

**towards Open Source Software adoption and dissemination
tOSSad**

Contract N° 015981

**F/OSS National Programme Workshop
Report**

D06

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Abbreviations

FLOSS: Free/Libre Open Source Software

F/OSS: Free/Open Source Software

tOSSad: towards Open Source Software adoption and dissemination

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1. Extremadura conference and the workshop

The current document represents Deliverable 6 from the EU FP6 funded project - tOSSad (towards Open Source Software adoption and dissemination) - and is produced within Workpackage 2: “F/OSS in National Programs” of the project.

This Workpackage aims to start up national programmes for improved usage of F/OSS in some (at least one) of the project target countries and develop guidelines that will be used for F/OSS adoption in the public sector. As part of this Workpackage an expert group within the consortium will help national and regional government institutes understand the benefits of F/OSS and open source components where possible. A main goal of Work package WP2 is to produce a roadmap for F/OSS adoption. The deliverables of the Workpackage are designed according to this main goal.

1.1. The Extremadura conference

The “Second Free Software International Conference - **International Meeting about Free Knowledge**” was held in Mérida, Extremadura province, Spain on 25th and 26th of October, 2005. The objectives of the conference was to show free software as a viable and established alternative to proprietary software and as a key tool for the development of a Knowledge Society. It sought to explain the social and the technological aspects of FOSS and its role in enabling universal access to ICT. The event presented many opportunities for meetings reflecting on experiences about the evolution of strategies and policies, occurring worldwide, in the evolving Knowledge Society. The conference focused on issues revolving around the definition of and the many diverse ways in which access to knowledge is becoming universal.

- Universal access to knowledge related to culture, art, philosophy and social aspects;
- Political framework related to the different experiences and strategies of Public administrations and institutions with free software;
- Free Software Economy aimed at the business sector;
- Technological development and innovation of free software related to the technical contributions in this field.

In this particular case, the event included:

- Debates initiated by presentations of the main actions developing around universal Free Knowledge and Free Software.
- Presentations on the decisive factors involved in free software adoption and its influence in the business process, in research, in technological development and innovation.
- Discussions about the challenges F/OSS faces.
- Achieving common understanding about the different political attitudes (national and international) concerning Free Software.

- Becoming a meeting point for developers and those in charge of free software projects.
- Was host to the official presentation of gnuLinEx'2005.

1.2. The Workshop of WP2 - Preparation and execution

The consortium partners agreed the most appropriate time and place for the workshop was as part of the “Second Open Source World Conference – Open Knowledge World Meeting”, held in Merida, Spain on 25th and 26th of October 2005.

The reasons for this decision were:

- Regional governments of Extremadura and Andalucia, open source related companies and other entities were organizing the [2nd Open Source World Conference](#). FUNDECYT, the tOSSad Workpackage 1 leader, was co-organizing the event .
- Many experts, and representatives from Public Administrations would be attending the conference. Co-locating the workshop at the conference would lead to increased exposure and awareness of the tOSSad message.
- The new version of GNU/LinEx was going to be presented during the conference; all the project stakeholders would be there.

The importance of the Spanish region of Extremadura and the GNU/LinEx project being implemented there are significant for the tOSSad project. LinEx (<http://www.linex.org>) is one of the biggest projects for the wider implementation of F/OSS on desktops; it can be considered as one of the most successful projects to fulfil this goal. It can also be distinguished as an Open Source project having an observable and major socio-economic impact.

TIP **About Linex**



LinEx is not a product born by chance or from a spontaneous creation, but it is due to a double aim: on the one hand to an Educational aim to contribute to the development of the project Red Tecnológica Educativa (Educational Technology Network), with a ratio of one computer for each two students in all the schools in the region of Extremadura; on the other hand to an economic and social aim that consists of disseminating the free software in Extremadura, through the Digital Literacy Plan (Plan de Alfabetización Tecnológica), SMEs and the Administration itself. The existence of a complete software, that can be copied down legally, contributes to avoiding economic barriers such as the high cost of software licenses. What is more, together with the idea of dissemination of GNU/LinEx, the Regional Government of Extremadura promotes the reflection on Free Software. Several personalities and sectors of a recognised world prestige have participated in different events organised by the regional administration, among which it is worth mentioning: Jesús González Barahona, Richard Stallman, Miguel de Icaza, Hispalinux, Gulex, José M^a Olmo.

