Study into the use of Open Source Software in the Public Sector

Part 2

Use of Open Source in Europe

A report directed by

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An IDA Study
Interchange of Data between Administrations

European Commission, DG Enterprise

June 2001

The IDA programme

IDA (http://europa.eu.int/ispo/ida) is a European Commission driven strategic initiative using advances in information and communication technology to support rapid electronic exchange of information between Member State administrations. The objective is to improve Community decision-making, facilitate operation of the internal market and accelerate policy implementation.

Its mission is to co-ordinate the establishment of trans-European telematic networks by:

Promoting implementation of sectored networks in priority areas
Developing network interoperability measures
Extending network benefits to EU industry and citizens
Co-operating with Member States authorities and Community services
Promoting convergence towards a common telematic interface.

IDA organised a one-day seminar in Brussels on 22 February 2001 to address the use of Open Source Software (OSS) in public administrations. The event brought together around 100 representatives of the Commission, national and local governments and the IT industry. It provided a platform for EU administrations to share experiences, and permitted dialogue with the private sector on the benefits and pitfalls of OSS usage.

IDA also launched a call for tender related to a "Study into the use of Open Source Software in the public sector" (the present study)

Unisys Belgium obtained the contract and provided manpower, project management and support services for the study.

The Study has three components:

> **Part 1 The OSS Fact sheet**. An assessment of availability and potential of OSS based solutions, by software category and a selection of about 100 typical OSS solutions (out of several thousands of OSS "projects")

> **Part 2 The report on OSS usage and experiences made.** Based on the Fact sheet and a Questionnaire, as well as on visits to six European countries (France, Spain, Germany, Italy, Belgium, Sweden), the report examines the use/non-use of OSS in public sector in these countries.

> **Part 3 The report on market structure and issues related to public procurement**.
> This report elaborates how OSS may be used / distributed according their licenses, and how the legal and commercial aspects may impact public procurement objectives, transparency and non-discrimination.

Modification history

Date	Version	Author	Reason for modification
20.6.01	Draft	P-E Schmitz	The draft has been submitted
27.06.01	V.01	"	Summary and Corrections to English text
13.07.07	V.02	"	"
07.08.01	V.03	"	"

Warning:

The document includes links (URLs) to sites and pages located on the Internet.
Since a lot of information - permanently updated – is there available to the public, it would be a non-sense to import it verbatim in the present document (it would multiply by 100 the number of pages).
The reader of the present document should therefore to be connected to the net if he wants to consult these external pages.
The author of the present paper cannot guarantee that all the referred links will stay active and will respond to the information need, as they are at the time of writing.

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Summary

The second part of the IDA Study into the use of Open Source Software (OSS) in the public sector is a report of this use in six European countries and in European Commission institutions.

The six countries concerned in this report are: Belgium, France, Germany, Italy, Spain and Sweden[1].

The study is therefore not representative of the 15 Member States. In addition, the purpose of the survey was to consider Open Source Software in a limited number of representative public administrations in each country and not (as the reality is moving fast and everyday) to establish an exhaustive inventory.

OSS are used in all visited countries although clear differences exist:

- France and Germany are the two innovative leaders in the field (Germany for concrete realisations and guidelines, France for a growing government support to open standards and Open Source,)

- Spain is 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 a standard specific Linux distribution can provide a scaling effect.

- In Belgium, Italy and Sweden, the existing realisations are resulting of individual efforts that are not – until now – actively supported by a government policy.

There is a clear division between the server and the workstation markets.

Servers include pure Web servers on one side (where the OSS Apache has already 61% of the global market world wide), and the 10 times more important market of the general-purpose servers (on LANs, Intranets) on the other hand. This is now the main area of OSS expansion, with mature solutions for file servers, database and application service providers.

Globally (general purpose server and web servers), the real percentage of use of OSS on public sector servers is still relatively low according our estimation (8%) but may grow fast as soon the IT directions will start to apply government recommendation (e.g. in France).

