplace that will be achieved through:

- Deployment across the whole of Public Sector
- Sharing and re-use of all relevant Public Sector ICT services across organizational boundaries
- Driving standardization and simplification
- Agreeing standards

- Overseeing procurement and certification processes
- Supporting the Public Sector to create new Cloud services where there are no existing ones available

The Government intends to recruit some PAs to act as Foundation Delivery Partners (FDPs) to build the initial G-Cloud services to provide:

- Web Hosting and Content Management
- Infrastructure as a Service
- Public Cloud Services
- Collaboration Tools
- Secure Email

Currently the licensing situation within the UK is very inefficient and the Government would like to publish all licences up into the G-Cloud for the use of any PA that requires one. They are taking legal advice on EU procurement law to establish if licences can be procured on behalf of The Crown for the use of any PA.

Another element of the proposed plan is the Application Store for Government (ASG), which will be the online ICT Marketplace for the Public Sector.

It will provide:

- G-Cloud Certified ICT Applications and solutions
- PSN
- Hardware
- Common Desktop
- Service Management
- Development Toolkit

So extending the ‘Openness’ concept to the ASG it will have a number of features:

- There will be a Certified Zone and an Open Zone
- Services in the Certified Zone will have been "pre-procured"
- Innovation will be encouraged in the Open Zone

- Products will be available in a standardized, simple and low cost way whilst maintaining legal compliance
- Price and Performance Rating will be visible for comparison, promoting competition and service excellence
- You can search or advertise for new applications and services
- Services at “Latest Best Price”

3.3.3 Open Source Organizations

3.3.3.1 SOSS

The SOCITM Open Source Software Group (SOSS) was established in mid 2003 with the objective of promoting the use of open source software in the public sector. SOCITM is the National Society for IT professionals in the Public Sector.

SOSS is not concerned with the "religious wars" between proprietary and OSS products, rather with how IT managers can use OSS successfully. It is considering how the business issues will be handled (total cost of ownership, support resources, future development etc) within the context of an open source framework. The opportunities exist to make a significant impact in the future use of ICT and the SOSS work programme is addressing this challenge.

In the revised policy for OSS, the Cabinet Office has mandated that OSS solutions be considered when procuring. However, when tenders are issued few, if any, OSS responses are received. SOSS, in conjunction with industry bodies (particularly the Open Source Consortium) are working to ensure that OSS solutions can compete with proprietary solutions for our requirements.

SOSS's focus is very much on the business issues surrounding OSS. Examples of current work are:

- Ensuring suitable support arrangements and professional certification for OSS
- Addressing OSS technical issues and providing guidance on implementation

- Intellectual Property Rights debate, as this issue will have a major impact on both OSS and in-house developments.

3.3.3.3 OSS Watch

OSS Watch advises colleges and universities on the procurement, use and development of free and open source software. They promote awareness and understanding of the legal, social, technical and economic issues surrounding open source software.

They recently completed their 2010 national survey of open source in the UK academic sector (the full report is currently being finalized). The survey showed that there has been another significant increase in the number of organizations with a policy to consider open source solutions during procurement. This is due to a combination of factors, such as the government's open source action plan; work at OSS Watch and the sector's success with open source Virtual Learning Environments (Moodle has once again taken a significant share from closed source Blackboard/WebCT).

Alongside this increase in open source friendly policies, we are seeing a smaller, but still significant, increase in the amount of open source in use within these institutions. However, the balance is still firmly with closed source solutions. The reasons for rejecting open source remain fairly consistent with previous years' results. The top three reasons for rejecting open source are lack of support, interoperability/migration problems and lack of staff expertise. [3]

3.3.3.2.1 The Open Source Consortium

The Open Source Consortium represents companies that deliver solutions and advice based on Open Standards and Free & Open Source Software.

- They serve their members as a trade association, giving members greater influence than they could achieve alone, by providing a collective voice to government and other public bodies.
- They serve their members' clients by providing access to independent expertise in Free & Open Source companies.
- They campaign for the use of Open Standards in all aspects of public and commercial life, promoting the unique advantages of Free & Open Source Software.

In October 2010 the Department of Health published a consultation “An Information Revolution” looking to change the way information is handled in the NHS. The Open Source Consortium responded recommendations for consideration of Open Source solutions. They examined the NHS interoperability tool-kit but found it lacked a statement of guiding principles.

In addition they were unable to use their response form as it was heavily formatted and macro-enabled despite originating in IS 29500. The features used from the originating application means that it became difficult to impossible to use the form. The comments of the Consortium regarding this form were: “Openness and interoperability is not what you say but what you do.” Their response to the consultation included the following statements:

“Whatever software you use, you should adhere to principles of openness and interoperability to future proof the “NHS information revolution”. By ensuring continuing access to data and information through the use of unencumbered, open standards and formats, and adopting software that is freely shareable you will leave open the path to reusing information as new uses and opportunities (“mash-ups” in the argot) occur that were not conceived at the inception of this information revolution.”

And: “Accordingly any service or function exercised by or on behalf of the NHS or related bodies should be accessible:

- using a solution fully available from multiple suppliers (e.g., not ultimately controllable by a single source)
- avoiding proprietary specifications
- use open, unencumbered standards
- not imposing a cost (directly or indirectly) on the service user except a fee or charge within the scope of HM Treasury's guide to fees and charges
- not imposing restrictions on service users (directly or indirectly) via licences, terms of service or user agreements» [4]

3.3.4 Conclusions

In summary there are pockets of successful use of FOSS in Public Administration in the UK and a few organizations have local OS policies. The Government has a strategy for the development of the IT infrastructure for all Public Administrations over the next few years that includes the use of FOSS applications. It is clear that the use of FOSS is to be evaluated alongside proprietary solutions and it must have a real business benefit to be selected.

The Government has no direct policy to date but is in active debate and is clearly including the use of FOSS in its plans. It won't happen quickly, this is a long-term view however some elements of the plan are starting to happen. Data centre consolidation is already starting to take place and the use of FOSS solutions are slowly spreading.

It is also clear that Central Government has to lead the way and although they cannot compel the wider public sector to follow they can make it an attractive option in many different ways.