Conducting the tOSSad WP2 workshop within this conference lowered the project costs whilst allowing for the organization of a major international workshop, without loss of quality and with high levels of exposure.

For all the reasons stated above, the Extremadura event was considered to be the best opportunity and venue at which to hold the Workpackage 2 Workshop - F/OSS in National Programs.

The **main objective** of the tOSSad F/OSS in National Programs Workshop: Practices, Requirements, and Obstacles, was to discuss and determine the requirements and obstacles for the adoption of F/OSS in national programs. While it would focus on best practices and success stories of F/OSS usage in the public sector, it would also examine the lessons to be learned from the various experiences.

While planning the workshop content and program, the Workpackage 2 partners decided that it would be appropriate to invite two external (not members of the consortium) speakers who would be able to share their experience and findings regarding problems, as well as, best practices in the implementation of Free and Open Source Software in Public Administration.

The workshop preparation phase was divided in the following subtasks:

- Prepare description of the workshop, objectives and target public, to be publicized before and at the conference.
- Prepare a program for the workshop
- Decide on external speakers and invite them
- Organize logistics and do the workshop within the Second Open Source World Conference – Open Knowledge World Meeting held in Merida, Spain

The Workpackage partners had the task to prepare a two pages long brief describing the current situation and problems in their own countries related to the adoption and usage of F/OSS in National Programs. This was to serve as a basis for the workshop discussions and to give a clearer picture on the situations in the different countries. The full set of briefs collected can be found in Annex VI to the current document.

The Workpackage 2 partners agreed the main goals of the workshop to be:

- The National Programs requirements regarding F/OSS adoption.
- Existing supportive national policies for F/OSS adoption.
- Current barriers that prevent F/OSS incorporation in ICT policies.
- Country specific requirements for F/OSS adoption and implementation within national programs.
- Experiences and best practices.

The workshop was divided into two parts: a presentations panel and a discussion panel. The two external speakers that shared experiences and made presentations were:

- Mr. Julio Yuste, Director of Vivernet
- Mr. Rishab Aiyer Ghosh, Maastricht Economic Research Institute on Innovation and Technology

Both presenters are widely experienced in F/OSS and its implementation at many different levels. They participate in a number of major projects concerning the implementation of F/OSS in Public Administrations and partake in research on the problems and obstacles in its wider implementation. The next section refers to the presentations they made.

2. Presentations

2.1. Presentation made by Mr. Julio Yeste - “Free Software and Local market”

2.1.1. Abstract

The first presentation within the Workshop was focused on “Free Software and Local market” and was made by **Mr. Julio Yeste**, director of Vivernet⁴ (<http://www.vivernet.com/>). He presented the experience of the region of Extremadura in the usage of F/OSS in the private sector, as well as, obstacles in expanding the scope and involving the regional Public Administrations. The Vivernet company is running the LinEx Empresa project. The main objective of LinEx Empresa is to create wealth in the Extremadura region with the use of Free Software. A second objective is to create a strong local technological sector in Extremadura based on services, thanks to the possibilities of Free Software.

2.1.2. Summary

To accomplish these objectives, three groups of stakeholders have to be involved, according to Mr. Yeste:

- Technological companies
- Traditional SMEs
- Public Administration

All of the three groups have advantages and opportunities if using F/OSS but equally they face serious challenges that have to be overcome. For instance, the Public Administrations can develop a strong regional sector of technological companies based on services around Free Software applications. This will lead to creation of wealth and employment in the region of Extremadura. F/OSS allows the Public Administrations to modernize the local traditional SMEs, with the best solution for them. They can also share the knowledge, putting it at the disposal of all the citizens. However, the major challenges to realizing these opportunities consist mainly in informing traditional SMEs of the existing technological solutions for their *management* which could be done through intermediaries (to adapt the software to the needs of SMEs). Another challenge is to guarantee the development of Free Software in the region and the Free applications in all the areas. However, one of the most serious problems that came out is the **lack of legislation** on the usage of F/OSS in Public Administrations. The only document that is available currently in Extremadura, is a strategy for the regional development of ICT which apparently does not include F/OSS usage.