The growth will mainly be concentrated in replacement or extension of proprietary Unix solutions. It will also concern relatively simple infrastructures where it is proven that OSS can provide an equivalent panel of solutions, or new installations. In complex old infrastructures with thousands clients, where many types of functionalities, hardware and drivers have taken years to be well integrated or when sophisticated client-server applications have already been written for specific client types, the implementation of OSS may be perceived as a "new – unwanted" risk by IT managers and will more depend from a "political" pressure.

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[1] The list of countries was discussed with the IDA representatives.

On workstations, with the exception of some education organisms, the use of an OSS operating system (GNU/Linux, FreeBSD) and of an open office suite for example, is even more limited (not more than 1% actually, with an exception for the education sector).

Abbreviation table

AIPA	Autorità per l'Informatica nella Pubblica Amministrazione (Italy)
BMWi	Bundes Ministerium für Wirtschaft und Technologie (Germany)
BSD	Berkeley Software Distribution
DG	Directorate General (of the EU Commission)
DI	Direction Informatique / Informatics Directorate (EU Commission)
EU	European Union
FSF	Free Software Foundation (of Richard Stallman)
GNU	Gnu's Not Unix (general project of the FSF)
GPL	General Public License (of the FSF)
http	Hyper Text Transfer Protocol (of IETF / W3C)
ICT	Information and Communication Technology
IDA	Interchange of Data between Administration (EU programme)
IETF	Internet Engineering Task Force (Standardisation group)
IP	Internet Protocol
IPSO	Information Society Project Office (EU Comm.)
KBSt	Koordinierungs- und Beratungsstelle (Germany)
LAN	Local Area Network
MAP	Ministerio de las Administraciones Publicas (Spain)
MTIC	Mission interministérielle de support aux Technologies de l'Information et Télécommunication (France)
OS	Operating System (of a computer)
OSI	Open Source Initiative
OSS	Open source software (= Free Software; = Libre software)
PAGSI	Plan d'Action Gouvernemental pour la Société de l'Information (France)
PC	Personnel Computer
RAM	Random Access Memory (of a computer)
SQL	Structured Query Language
TCO	Total Cost of Ownership
W3C	The World Wide Web Consortium (Standardisation group)

Global ICT use in public sector

Several reports are analysing the use of ICT in the European public sector, but none of them is focused on the use of Open Source Software (OSS).

An example of these reports, called "Public Strategies for the Information Society in the Member States of the European Union" is the **ESIS** report issued for EU – DG Information Society / Activity Centre in September 2000[2] where the Information Society Project Office (IPSO) of the European Commission has set up a survey of information society projects and actions in the 15 EU Member States.

The ESIS report mentions OSS in two official Member States strategies (out of the fifteen):

- Finland[3], by analysing the June 2000 report of the Information Society Advisory Board, for which one of the adopted measures is "the public sector should use software with an Open Source code more than at present" (ESIS p. 92)

- France, by referring to the PAGSI[4] (the government action programme to enter France into the information society) including "open and free software" as one of the national priorities for IT research funding (ESIS p. 109)[5].

Another report on the same subject, "***The use of Information and Communication Technology in the Public administration of the EU Member States***" was elaborated following an initiative of the French Government (Délégation interministérielle à la réforme de l'Etat) in the frame of the EU French Presidency and to prepare the 35th conference of the EU public service general directors (Strasbourg, November 2000)[6]. This report gives more complementary information on the use of ICT in the participation of citizens in public debates. It mentions (p. 6) the action to "promote the use of free software in the public sector" as one of the 2001 priorities of the "e-Europe 2002 action plan", but do not investigate that point when analysing the case of the 15 Member States.

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[2] Report prepared by Isabelle Chatrie and Paul Wraight, LL&A
http://europa.eu.int/ISPO/docs/services/docs/2000/October/ESIS_IS_Strategies_en.pdf
[3] Finland was not included in the 6 countries panel that was selected with IDA in the frame of the present study
[4] http://www.internet.gouv.fr/francais/textesref/pagsi.htm
[5] This mention of OSS may result of meetings between the authors of the ESIS report and the French administration, as it was not formally found in the PAGSI original text
[6] Report by Jean-Michel Eymeri of the European Institute for Public Administration, Maastricht – available in English and in French at www.eipa.nl - French version: http://www.fonction-publique.gouv.fr/lareformedeletat/admelec/pdf/RapportIEAPfrancais.pdf

From the citizen's point of view, the effort of our governments may also be evaluated and even ranked (as the universities of Amsterdam and Maastricht did[7] in their summer session, with 20 medium internet users analysing the e-government sites).