3.4 Spain

3.4.1 Introduction

The aim of this section is to describe the situation of the Spanish policies regarding free open source software (FOSS) promoted by National Level. Complementary, some remarkable regional and local policies are also presented.

Europe is leading the development of free software, even ahead of the United States, and between those countries including France, Germany and Spain, which occupy the top spot on the use of free software, according to report data on the '**International Panorama Open Source Software**', which has submitted Cenatic. In this report, when speaking about Spain cited the well-known initiatives regions such as Extremadura and Andalusia and the law for electronic access of citizens to public administration, which guarantees the right of Spanish citizens to use the software to communicate electronically with the Government. In 2009, Red Hat, in its report "**Worldwide Open Source Activity and Growth**", highlighted the fact that Spain is the second country in the world of open programs in business, just behind France and ahead of Germany and other countries that are traditionally very strong in these affairs.

3.4.2 National Initiatives

For understanding the current policies on Open Source's Promotion in Spain it will be very useful knowing how the political system of the country is structured.

Spain is a decentralized country, very close to a Federal System, with a Central Government divided in 18 ministries, 17 Autonomous Regions, 2 autonomous municipalities and other 8.000 municipalities.

A wide variety of government agencies that played a very different role from each other in the development of different initiatives on FOSS along the last two decades.

Some key projects on Open Source Software, in the more recent times, can be highlighted:

1999 – The network of the Ministry of Public Administrations migrates to GNU Linux servers (a total of 1.375 servers)

2001 - Network of the Ministry of Justice with 800 GNU Linux servers

2003 - GvSIG, the geographic information system of the Generalitat Valenciana

2004 - Open Source Software Framework of the Principality of Asturias

Moreover, regarding the Educational System (which is decentralized to the regions):

2002 – 6.000 pcs in the Schools migrates to LinEx. This act was internationally understood as a great alternative to Microsoft

2003 - The region of Andalusia does the same in its educational system with GuadaLinex (300.000 PCs)

These two regions were followed by many others: Castilla la Mancha (2004, Mantis project), MAX project in Madrid (2004, 60,000 computers), then the Comunitat Valenciana (2005, Liurex Initiative Lincat Catalonia and the Canary Islands in 2006 in same year with the project mEDUXa (35,000 computers) in a regional process that eventually spread to the central government. Other important factor of the national support for the development of FOSS policies is the establishment of a favorable legislative framework. Since 2004, the Government of Spain, following the recommendations of the European Union, has developed a specific strategy to support free software:

→ Law 11/2007 for the Citizens' Electronic Access to Public Services

Article 39, Access to the source code to audit the automatic procedures.

Article 45, Declaration of applications such as "open source" for re-use

Article 46, Creation of reusable applications directory.

Annex: Definition of **Open Source Application**

→ Law 56/2007 on Measures to Promote for the Information Society.

→ The Royal Decree 4 / 2010, which regulates the National Scheme for interoperability.
Article 11: The AAPP will use open standards and widely used standards.
Section 17.3: Obligation to take into account free reuse applications.
Section 17.4: Endeavor publication of application code for free reuse.

Additional Provision 14 stables CENATIC as the Spanish Reference Center for ICT applications based on Open Source for the promotion and for spreading open source applications between private entities and citizens and for performing the General Advice of the technical, legal and methodologies for the release of software and knowledge.

From them and taking account of these initiatives, support for FOSS has spread to several ministries in the Central Government, some examples:

- Ministry of Public Administration: RD 1263/2005 that regulates the State economic cooperation for investment in local authorities, giving primacy to the open source projects.
- Ministry of Education: RD 1631/2006, Curriculum for Teaching in the Secondary Level.
- Ministry of Labour: RD 1210/2009, Professional Certificates.
- Ministry of the Presidency: RD 4 / 2010, National Regulatory Scheme of Interoperability where the Third Additional Provision of Royal Decree 4 / 2010 states that: “CENATIC projects can promote open source software aimed at better implementation of the measures for interoperability, and in order to promote and facilitate reuse and interoperability, will be responsible for the enhancement and dissemination of all applications that are declared by open source Public Administration”.

Complementary, **a few statistical data about the use of Open Source Software in Spain** also can be very useful for knowing the current Spanish situation:

The Public Administrations in this country use GNU/Linux:

- In a 22% in Large Systems
- In a 19% in Medium Systems
- In a 52% in Small Systems

If we refer to the citizenship:

- 36, 8% of PC users know about OSS.
- 3, 3% are using GNU/Linux.
- 21, 5% are using Firefox.

3.4.3 Regional Initiatives

As mentioned above, at present, most regional governments have technology strategies based on this type of software, and are developing their own distributions and applications based on open standards.

3.4.3.1. The case of Extremadura: "open source key to development"

The Spanish region of Extremadura went open source around 10 years ago, deciding to move its entire administration to Linux and open source. In fact, the administration was the first public body to take such a radical step starting on the Educational System, followed by the Health system and accompanying of a decision of extending the use of Linux from schools to all civil servants and finally all of the region's administrative offices.

This year it has started a center for software excellence, where open source applications can be tested and certified. "Our GNU/LinEx Excellence Center is to become a point of reference for those companies that want to migrate their development to that platform." [5]

The regional ministry of Economy, Commerce and Innovation began some years ago 'Vivernet', a center to support small and medium sized enterprises in their use of free and open source software. "It is an advisory body that works with entrepreneurs who want to start-up innovative IT projects."The regional government also started in 2009 the Extremadura Supercomputing Center, which should increase collaboration between research centers and business in the region.

3.4.3.2 The Region of Andalusia and the FOSS

The Regional Government of Andalucía, the southeast region in Spain, with a clear perception of the benefits and potential of free software, has moved to its promotion and dissemination from multiple perspectives and with different purposes. For instance, the Decree 72/2003 of Measures to Promote the Knowledge Society, that provides free software as an instrument to facilitate access to the Knowledge Society. At a consequence of this decree comes Guadalinux, distribution GNU / Linux in the Junta de Andalucía, which in 2010 reached its seventh edition and which has been the main instrument for Andalusian schools, senior centers, some universities of Andalusia, etc.

Incentives for promoting innovation and modernization of the Local Government of Andalusia, convened by order of May 9, 2006, is another example of how the administration of this region promotes FOSS as development projects funded through the Order would preferably those based on free software.