Another serious problem appeared to be the **lack of cooperation** between the stakeholders regarding F/OSS adoption in the Public Administration. It became clear, during the presentation and in the discussions after it, in the Extremadura

⁴ VIVERNET has been created by **Regional Ministry for Education, Science and Technology of Extremadura Regional Government** to facilitate the development of new businesses related to the Information Society; young entrepreneurs with creative talent are provided with the technological resources required to operate, such that young people without assets, but with ideas, can materialize their initiatives.

and Andalusia regions in Spain, F/OSS tends to have major success when implemented for education purposes and when offered to the individual citizen. In terms of using it in the Public Administrations, it does not meet with significant support. According to Mr. Yeste, this is due to the **lack of good open source management tools** which seem to be a really big problem.

The full presentation is in Annex IV to this deliverable.

2.2. Presentation made by Mr. Rishab Ghosh - Requirements and obstacles in FLOSS adoption in National Programs

2.2.1. Abstract

The second presentation within the Workpackage 2 Workshop was made by **Mr. Rishab Ghosh**, researcher in the Maastricht Economic Research Institute on Innovation and Technology⁵. His presentation was based on the results achieved and information gathered under the FLOSSPOLs project⁶ with specific focus on the findings about F/OSS in Governments. The data collected demonstrated very interesting dependencies, as well as barriers, that are not usually considered or at least, are not officially declared, by the majority of stakeholders involved in project for F/OSS implementation in Public Administrations.

2.2.2. Summary

The FLOSSPOLs project interviewed 4138 representatives of government authorities and 955 respondents have taken part in the government survey.

The first findings of the survey revealed **a contradiction** between the statements of the respondents, many declaring that they do not use F/OSS and, at the same time, declaring that they use the Apache web server. This finding reveals one of the major barriers for the adoption of F/OSS; it is **the lack of general awareness**. The interviewees declaring that they “do not use F/OSS” were obviously unaware that Apache is one of the most successful F/OSS projects. They were actually using open source software but were unaware of this fact.

According to the data presented, over 3/4 of the government authorities make use of F/OSS in some way but the overall usage is very little - an extremely small percentage of the Governments completely use F/OSS. The highest percentage of F/OSS usage is in pilot projects for Public Administrations, this is followed by F/OSS usage on servers and finally the figures reveal that F/OSS is used on only a small number of desktops.

5 <http://www.merit.unimaas.nl/> MERIT is a research institute of the University of Maastricht and was founded on January 1, 1988. Their research and teaching focus on the economics of technological change and innovation. The Institute works in close collaboration with the United Nations University Institute for New Technologies (UNU-Intech).

6 <http://www.flosspols.org>

Mr Ghosh stated that, one of the main obstacles for F/OSS adoption in Public Administration is the **lack of will to change**. At first glance, the problem seems to be simple, but it is very difficult to resolve because it pushes people not to want to use and consider other alternative software. Along with the lack of will to change we see the next problem – **fear** – of who will do the training and support and how the users will manage to switch to the new environment. But, and considering the above, the real problem appears to be **the vendor lock-in and the budget cycle** of the Public Administrations.

TIP The Total Cost of Ownership (TCO)

Total Cost of Ownership (TCO) is a concept by which all costs associated with a capital purchase over a given time period are accounted for in the value assessment. It can also be thought of as the cost of owning and operating an existing asset at a given point in time. Both are useful in optimizing asset ownership.



F/OSS has many cost advantages in various categories that may result in reduced TCO for organisations. However, TCO is extremely sensitive to the set of assumptions you make and very much depends upon your needs and your environment. Costs and benefits are influenced by the platform environment, operating needs, and mission objectives. It is first necessary to identify what the requirements are, including the types of applications. You must then determine the architectural options that meet these requirements. Next, to determine TCO, you must identify all the important cost drivers and estimate their costs before making software purchasing decisions. A MITRE report developed a complete taxonomy of TCO factors that are believed to be the most important factors in evaluating the costs driving F/OSS.

More information available on:

[1] Wheeler A. David; "Why Open Source Software / Free Software (OSS/FS, FLOSS, or FOSS)? Look at the Numbers!"; (January 15, 2005)
http://www.dwheeler.com/oss_fs_why.html#tco

[2] "Use of Free and Open source Software (OSS) in the U.S. Department of Defense", Mitre Corporation; (2 January, 2003),
<http://www.egovos.org/pdf/dodOSS.pdf>

According to the results from the FLOSSPOLs project, the respondents declared that whilst interoperability is important, compatibility with other programs is even more important. This attitude influences the decision taking process and leads to *vendor lock-in*. Products can be made compatible when sold and maintained by a single manufacturer with the commercial interest to keep the source code closed and produced under their own company standards. However, **open source code** is required in order to allow interoperability. So, as a result of the emphasis being placed on compatibility, the clients find themselves in a vendor lock-in.