In the coming months EU and DG Information Society will reinforce this aspect of the evaluation inside the e-Europe 2002 action plan, by promoting the "**benchmarking eEurope"** study, to enable Member States to compare performance, identify best practice and promote remedial action[8].

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[7] results of this study are available at:
http://www.politicsonline.com/specialreports/000808/eusurvey.asp
[8] This web-based survey was submitted to a call for tender by DG INFSOC in May 2001 and will focus **exclusively** on **quantitative aspects** of the benchmarking exercise. The *"percentage of basic public services available online"* indicator will be measured twice a year (first time in November 2001, second time in May 2002). The contractor will, therefore, realise **two measurements** before the end of 2002. The aim is to complete a first set of final results for **January/February 2002.**

Study into the use of Open Source Software in the public sector

Global use of Open Source (private and public sectors)

The Internet connected hosts:

About 61% of the active IP sites have Open Source web servers and about 40% have Open Source operating systems. Without any contestation, the Internet (web servers, and now application servers, tomorrow office servers etc.) is the main demonstration area of the success of the Open Source development model.

Of course, the IP connected hosts represent only a **limited part** (10%) of the global server market: most of the enterprise and public sector servers are LAN or Intranet servers, that cannot be counted automatically, and do not generally use Open Source operating systems.

In April 1999 already (year of the strongest Linux growth) the six countries observed in the present study, (taking in account the predominant part of Germany) had 46% Linux & BSD operating systems on the Internet connected hosts (counted by Ripe) [9].

The interest of the Internet operating system counter (April 1999) was to illustrate the difference between European countries (number of internet hosts and country % for each country). For example, the use of Linux ranges from 16,9% (Sweden) to 42,7% (Germany)

	Belgium		France		Germany		Italy		Spain		Sweden	
AIX	115	1,0	3.058	7,7	2.437	0,5	1.236	2,2	158	1,1	552	1,3
BSD	698	6,2	7.020	17,7	36.858	8,0	1.782	3,1	1.044	7,4	2.404	5,6
Digital Unix	32	0,3	227	0,6	602	0,1	587	1,0	224	1,6	200	0,5
HP unix	60	0,5	377	1,0	3.220	0,7	1.295	2,3	293	2,1	235	0,5
Irix	648	5,7	2.352	5,9	24.662	5,3	1.360	2,4	594	4,2	2.552	5,9
Linux	2.033	18,0	7.853	19,8	197.670	42,7	17.568	30,6	2.813	20,0	7.295	16,9
Mac OS	532	4,7	943	2,4	4.686	1,0	1.146	2,0	395	2,8	1.591	3,7
Novell	16	0,1	45	0,1	1.297	0,3	201	0,4	130	0,9	367	0,8
Reliant Unix/ Sinix	41	0,4	263	0,7	2.219	0,5	302	0,5	215	1,5	183	0,4
SCO Unix	14	0,1	326	0,8	559	0,1	209	0,4	101	0,7	91	0,2
SUN Solaris	2.090	18,5	3.738	9,4	104.610	22,6	2.703	4,7	3.166	22,5	15.313	35,4
Winsows (95/98/NT)	4.774	42,3	12.255	30,9	79.790	17,2	27.124	47,3	4.488	31,8	11.843	27,4
(others)		2,2		3,0		1,0		3,1		3,4		1,4
OSS%		24,2		37,5		50,7		33,7		27,4		22,5

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[9] Analysis based on http://leb.net/hzo/ioscount/

One of the Open Source indicators is the presence of the Apache Open Source web server