3.4.3.3. Other regional Best Policy detected: The Region on Galicia

As a result of the accordance of government in July 2005, the Galician government was committed to the promotion of free software. This commitment was channeled through the Department of Innovation and Industry through two initiatives:

1. The Gallego Strategic Plan of the Information Society (PEGSI) and
2. Galician Initiative for Free Software: Mancomun.org, which put resources and tools in the hands of the Galician community of free software through a platform of open and collaborative nature.

3.4.4. Policy initiatives at local level

Many Spanish local governments are discovering the advantages of FOSS recently, which is reflected in the promotion of individual measures of implementation, finding that open source allows them to design its technology strategy with more freedom and independence of providers, using technology that allows full control, access and storage of information, and is also a clear commitment to improving the efficiency of public administration better able to address current technological challenges.

These municipalities share their experiences in the Forum for Exchange of Experiences in Migrating to Open Source for Public Administrations (<http://foroaapp.cenatic.es/>)

3.4.4.1. The example of the city of Zaragoza

Between the years 2007 and 2008, the City of Zaragoza, a city of about 600,000 people and capital in the region of Aragón (northeastern Spain), made the process of implementation of FOSS. This process arose from the need to modernize the applications of computers and the Municipality of political commitment to promote free software in accordance with national and European recommendations.

The modernization was conducted in two main phases. The first was the renovation of the office called free software, ie, to modernize all the programs that more commonly used in daily work to implement the OpenOffice suite. Once implemented and assimilated this phase, which began with the second marked the completion of change, and introduced a SUSE-Linux operating system. This process involves an annual savings of between 800,000 and 1,000,000 euros for the city of Zaragoza.

3.4.5 Conclusions

From the analysis of cases of national policies to promote Free Software in Public Administration may draw the following conclusions:

1. It confirms the growth of open source software and establishment as an alternative increasingly used in Spanish Public Administration in the recent years.
2. Spain is among the most active countries in the EU concerning the adoption of open source software in layers of government.
3. Spain is at the forefront of European countries legislation that promotes the use of software open source to promote interoperability between systems computer.
4. The education sector is one of the most active among them are adopting open source software in Spanish government.
5. The savings in the cost of acquisition, licensing, vendor independence, the possibility of creating a community around the project and the facility to adapt programs to specific requirements, are the main advantages perceived.
6. The penetration of open source software is very different at different levels of government, including Autonomous regions and even within different sectors of the Spanish Public Administration.
7. The success of programs and initiatives to introduce Open source software is conditioned to a large extent by the simultaneous deployment of a training plan users and technical staff.
8. Public administrations are in business service providers and equipment to their satisfaction demands on open source software or equipment use it.
9. The open source software emerges as one of the main tools to reduce the digital divide, making viable technology training programs for the public.
10. Finally, FOSS reduces cost by leveraging the economies of scale and reuse of code. Is evident the desire to share experiences and results between Autonomous Communities.

3.5 Belgium

3.5.1 Introduction

In Belgium there are almost no policies that mention FOSS.

3.5.2 Findings

In March 2003, a Parliamentary Committee on the use of ICT in the Federal Parliament released a report highlighting the importance of the use of open standards. In Oct. 2003, the House of Representatives and the Senate issued bills that supported the use of open source software in public administrations. **In June 2004, the Council of Ministers approved new directives and recommendations for the use of open standards and open source software.** According to these directives, new ICT systems must be based on open standards; new software will have to be delivered with source code and without licensing restrictions. It was recommended that federal authorities should try to avoid proprietary software, but should make final decisions based on total cost of ownership. In 2006, the Belgian Cabinet approved a measure to use open standards, specifically the OpenDocument Format (ODF), for the exchange of documents among federal public services by September 2008.

Also there is a guideline for the use of open standards for the exchange of documents by FEDICT from 2006 (ICT department of the Belgian government). The Flemish Ministry of Education made a brochure about “free software for education” in 2005. Moreover the Belgian and the Dutch administrations have agreed to coordinate their policies on open standards and open source. For this purpose, a memorandum of understanding was signed on April 2009 by the Belgian minister for Economy and Reform and his Dutch colleague during a meeting in Brussels. The two countries also expect to share examples of open source implementations. [11]

3.5.3 Projects

The Belgian Federal ICT advisory body Fedict published on OSOR (Extended information for OSOR is provided in the deliverable “Guidelines and Checklist for the Collection of open source national policies”) three open source software projects related to the country's

electronic identity card. The tools are intended to increase usage of this e-ID card, but also to allow other developers to write applications for it. Fedict posted its announcements on the projects on OSOR, the European Union's Open Source Observatory and Repository, last week. The software code is available on Google Code, the open source software development website offered by the Internet search firm.

The first project announced is e-ID Applet and allows the e-ID card to be used from a web-browser, which Fedict hopes to be the most user-friendly, as it requires no manual installation. **It runs on the open source operating system Linux**, as well as on Apple's and Microsoft's proprietary operating systems. It supports a range of web browsers including the open source browser Firefox and Microsoft's Internet Explorer and Apple's Safari. The second project that was announced is e-ID Middleware and allows e-ID card users to sign documents and emails. Similar to e-ID Applet, it can be used with both open source and proprietary office productivity tools and email applications. The third project, jTrust, is a Java library useful for validating e-ID card solutions. In its introduction, Fedict writes it is meant as an alternative for the Java Certification Path application programming interface. "Instead of implementing the entire specification, a more pragmatic approach was taken." All three projects are published using the GNU Lesser General Public License (L-GPL) [12].

3.5.4 Conclusions

No official policies referring to open source exist in Belgium but nonetheless small steps are being done towards this direction like for example the collaboration with the Dutch administrations and the implementation of the ODF open document format

3.6 Germany

3.6.1 Introduction

The German public sector is quite active in terms of Open Source Software usage. Popular examples of municipalities using Open Source Software are the City of Munich, the City of Freiburg and the City of Schwäbisch Hall. Furthermore, a well-known example is the project UCS@schools by the senator for education and research of the City of Bremen which has implemented an Open Source Infrastructure at schools [13]. Besides political initiatives, the German Open Source Network Lisog [14] plays an important role in fostering the use of Open Source Software in Public Administrations.