It is difficult for governments to estimate the savings from F/OSS due to the annual budget cycle. A main benefit of F/OSS implementation is lower TCO. Governments usually use the scheme of 1 year budget planning. This makes it difficult to show and prove the long term savings generated within the budget time frame. Any software migration, - be it F/OSS, upgrades to Windows, Macintosh or any form of software change requires the investment of money. The problem is that these investments have to be made 'now', but the savings will come later. The problem is compounded by fact that it is very hard to estimate the Total Cost of Ownership (TCO), and respectively, the Return of Investment (RoI) from the migrations. This estimation becomes even harder when the budgets of the Public Administrations are calculated each year. Mr. Ghosh stated, that a possible solution might be to use 3 year budget planning cycles instead of the more normal 1 year. It was felt that such a change would allow for an easier migration to F/OSS.

Another problem for the F/OSS adoption in Public Administrations is the question of who makes the decisions. IT managers and the directors/heads of departments are considered to be most important for making the decisions. However, the end users often do not want to change so the decisions imposed from the higher level face users' resistance and strengthen the lack of will to change. In addition the government and public servants interest in software is of minimal importance compared to their other primary tasks. As a result, this invokes additional resistance to changes imposed from above. Mr. Ghosh supported this statement with the example of the Munich municipality where the migration to F/OSS is once again delayed, due mainly to **resistance** from the end users.

IT managers are wary of change and this leads to a lack of support and **inertia** in migrating to F/OSS solutions. With a migration to F/OSS, or other platforms, there will be a considerable extra workload to be met, coupled with additional costs. There needs to be compelling motives accompanying any changes to software.

The full presentation is in Annex V to this deliverable.

3. Experiences of F/OSS in National Programs

During the workshop preparation phase, national briefs were gathered from the consortium partners concerning the local/regional requirements and the experiences and initiatives of F/OSS in national programs. The briefs represent the current state of the art in national policies from a variety of countries with differing levels of ICT and with different political situations. The countries are (in alphabetical order): Austria, Bulgaria, Germany, Malta, Slovenia, Sweden, Turkey, and Ukraine.

A common problem that appears from these briefs is that governments and administrations, especially in South-Eastern Europe and former USSR countries, are forced to buy proprietary software, even when contractual terms are poor. This results in a long term vendor lock-in with significant amounts of pre-investments. Major migrations to F/OSS would raise the amount of money spent, in the short to medium term, to even higher levels and this will meet with resistance. A common scenario for countries introducing F/OSS into the public sector is one in which Microsoft responds by significantly decreasing the licensing costs and removing the financial incentive to migrate to F/OSS until finally, the users prefer to remain with proprietary software solutions. Such examples can be stated for almost every country.

A further problem appears to be the high level of software piracy, which militates against wider F/OSS adoption. This is a common problem, not limited to a specific region or country but it is significant because users do not actually care about the cost of the software. Until there are firm legal and financial penalties in place controlling the illegal use of licenced software there is no financial incentive to adopt F/OSS.

It was noted that in all of the countries there are strong Linux and Open Source communities fostering public discussions and maintaining relatively high levels of F/OSS awareness, but these communities were proving ineffective at influencing government policy.

However, in many cases, there is official support from Members of the Parliament or from Government/Regional officials, but even here, the wider implementation of F/OSS remains elusive and limited to pilot projects and specific regions. Migrations to F/OSS are made mainly at the level of Local and Regional Government and not at the central level. With specific reference to Germany; F/OSS is just not considered as an important issue, however, cost effectiveness, vendor independence and security have been recognised as positive drivers to the wider adoption of F/OSS.

In Austria, support from task forces at a high government level is observed. The Austrian Federal Chancellery operates an Open Source Platform highlighting the importance of F/OSS for Public Administration in Austria. The task force consists of representatives from politics, business, academia and the F/OSS community. However, it seems that in Austria the practice of implementing F/OSS more actively at local administrations rather than at central level (ex. Linux for Vienna Public Administration) remains true. In Bulgaria, Germany and Sweden, for example, this practice is also observed.

In some of the countries, such as Slovenia and Spain, F/OSS is recognized to be of value, but limited mainly to the educational and business sectors. This is also confirmed by the presentation of Mr. Julio Yeste and the example of Extremadura region.