The evolution in 2001, according to the Netcraft[10] Web Server Survey, demonstrated that the percentage of Open Source Software (with Apache) on IP hosts is now 61,5%. To obtain this percentage, Netcraft collected and collated all possible hostnames providing an http service and systematically polled each one with an http request for the server name.
In May 2001 the survey was based on responses from 29,031,745 sites.
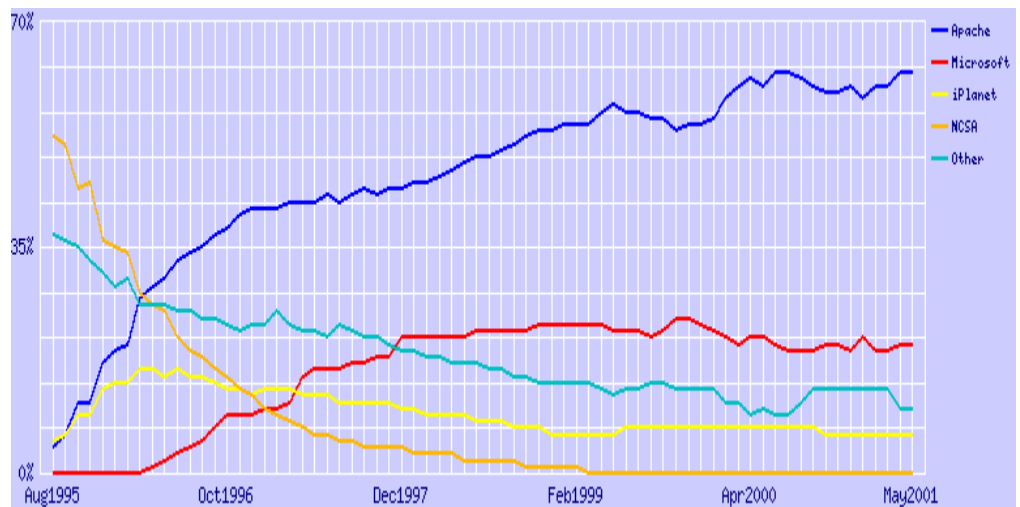
The repartition of these "domain names" active hosts is the following (May 2001):

Web Server	May 2001	Percent
Apache	18069603	62.24
Microsoft-IIS	5957240	20.52
Netscape-Enter. / iPlanet	1778958	6.13
Zeus	798745	2.75
Rapidsite	407488	1.40
AOLserver	377264	1.30
thttpd	370282	1.28
tigershark	215321	0.74
WebSitePro	118762	0.41
ConcentricHost-Ashurbanipal	109879	0.38

An active host is not an "Active site"

[10] http://www.netcraft.com/Survey/

Of course, an active "host" (= active domain name) does not correspond to a physical site (**active site** = a physical server with its operating system and web server), but comparing the front page taken from each hostname appearing in the Web Server Survey, with the front page of other hostnames on the same IP address, Netcraft provides the number of these active sites, no matter how many domain and hostnames point at the site.

With about 11.800.000 machines, the number of **active sites** is 37% of the "nominal" number of sites, and the percentage obtained by Apache is about the same (here from April to May 2001), with a very little progression of Microsoft and iPlanet.

Site	April 2001	%	May 2001	%	Change
Apache	7.015.250	61,67	7.230.089	61,53	-0.14%
Microsoft	2.961.984	26,04	3.062.949	26,07	0.03%
iPlanet	294.594	2,59	324.722	2,76	0.17%

Totals for Active Servers Across All Domains June 2000 - April 2001
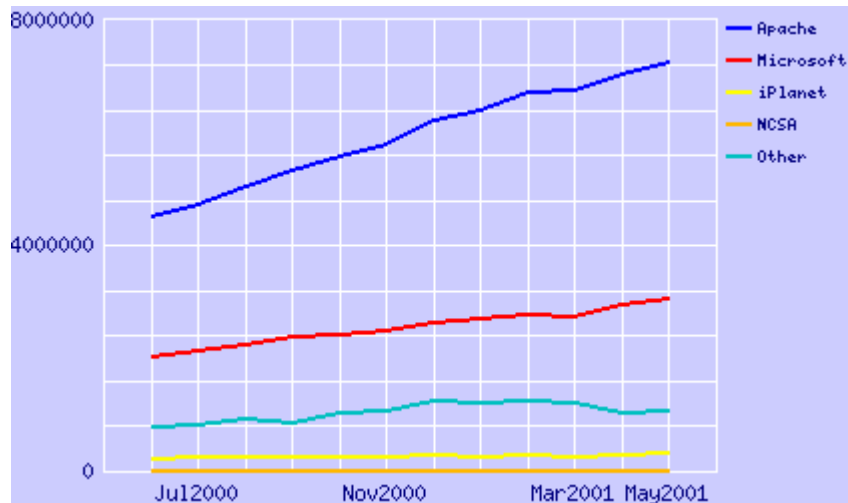
The simple presence of Apache does not provide indications on the operating system used (as Apache is multi-platform) nor on the presence of other Open Source tools.