Below the legal situation will be outlined as well national political initiatives promoting Open Source in the public sector. Last but not least, it is described to what extent Lisog can foster the use of Open Source Software in public administrations.

3.6.2 Legislation

The most important principle of public procurement is the maintenance of equivalent opportunities. References to concrete product names are only allowed by ways of exception. This accounts if due to technical characteristics only one single product comes into consideration (e.g. by broadening existing systems). Yet, generally spoken, the service description may not refer to a specific software product (§ 8 Nr.3 Abs. 5 VOL/A). [15]

3.6.3 Political initiatives on the federal level

3.6.3.1 ICT-Strategy of the German federal government

The ICT Strategy of the Federal government “Digital Germany 2015” [16] claims that standardization and interoperability in the field of ICT are of strategic importance for the German state. In this respect standardization implies independence of software suppliers in the process of choosing a software product. The ICT strategy emphasizes that “The German federal government focuses on ‘Open Standards’ in order to ensure unhindered access to ICT markets. Open Standards support interoperability and the functioning of complex technical systems in the best way.” In this context the importance of Open Source Software is

mentioned: “[...] the use of Open Source Software in Public Administrations augments interoperability and sustainability of Information Technology Systems and it contributes to the consolidation of IT-competencies in Germany as well as to the enhancement of competition and of security on the software market” [17].

To sum up, the ICT strategy aims at fostering the dispersion of open standards and interoperable systems in the private and in the public sector – also on the European level. The following means will be used to achieve these goals:

- Establishment of test equipment which enable interoperability tests
- Establishment of an internet portal dealing with interoperability
- Support of Know-How Transfer on Interoperability in other countries, e.g. developing countries
- Establishment of a national clearing centre providing solutions to problems related to interoperability.

3.6.3.2 Competence Centre Open Source Software (CC OSS)

Within the federal pact on employment and stability, a “Competence Centre Open Source Software” (CC OSS) has been established with the aim to build up knowledge on Open Source Software and to transfer this knowledge to public administrations. Strategic goals of the CC OSS are:

- Fostering the use of Open Source Software in the federal administration and thus improving the quality of the IT infrastructure (particularly in regard to security issues)
- Lower IT costs within administrations in the long run
- Supporting the local software industry and spill-over effect beyond the public sector.

The CC OSS offers (amongst others) the following services to public administrations:

- Ad hoc advice on specific OSS questions
- Advice on management issues
- Planning of migration and Migration coaching

- Coordination of a web-platform on OSS in Public Administrations aiming at providing information and knowledge on OSS as well as fostering exchange of experience between OSS experts and interested parties.

3.6.3.3 BITKOM

An Open Source committee of experts of the Federal Association for Information Technology, Telecommunications and New Media

BITKOM is an association representing more than 1,350 companies, with 1,000 direct members, including global players as well as SMEs, in the field of the information technology, telecommunication and new media. [18]

BITKOM has installed a committee of experts which offers a platform for exchange of experience on the Open Source market and Open Source technologies. [19] The committee deals with the following topics:

- Open Source Business Models
- Community driven vs. company driven community
- Open Source licenses
- Market analyses
- Open Standards, Quality insurance

In the long run, the committee aims at publishing concrete outputs, such as studies and guidelines on the use of OSS.

3.6.3.4 Open Source Solutions Stack

An important public (funded by the Federal Ministry of Economics and Technology) Open Source Project is the “Open Source Solutions Stack”. It is funded under the ZIM-programme (Central Innovation Programme for Medium Sized Businesses) of the Federal Ministry of Economics and Technology. The Open Source Solutions Stack is a network of 18 Small and Medium Sized Companies managed by MFG Baden-Württemberg [20]. The consortium aims at building up an integrated and comprehensive Open Source software stack providing customized software solutions for companies and the public sector.

3.6.4 The example of the Open Source Network Lisog – fostering the use of OSS in Public Administrations

Lisog is a network with more than 100 members representing IT vendors, IT users as well as scientific partners managed by MFG Baden-Württemberg and aiming at increasing the establishment of Open Source Software in companies and public administrations.

One of the core areas of Lisog is the topic "Solutions for the Public Sector": Lisog supports institutions from the Public Sector in their endeavor to migrate to cost-saving Open Source Software solutions. Lisog has carried out several projects in close cooperation with the Public Sector such as the realization of an Open Source Thin Client with the City of Schwäbisch Hall. Altogether the Public Sector is well represented within Lisog (10 Members such as City of Freiburg, City of Schwäbisch Hall, City of Wien). Some IT suppliers within Lisog are specialized on solutions for the Public Sector and thus can deliver directed assistance for an Open Source Strategy.

3.7 Italy

3.7.1 Introduction

The aim of this section is to describe the situation in Italy regarding free, open source software (FOSS) national and regional policies.

3.7.2 FOSS National Policies

In Italy there is a moderate political support for Open Source Software at the national level. In fact the Ministry on Innovation in Public Administrations signed protocols of cooperation with Microsoft (to support the national eGovernment Plan) as well as with Engineering Spa and some University to create and manage a national centre of competence on FOSS (<http://www.flossitaly.it/>). Since 2005 the practice of “reuse” of software is wide spread in Italian PAs, nonetheless many of reuse experiences are not based on open source software. The new Digital Administration Code (2010) fixes some rules on the acquisition of software by PAs underlining open source software as a solution available between others and open format as indispensable in every software acquired by PAs.

Chapter VI - Development, acquisition and reuse of information systems in public administrations

[...]

Art. 68. Comparative analysis of the solutions.