Slovenia is one of the rare examples where the government offers annual subsidies on projects focusing on the development of new F/OSS solutions and applications and on the localization of existing applications. For 2005 the subsidy is of 65 000 EURO.

The Swedish experience touches upon another problem common in F/OSS adoption by administrations: the initiative to use F/OSS applications often comes from a technician at “the bottom” - the management and higher level personnel do not initiate the transfer to F/OSS.

The experiences from Ukraine and Turkey reveals tight coupling with proprietary software. In other words, in these regions, strong vendor lock-in is enhanced by non-transparent closed techno-political choices of previous and current governments.

Another interesting result appears to be that the implementation of open source software is rarely preceded by a cost estimate. the full text of the briefs are in Annex VI.

4. Conclusions

From the workshop, the presentations, the discussions held and the additional information materials collected, the following conclusions arise:

- F/OSS is more easily accepted and adopted in the non-governmental, educational and business sectors than in the Public Administrations. Commercial businesses are more flexible, more cost oriented, and more open to rapid innovation.
- The lack of awareness about F/OSS and the “not-knowing-that-they-use F/OSS” users do not want to be early adopters of F/OSS solutions. These groups will wait until other organizations or administrations adopts it first. This is due to the lack of a will to change and fear of poor support services for the software
- Users, and administration staff/employees should be involved in decision making process. Otherwise, a high resistance to change is observed.
- Vendor lock-in is a significant barrier for the adoption of F/OSS in Public Administrations. Users not wanting to use F/OSS may not recognise vendor lock in. Conversely, users recognising vendor lock in may be motivated to adopt F/OSS. The cost for changing a system/software may be extremely high and the organizations/administrations may therefore choose to stay with the old system.
- There is a limited range of vendors supplying support services for F/OSS systems; due to the nature of F/OSS it is not always possible to offer a similar level of support compared to that offered by proprietary software vendors. This means that the administration itself has to train and educate their staff in order to keep the systems running and this may be viewed as problematic.
- The one-year budget cycle in Public Administration is a very serious problem. The annual budget appraisals preclude the consideration of medium term financial savings on the TCO possible with F/OSS. The initial costs of migration to F/OSS mitigate against its adoption unless a longer term outlook is cultivated.
- Public Administrations are forced to use proprietary software. Furthermore, proprietary software imposes proprietary standards. The result is that other applications do not support these formats properly and this is of great importance for the administrations due to the high usage of standardized templates and documents.
- There is a lack of effective cooperation between the governments/public administration and the private sector needed in order to provide the best F/OSS solutions.

Conclusions

- One major problem is to offer large organisations such as Government or Public Administration, reasons to migrate to a completely different platform. The problem becomes more complicated due to the lack of specialized F/OSS in the management and accounting areas, essential to the effective functioning of the administrations.
- The approach in Germany, where the majority of initiatives on F/OSS adoption in Public Administrations is made mainly at Regional and local levels, is to encourage migration to F/OSS of the basic software components in server and desktop systems. In this manner, wider adoption of F/OSS can be more easily achieved by limiting the scope of the migration to these better serviced areas of F/OSS.
- There is a need to raise the general awareness of F/OSS amongst policy makers and the general public. Books on F/OSS need to be published and promoted. There is a wide range of resource available on the internet; there is a need to disseminate these resources to a wider audience.
- The public sector needs a “decision model” that will assist this sector when upgrading or purchasing new software. This model should help in calculating the cost savings and benefits in the use of particular types of software. It should supply details on technical support, educational needs, training support and the types of problems likely to be encountered etc.).
- The central ICT-departments at the organizations surveyed seemed to show little interest towards a shift to F/OSS systems. Where there is an interest it is primarily in office related software or servers.

In conclusion, there seems to exist a will in the Public Administrations to use F/OSS, but it is mainly limited to regional and local administrations. Currently there is not a clear position of the central government administrations on the usage of F/OSS. Although high level government representatives often support F/OSS, there are almost no examples of legislative papers, or strategies, or any documents issued by central Governments that stimulate and encourage the usage of F/OSS

List of Annexes

Annex I: The Workshop program

Annex II: The Extremadura conference program

Annex III: Workshop flyer

Annex IV: Presentation of Mr. Julio Yeste

Annex V: Presentation of Mr. Rishab Ghosh

Annex VI: Briefs provided by the tOSSad partners

Annex VII: Pictures from the workshop