The last Netcraft calculation of used operating system (on "real" active web sites, in June 2000) is as follows:

Legend:
- Linux: 29,99%
- Microsoft: 28,32%
- Other: 23,59%
- Solaris: 16,33%
- Unknown: 1,76%
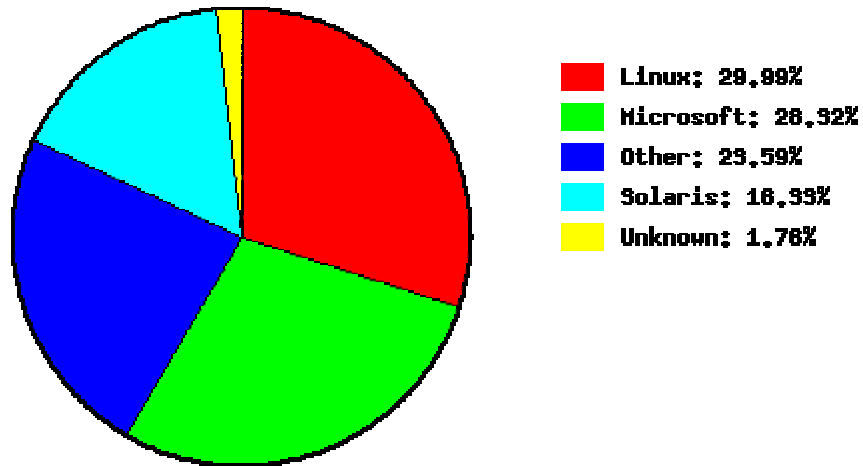
Compared with existing hosts (35,73% Linux / 21,32% NT/W2000) Linux & NT are very close on active sites (29,99% Linux / 28,32% NT/W2000), with Linux having slightly more than a 1% lead over the combined figure for NT4 and Win2000.

OS	Hosts	%	Active	%
Linux	6.116.811	35,73	2.265.095	29,99
Microsoft	3.644.187	21,32	2.222.841	28,32
Other	3.802.268	21,24	1.873.525	23,59
Solaris	3.484.135	20,35	1.233.494	16,33
Unknown	233.676	1,36	132.862	1,76

The "Other" part of the pie includes also a number of free operating system (mainly FreeBSD), giving a global estimation of about 40% Open Source operating systems on IP servers.

Global Server Operating System estimation

Gartner (giving Linux less than 10% of the total number of servers in the US) and IDC (giving 27% of the server market to Linux) give contradictory estimations for 2001

Is a correct estimation important?

It is, mainly because one of the political arguments to adopt Open Source Software is to "equilibrate" the market and to avoid giving a monopoly to one vendor. A clear market vision is depending on reliable statistics.

In addition to the IP hosts (the Internet connected hosts for which a calculation is possible), the global server market concerns also Intranet servers and LAN hosts present in public sector and enterprises: about 10 times more machines (with an estimated number of 117 millions world wide in May 2001).

The correct evaluation of this global market is difficult for two reasons:

- If commercial vendors can report the number of invoiced licenses (and sometimes, estimate the number of illegal copies…), no one can centralise the number of Open Source installation (as generally, there is no trace of license fees).

- The number of downloading is also not significant, as no one knows if the downloaded solution has really been installed and used.

Various authors (Forrester, META, IDC, Giga, Gartner) evaluated the market, giving complementary and sometimes-contradictory results, but none of the existing reports has a specific focus on public sector.