1. The government, in accordance with the Law of 7 August 1990 241 and Legislative Decree 12 February 1993, No 39, acquire computer programs or portions of them, according to the law, as a result of a comparative assessment on both costs and technical peculiarity of these solutions available on the market:

a) Development of computer programs on behalf of and expenditures of PAs on the basis of the requirements set out by the contracting authority itself;

b) Reuse of software developed on behalf and at the expense of the same or other PAs;

- c) Acquisition of proprietary computer programs through the use of license;*
- d) Acquisition of open source software;*
- e) Acquisition through a combination of the methods referred to in points a) to d).*
- 2. The government in the provision or acquisition of computer software solutions adopts, when possible, modular-based functional systems [...], ensuring interoperability and application cooperation and multiple formats, **including at least one open**, unless motivated and exceptional needs.*
- 2-bis. The government promptly notified to DigitPA public agency the adoption of computer applications and technological practices, and organizational adopted, providing all necessary information for the full knowability of the solutions adopted and the results obtained, even to encourage the widest possible dissemination and reuse best practices.*
- 3. Open format of data means a data format made public and exhaustively documented.*
- 4. CNIPA public agency updates, at least annually, a directory of open formats for use in public administration [...]. [22]*

Despite national policies are potentially supportive to open source there are not lot of actions on the local level.

3.7.3 Regional Policies

In Italy many Regions and Provinces in the decade 2000-2010 have chosen to support FOSS with regional law, single projects or community. Tuscany first, than Emilia-Romagna and others (Puglia, Umbria, Sardinia, Marche, Veneto, Friuli Venice Giulia, Piemonte, etc) have created regional centers of competence on FOSS (or working groups on FOSS). That because local authorities are using FOSS in many field (in Emilia-Romagna the 77% of municipalities use FOSS and in some cases in an exclusive way) and need support of knowledge and reaching the critical mass to get real advantages on FOSS adoption as a community of users.

3.7.4 Conclusions

As described the national government has a national policy on FOSS but that does not imply a concrete action plan to migrate central or local administration to open source. Open formats are required on every software acquired by PAs, as well as standards and interoperability.

3.8 Cyprus

3.8.1 Introduction

There appear to be no official open source software policies in Cyprus nevertheless a few initiatives exist. FOSS is being widely used in the island mainly from educational institutions. One of the most common examples is the adoption by many schools and universities of the course management system ‘Moodle’ [23]. Most recent examples include University of Cyprus and the Cyprus University of Technology the main public universities of the country.

3.8.2 Local Communities /Initiatives

3.8.2.1 Ubuntu.cy <http://www.ubuntucy.org/>

Ubuntu.cy is a non-profit team whose main objective is to help the growing Linux community in Cyprus. The Ubuntu community has already made several presentations in Municipalities, Ministries and other public administrations informing them about the necessity for using FOSS. Moreover this pioneer community has organized with success several events and conferences regarding free open source software like for example the “Free Software Conference 2010” in Limassol, Cyprus in cooperation with the Information Systems and Technology Service of Cyprus University of Technology and the New Technologies Club of CUT

3.8.3 Use of FOSS in the public sector

3.8.3.1 Examples to Follow

- Apsiou is a small rural village. The primary school of the village has already installed Xubuntu on its old desktop machines. The whole project is an initiative of an enthusiastic teacher. **Xubuntu** runs well on old hardware with limited resources. There is also Greek language support. The kids actually love it!
- Mammari is a small rural town. In the elementary school of Mammari one laptop per child has been (OLPC) bought by the teachers' initiative (around 30 pcs were ordered). These machines are using Sugar GUI. **Sugar** is an open source desktop environment designed with the goal of being used by children for learning. Developed as part of the One Laptop per Child (OLPC) project, it is the default interface on OLPC XO-1 laptop computers. Sugar GUI is high educational and at the same time very user-friendly.
- Use of Moodle on State and Private Universities and Colleges. Moodle is widely used from public and private academic institutes of the country like the university of Cyprus (especially the computer science department), European university, Cyprus University of Technology etc. Moodle is a Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It is a free web application that educators can use to create effective online learning sites. The focus of the Moodle project is always on giving educators the best tools to manage and promote learning, but there are many ways to use Moodle:

- Moodle has features that allow it to scale to very large deployments and hundreds of thousands of students, yet it can also be used for a primary school or an education hobbyist.
- Many institutions use it as their platform to conduct fully online courses, while some use it simply to augment face-to-face courses (known as blended learning).
- Many of our users love to use the activity modules (such as forums, databases and wikis) to build richly collaborative communities of learning around their subject matter (in the social constructionist tradition), while others prefer to use Moodle as a way to deliver content to students (such as standard SCORM packages) and assess learning using assignments or quizzes. [23]

3.8.4 Use of FOSS in the private sector

Most private sector companies, especially large companies in Cyprus are implementing FOSS on their own. Most SMEs seem to have other priorities than using FOSS. We can also refer to several medical institutes like for example the paediatric hospital “TO PAIDI”. The clinic uses, upgrades and modifies the open source software "FreeMED"[24] for over 4 years. This software is a combination of the PHP-Java in the front-end and Mysql in the back-end. “FreeMED” open source software can be used from the user for document management (examination, appointment, and monitoring patients’ health record), image processing and extraction of statistical results. In general, the workflow is very good, nonetheless the software can be further be improved (e.g create a new module based on the e-prescription). Since 1999 FreeMed Software Foundation is working hard to make available an open source software that is a stable and efficient management system medical data. For 9 years the FreeMed constantly evolving with new and greater functionality. Some of the things offered from the FreeMed is :

- electronic document management system using DjVu technology developed by AT & T.
- HL7 interface .The FreeMed has an HL7 interface that allows management events by type and for that reason grows and expands very easily.

- Modular EMR - The FreeMed has a very sophisticated electronic management folder that has the ability to adapt easily to the needs of different users in each case. This system is written in components (modules / componement) so as to allow easy adaptation of FreeMed to each user as mentioned above.

3.8.5 FOSS Related Projects

3.8.5.1 Project “KTISIS” –Cyprus University of Technology

Ktisis (<http://ktisis.cut.ac.cy>) is the institutional repository of the Cyprus University of Technology (CUT). Ktisis was developed by the Library and Information Services of CUT. Ktisis was developed as part of the Library’s mission to promote open access at the Cyprus University of Technology. The main reason for universities to have institutional repositories is to enhance the visibility, access and impact of the research product of the university. The Library and Information Services at the Cyprus University of Technology has defined that one of its major priorities is to collect, disseminate and preserve cultural heritage and to contribute to the cultural evolution of Cyprus. Based on this priority, the Library has designed and developed the first institutional repository in Cyprus, named “Ktisis”. Ktisis’s main purpose is to collect and preserve the products of the research of the academic staff and researchers of the university and also to collect, digitize and disseminate cultural content. One of the main priorities of the Library was to define a strategy for the collection and archiving of cultural heritage material (old photographs, newspapers etc). The objective of this project is to fulfil the Library’s mission for collecting, disseminating and preserving cultural heritage. When Ktisis was at the designing stage, the Library defined the set of goals that Ktisis needed to achieve. These goals were:

- To locate and archive together cultural heritage items from private collections.
- To guarantee long-term preservation and access to the data.
- To promote interest and involvement in the digitization process and preservation of cultural heritage.