Forrester

Forrester[11] investigated in the top 2.500 companies (value based on responses of 31 of these 2.500). 56% of these are using some type of Open Source Software somewhere, but this use is mainly concentrated on web servers (33%) and database servers (a surprising 42%)
On "normal" servers and clients, the percentage falls to non-significant values, between 1 and 2%. A real progression is expected in 2003 and 2004, where globally, Open Source will displace 20% of licensing dollars (from licensing to services).
Incidentally, the Forrester report provides us the United States a ratio between IP web servers and general purpose servers (that are used on local area networks or on Intranets): in the Global 2.500 first enterprises, there is 1 web server for 10 servers.
[12]

META Group

The META Group analysed[13] the progression of Linux as management system (from the MSP Management service providers point of view). Although Linux was the fastest growing OS on server platforms during 1999/2000 (132% growth), and is an ideal platform where the MSP request flexibility and low cost, as for all kind of embedded systems, the META Group foreseen that the global 2000 enterprises will resist. It will be a limited growth for Linux, at the expense of commercial Unix, and Win2000 and its descendent will dominate management platforms by 2004 (Public sector case is not examined).

IDC

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[11] The Forrester report, "Open source cracks the code" by Carl D. Howe – August 2000
[12] Forrester also evaluates between 4 and 5 clients (LAN connected) per OS server (as we will see, the number of clients is higher in the European public sector: between 20 and 25 in Spain, at the European Commission, and more when the education domain is concerned. With the Internet, this precision becomes relative).
[13] Service Management Strategies – 15 May 2001 – www.metagroup.com

IDC International Data Corp. provides regular survey about the growth of Linux But these numbers fly in the face of other research reports from such groups as International Data Corp. Dan Kusnetzky, program director for operating environments and server ware at IDC, told that that his company's provisional figures for 2000 showed that Linux as a server operating system -- regardless of the initial operating system or machine on which it was installed -- represented 27 percent of the total market, behind Windows at 41 percent.

This is based on a distinction between an actual server and server software that allowed machines to operate as servers.

"The actual server market is much smaller than the server operating environment, which includes PCs and workstations running server software and configured to act as a server," said Kusnetzky[14].
 In addition, IDC estimation is based on the fact that, only 10% percent of Linux adoption comes from preinstalled machines, and many installation come afterwards: by downloading or by replicating the same copy on many machines. Thanks to a reduced kernel size, Linux is also a good solution to give a second life to old PCs.

The Gartner Group

Gartner Dataquest report[15], sponsored by several companies including Microsoft, gives about 10% only to Linux in 2001, finding that just 8.6 percent of server shipments in the U.S. during the third quarter of 2000 were Linux-based, with as primary demand Internet or infrastructure servers.

The aim of the – already contested – Gartner calculation is to provide a more realistic estimation of the Linux market share, but may ignore PCs and workstations that were later configured as servers (and consider only the new servers that came with Linux preinstalled).

When explaining its methodology, however, J. J. Hewitt told that "724 U.S.-based respondents had answered questions over the phone for the survey, ranging from small organizations with fewer than 50 PCs to large companies with more than 500 computers, as well as educational institutions, Internet service providers and application service providers, and that end-users were asked what servers they had bought over the past three months and what operating system they had installed on it over the same period".

Our comment is that – once again – this concerns the US only, and that, although Gartner said there was no question about whether Linux was preinstalled or not, the fact that the question was about new shipments may have downgraded the results.

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[14]
http://dailynews.yahoo.com/h/zd/20010611/tc/new_report_questions_linux_server_claims_1.html
[15] A end-User analysis: "Linux Server Market share: Where will it be in 2001 and how will it grow? By Jeffrey J. Hewitt – published May 30, 2001

The European Public sector study questionnaire

Between April and June 2001, a questionnaire was sent to public sector IT managers in the 6 selected countries.

The collection of data was not easy, due to the variety of languages (the questionnaire, originally in English, was translated in French and in Italian to obtain some responses from these countries) and due to a relative reluctance from public sector IT managers to provide sensitive information.

Finally, 66 responses to the questionnaire and to interviews where analysed, representing 1250 servers and 18.540 clients.