And finally and most important:

- **To promote open access at the Cyprus University of Technology.**

In order to fulfill the task, Ktisis needed to accomplish these goals by organizing the data in an effective and coherent representation providing easy access to the public. Ktisis is a member of a worldwide system of **open access institutional repositories**, participating actively in the new shaped model of scientific communication. Currently Ktisis provides its metadata as a data provider applying the OAI-PMH protocol of metadata harvesting to the following service providers: OAIster, OpenDoar, Openarchives.gr, Driver, Openarchives.eu, Scientific Commons, University of Illinois Data Provider. Following the directions of DRIVER (Digital Repository Infrastructure Vision for European Research, (<http://www.driver-repository.eu>), the Library and Information Services decided to set up Ktisis using the open source software DSpace (<http://www.dspace.org>), an open source software developed by the MIT Libraries and Hewlett-Packard Company that enables open sharing of content. DSpace follows the national standards such as the Dublin Core (<http://www.dublicore.org>) and is compatible with the OAI-MPH protocol of metadata harvesting. It enables capturing the data in any digital format – text, video, audio, and data files. DSpace indexes the digital content, so users can search and retrieve the material. DSpace distributes the digital content over the World Wide Web and it preserves the material over the long term.[25]

3.8.6 Examples to be avoided

3.8.6.1 DIAS example

One example to be avoided as it regards Linux adoption in Cyprus is the DIAS example, a Proprietary e-Learning platform for Schools, based on MS SharePoint. In 2008 the Cyprus Ministry of Education & Culture (MOEC) launched, in a pilot stage, a web-based learning platform, named DIAS (<http://www.dias.ac.cy>). DIAS provides the schools with easy access to educational tools and content, endorsing e-learning in the Cyprus Educational System. MOEC expects DIAS to provide a new way out of teaching inequalities and to reform traditional teaching methodology. Also the system provides teachers with the capability to

develop and deliver content material in a Radial model in order to satisfy students' individual needs and thus encourage their active participation in delivering and acquiring knowledge. Teachers are called on to utilize the system's capabilities by trying out new teaching methodologies so that all students are motivated to use DIAS virtual tools for constructing their own knowledge. Nevertheless the use of DIAS means extra licence fees for the government, the ministry and for each school individually. Actually DIAS is a typical example of vendor lock-in. Not only the software but the content is copyrighted. For every school the Cyprus Ministry of Education will have to pay extra licences! Additionally an effort to provide the software /content to the Greek Ministry of Education was stalled because of licence issues. This huge amount of money could be avoided if instead of using DIAS, the Ministry preferred the use of open source software

3.8.6.2 Funded Laptops by the Ministry of Education

The ministry of Education of Cyprus is offering funded laptops for every student all over Cyprus. Nonetheless only Vista or Win 7 operating systems are allowed for valid funding. Free educational systems are completely ignored (Edubuntu, K12Linux). Another negative fact is that Ministry of Education is offering several closed **source educational packets**. The Ministry of education could take an example from the Linux4Schools program (referred in the “Guidelines and checklist for the collection of national policies” offered from the Austrian Department of Education. This research project aims at increasing usage of FLOSS in Austrian public schools and has formulated a set of recommendations for the department of education. The use of a free operating system could reduce the hardware specs so that the cost falls inside 300 Euros margin

3.8.7 Conclusions

Despite the fact there are no official open source policies and the Cypriot government is suspicious as far as regards open source, a number of few initiatives like for example the Ubuntu.cy community exist. Another remarkable fact is the use of open source like for

example Moodle from public academic institutes and a few rural schools. The few existing open source initiatives and communities are trying (without success until now) to put pressure to governmental bodies in order to consider open source solutions

3.9 Sweden

3.9.1 Introduction

The Swedish government has not adopted an open source policy, but published a draft report on open source and open standards for comments. The report recommends that software developed with public money should be shared. In 2003 the Swedish Agency for Public Management presented a report called “*Free and Open Source Software - a feasibility study*” in which FOSS use in public administration in Sweden, and to some extent in Europe, was investigated. The conclusions from this report was that FOSS has a vital role to play when it comes to increasing the ability to compete, increasing the interoperability and lower the costs in the public sector.

3.9.2 National Initiatives

3.9.2.1 The Swedish Agency for Public Management

The Swedish Agency for Public Management (in Swedish: Statskontoret) is a government agency. They work on the behalf of the Government to promote the development of a democratic and efficient public sector. The Swedish Agency for Public Management provides support to the Government and Government Offices. Their task is to conduct studies and evaluations at the request of the government and also to modernize public administration with the use of IT1.

Their activities are directed towards:

- Investigations and evaluations
- Modernization of state administrations
- Procurement coordination
- Electronic civic information
- Administration and disposal of premises

At the moment they don't have any specific projects running concerning F/OSS, but are focusing on following the latest developments in Europe and on continuing to disseminate the

concept F/OSS. In 2003 they presented a report called “*Free and Open Source Software - a feasibility study*” in which F/OSS use in public administration in Sweden, and to some extent in Europe, was investigated. The conclusions from this report was that F/OSS has a vital role to play when it comes to increasing the ability to compete, increasing the interoperability and lower the costs in the public sector.

3.9.2.2 Open Source Forum

(<http://www.opensource-forum.com/>)

Open Source Forum is a Swedish association where companies and organizations with interest in F/OSS directed towards Internet applications can exchange ideas and viewpoints.

3.9.3 Regional initiatives

3.9.3.1 Municipality of Luleå

The municipality of Luleå has come a pretty long way when it comes to using of F/OSS products. The commitment to start exploring the possibilities of F/OSS started two years ago when they needed a new support system and today out of 50 IT-systems in use are based on Open Source Software. However, the main part of the IT-environment still consists of solutions from Microsoft, but when upgrading or looking for new software a preceding study is always performed in order to decide whether a F/OSS solution could be feasible. The public schools in Luleå recently cancelled 360 MS-Word licenses and switched to Star Office, this providing them a saving of 800 000 SEK (about 84100€).

3.9.3.2 The regional University

Luleå University of Technology is one of the biggest universities in northern Sweden with an annual turnover of about 53,6 million €. They use FOSS primary in application servers, “lab stations” and on computers devoted to software development. F/OSS has traditionally been strong in these areas according to Ola Öhlund and he thinks that the F/OSS tools work very well in these areas. The OS in the computers used by the personnel is Windows, this is also the dominating OS in the computer rooms. When asked if they have a formulated strategy for using F/OSS the answer is no, there are no guidelines from upper management and they don't have a plan for the future. He clearly stated this was something that he would like to improve

and felt that they needed to get more focused in the issue. Further he mentioned support and compatibility issues as hinders for them to introduce F/OSS in a wider scale.

3.9.4 Conclusions

The Swedish government has not adopted an open source policy, but published a draft report on open source and open standards for comments. The report recommends that software developed with public money should be shared. In 2003 the Swedish Agency for Public Management presented a report called *“Free and Open Source Software - a feasibility study”* in which FOSS use in public administration in Sweden, and to some extent in Europe, was investigated. Also a few initiatives, public administrations and academic institutes exist that can be considered pioneers in the use of FOSS like for example the municipality of Luleå or the Luleå University of Technology

3.10 Romania

3.10.1 Introduction

This session aims to describe national FOSS policies in Romania. The legal frameworks as well as the current situation are being presented.

3.10.2 Legal Framework

The main normative acts governing the acquisition and implementation of software in the Romanian public administrations are the Law no. 8 of 1996 concerning the Copyright and Related Rights (amended and supplemented) and the Romanian Government Emergency Ordinance no. 34 of 2006, regarding the award of the public procurement contracts (amended and supplemented). Both normative acts have suffered from their appearance until now, a significant number of changes and additions, caused by internal phenomena, but also significantly due to the need of harmonize these laws with the European legislation.

The Law no. 8 of 1996 on Copyright and Related Rights (with subsequent amendments and supplements) has changed in terms of harmonization with EU legislation, by transposing the provisions of the following acts:

- a) Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, published in the Official Journal of the European Communities no. L 122 of 17 May 1991;
- b) Council Directive 92/100/EEC of 19 November 1992 on rental right and lending right and certain rights related to copyright in the field of intellectual property, published in the Official Journal of the European Communities no. L 346 of 24 November 1992;
- c) Council Directive 93/83/EEC of 27 September 1993 on the harmonization of certain rules concerning copyright and related rights applicable to satellite broadcasting and cable retransmission, published in the Official Journal of the European Communities no. L 248 of 6 October 1993;

- d) Council Directive 93/98/EEC of 29 October 1993 harmonizing the term of protection of copyright and certain related rights, published in the Official Journal of the European Communities no. L 290 of 24 November 1993;
- e) Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, published in the Official Journal of the European Communities no. L 077 of 27 March 1996;
- f) Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society, published in the Official Journal of the European Communities no. L 006 of 10 January 2002;
- g) Directive 2001/84/EC of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art, published in the Official Journal of the European Communities no. L 272 of 13 October 2001;
- h) Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on enforcement of intellectual property rights, published in the Official Journal of the European Communities no. L 157 of 30 April 2004. Romanian Government Emergency Ordinance no. 34 of 2006, regarding the award of the public procurement contracts (with subsequent amendments and supplements) has changed in terms of harmonization with EU legislation, by transposing the provisions of the following acts:
- a) Directive no. 2004/18/EC on the coordination of procedures for the award of public work contracts, supply contracts and service contracts;
- b) Directive no. 2004/17/EC coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors, published in the Official Journal of the European Union (OJEU) no. L134 of 30 April 2004, except for art. 41 (3), Art. 49 (3) - (5) and Art. 53 which are transposed by the Government Decision - Directive 1989/665/EEC coordinating the laws, regulations and administrative provisions relating to the application of review procedures for awarding supply contracts and public works, published in the Official Journal of the European Communities (OJEC) no. L395 of 30 December 1989;
- c) Directive 1992/13/EEC coordinating the laws, regulations and administrative provisions relating to the application of Community rules on the procurement procedures of entities

operating in the water, energy, transport and telecommunications sectors, published in the Official Journal of the European Communities (OJEC) no. L76 of 23 March 1992, except for art. 9-11, which are transposed by Government Decision.

The importance of invoking the legal framework is essential because it establishes the legal boundaries that should fit any concrete measure defined in the context of a policy meant to promote free and open source IT solutions. Also, the development of any policy to promote free open source IT solutions will require analysis of the legal framework in the areas covered by those two normative acts and will probably propose, amendments to those acts .

3.10.3 The current situation

The statement of Mr. Valerian Vreme, the Minister of Technology, made in September 2010 is relevant for the present situation in Romania, regarding the existence of policies to promote free open source software. Thus, at a press conference, Mr. Vreme declared:

"We will work on a strategy on the use of open source software. There are other European countries, such as France and Germany, which extensively use this type of software."

It seems that at the present the Romanian authorities realize the benefits of using these IT solutions. The Technology Minister, Mr. Valerian Vreme specifies:

"Increasing the use of open source is one of several options to reduce government spending."

In this context – Mr. Vreme said he would start by drafting rules on interoperability, to ensure that government's institutions using open source can communicate with those using proprietary applications.

Another important Member of Parliament has expressed his interest.

Thus: The "Financiarul" newspaper quotes a Romanian member of Parliament, Mr. Varujan Pambuccian, saying that any software "that works well and cheap, should be considered."

3.10.4 Conclusions

In conclusion, in Romania, the use of free open source software in the public administrations is in an early stage, due to the absence of national and local policies that encourage the promotion and implementation of these solutions

4. Summary and Conclusions

Europe, as a whole, has a stake in improving the usage of F/OSS in all branches of IT and public life, in general. F/OSS communities throughout Europe can achieve better results through co-ordination of their research activities/programmes that reflect the current state-of-the-art. The main goal of the current document was to give a clear picture of the current status (usage, implementation, adoption, penetration, government policies, etc.) of F/OSS, related to the technical and social barriers that hinder F/OSS usage from the PAs in a larger scale. The findings collected from the partners for the purpose of this deliverable are completely in accordance with the previous deliverable “Guidelines and Checklist for the collection of national FOSS policies” and the major conclusion is that there are no official governmental policies regarding open source policies. Some countries, especially, Spain, Italy, and Germany, France appear to be heavy users of open source software in the public sector, whereas the usage of open source software in the public sector appeared comparably low in the UK, Cyprus, Czech Republic and Greece. Nonetheless some of these countries like UK have made remarkable steps of progress Especially Spain and Germany are the two innovative leaders in the field: Germany for more concrete realisations and guidelines, Spain for a growing government support to open standards and open source

Some countries are ahead from the rest. For example the German public sector appears to be comparably active in terms of open source software policies and implementation. Support for open source software from policy-makers could be observed at a comparably early point in time. Many open source software initiatives and policies exist as well as several national and local projects. The same goes for Spain as well. Spain is among the most active countries in the EU concerning the adoption of open source software in layers of government and an active follower concerning specific departments where competent open source advocates have demonstrated the efficiency, the best value for money and the supportability of the solution, and where the installation of standard FOSS distribution can provide a scaling effect. Spain is also at the forefront of European countries legislation that promotes the use of software. Since 2004, the Spanish government, following the recommendations of the

European Union, has developed a specific strategy to support free software through a series of law actions. Remarkable are the cases of Extremadura that deciding to move its entire administration to Linux and open source as well as the Regional Government of Andalucía. Countries like Greece, Cyprus, Czech Republic, and Romania could follow the example of these countries in order to make small but steady steps towards the adoption of FOSS tactics and policies from their governmental bodies.

Sources

- [1] http://newsroom.accenture.com/article_display.cfm?article_id=5045
- [2] <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm100914/text/100914w0004.htm> - 10091460001750
- [3] <http://osswatch.jiscinvolve.org/wp/2011/01/17/open-source-we-are-buying-but-are-we-engaging/>
- [4] <http://www.opensourceconsortium.org/images/stories/oscreponse110111.pdf>
- [5] In words of the President of the Extremadura Region, Mr. Guillermo Fernández Vara M. Jaque, *Presentation about Spanish Policy on Open Source in the framework of the International Conference Open Source and Public Administration. Towards a more efficient Europe*”, 2010.
- [6] National Observatory of Open Source of CENATIC, University Rey Juan Carlos and Telefonica I+D, *Open Source for the Development of the Spanish Public Administration. A global vision, 2008*.
- [7] M.A. Abella y M.A. Segovia, *III White Paper of Open Source Software, 2007*
- [8] Observatory of the Information Society in Cantabria (OSIC)., *Report on the Information Society in Cantabria, 2006*. Ministry of Industry, Labour and Technological Development, Government of Cantabria, 2006.
- [9] R. Rodríguez Echeverría, *Penetration of Free Software in Public Administration of Extremadura*, University of Extremadura, 2007.
- [10] Meritxell Roca, *Open Source and companies in Spain and Catalonia, 2009*
- [11] <http://www.osor.eu/news/belgium-and-netherlands-join-forces-on-open-standards-and-open-source>
- [12] <http://www.osor.eu/news/be-three-e-id-projects-published-as-open-source>
- [13] <http://www.univention.de/univention/presse/pressemitteilungen/pm-ucs-school-release/>

[14] www.lisog.org

[15] <http://www.it-rechts-praxis.de/meldungen/Praxisprobleme-der-Open-Source-Lizenzierung-71>

[16] ICT Strategy of the Federal Government „Digital Germany 2015“, Ministry of Economics and Technology, November 2010,
<http://www.bmwi.de/BMWi/Redaktion/PDF/Publikationen/Technologie-und-Innovation/ikt-strategie-der-bundesregierung%2Cproperty%3Dpdf%2Cbereich%3Dbmwi%2Csprache%3Dde%2Crwb%3Dtrue.pdf>

[17] ICT Strategy of the Federal Government „Digital Germany 2015“, Ministry of Economics and Technology, November 2010,
<http://www.bmwi.de/BMWi/Redaktion/PDF/Publikationen/Technologie-und-Innovation/ikt-strategie-der-bundesregierung%2Cproperty%3Dpdf%2Cbereich%3Dbmwi%2Csprache%3Dde%2Crwb%3Dtrue.pdf>

[18] ICT Strategy of the Federal Government „Digital Germany 2015“, Ministry of Economics and Technology, November 2010,
<http://www.bmwi.de/BMWi/Redaktion/PDF/Publikationen/Technologie-und-Innovation/ikt-strategie-der-bundesregierung%2Cproperty%3Dpdf%2Cbereich%3Dbmwi%2Csprache%3Dde%2Crwb%3Dtrue.pdf>

[19] <http://www.bitkom.org/en/Default.aspx>

[20] https://www.internetpreis-deutschland.de/de/wir_ueber_uns/65802.aspx

[21] www.innovation.mfg.de

[22] <http://www.innovazionepa.gov.it/>

[23] <http://moodle.org/>

[24](<http://freemedsoftware.org/>)

[25] **Ktisis: Building an Open Access Institutional and Cultural Repository**

Alexia Dini Kounoudes, Petros Artemi, and Marios Zervas

[26] D06_AnnexVI.6 Version 1.1 23 November 2005 “Brief about National Requirements and Experiences (Sweden)” <http://www.tossad.org/>

[27] http://www.statskontoret.se/statskontoret/templates/Page_1802.aspx

[28] <http://www.statskontoret.se/upload/Publikationer/2003/200308A.pdf>

[29] <http://www.statskontoret.se/upload/Publikationer/2004/200421.pdf>

[30] http://idg.se/ArticlePages/article404.asp?404;http://idg.se:80/ArticlePages/200408/13/20040813102728_CS/20040813102728_CS.dbp.asp

[31] http://computersweden.idg.se/ArticlePages/200504/08/20050408080035_CS857/20050408080035_CS857.dbp.asp