Concerning the level of use of OSS solutions, the results must be interpreted with some prudence, for two main reasons:

a) The "evangelist" factor.
   Questionnaires were analysed answered by volunteers (auto-administrated) and we must admit that, despite all our efforts, the panel does not represent equally all components (central or federal, regional, local) of the public sector. This was compensated by phone interviews, but a characteristic of a good part of Open Source users is their strong conviction to defend their model and to become advocates (or even "evangelists") of a new age in software industry.

b) The "university" factor
   55% of our questionnaires were returned by universities and other education related organisations that – for cost and historical culture reasons, are naturally more favourable to the Open Source model. Education presents other particularities as the high number of clients for each server.

Quantitative evaluation

The main conclusions of the quantitative evaluation are the following:

- The use of Open Source in public sector is concentrated on servers, most of them coming in complement (or in replacement) of previous Unix proprietary solutions.

- Globally, this usage is still starting: many departments (60%) already experimented with "some use of Open Source solution somewhere".

- Outside the education field, our estimation is that no more than **8%** of the public sector servers include a dominant Open Source component in 2001 (for example, the OS, the Web server, a productive database). The growth may be fast, especially in 2003 due to the pressure of governments (like France), and since with Open Source server commodities (web servers, SQL database, file servers and a growing part of application servers) the level of satisfaction (quality for public money) seems really high: to be concrete, no complaints were encountered during the study.

- On desktop the use is currently very low (less than 1%) and rather limited to Open Source advocates. The origin of the limitation is not related to quality or functionalities: the OSS graphical interfaces are good enough compared to the commercial ones and office suites provide about the same level of current standard functionalities (for the average office user). The origin of the limitation is mainly related to interoperability and training problems: in the rare public sector departments having "imposed" Open Source solutions to users, it is a permanent fight to convince users to learn and use tools that are "not the same as those of their neighbour", that require additional training and may generate waste of time when trying to import some types of documents (or claims when exporting them to a proprietary system).

Based on the questionnaires and interviews, the quantitative results are the following:

63% of the responses demonstrate "some use" of Open Source solution, somewhere in the organisation.

26,9% of the server panel has Open Source operating systems in 2001 (this includes education sector) and the 2003 previsions are 32,5%.
During the same period, the number of server is estimated to grow about 17%, so the Open Source part will grow faster, with a 21% growth.

2,9 % of the client workstations have Open Source operating systems in 2001 (once again, this includes education) and for 2003, the previsions are 6,7%.
As during the same period, the number of workstations is estimated to grow about 14%, the Open Source part of it may grow much faster with 127% (if public sector IT managers previsions are correct).

Qualitative evaluation

In answer to the motivation question "In general" – independently from the solution (Open Source or proprietary) one of the questions was:

The decision to adopt and implement a software solution (OSS / or non-OSS) may be based on several criteria. Can you estimate the importance of each criterion below (from 0=not important at all to 10=extremely important)? You can also add criteria if needed, or make comments if your ranking is related to a specific type of solution (on Server or on Desktop)

The panel established the following priorities:

		1	2	3	4	5	6	7	8
1.	Inter-operability								
2.	Security								
3.	Respect to standards								
4.	Functionalities								
5.	Easy to use								
6.	Low Cost								
7.	Source code available								
8.	User Friendliness								
9.	Stability								
10.	Support and training								
11.	Politic reasons								
12.	Because IBM, HP, etc.								

A group of four criteria received 80% priority: interoperability, security, respect to standards and functionalities.

Cost is in 6th position.

Political reasons (meaning "independence from a vendor domination") and support from large IT actors are globally less important although (see following graph) 10 % of the panel attributes a top priority to it.

The main lesson of this result is that the cost is not the dominant factor: the public sector will continue to pay more, as long as interoperability (with the other solution(s) used in the market) cannot be "certified".

Similarly, which criteria were ranked first (9 or 10) by the participants?

The result is similar to the precedent evaluation, with some exceptions concerning the availability of the source code for example. As for the political reasons, it is "all or nothing": 35% of the users require source code as essential, but for other users it is of no importance at all: they just want to use all solution as it comes – out of the box.

| 1.	Respect to standards	50%
2.	Inter operability	45%
3.	Security	45%
4.	Source Code available	35%
5.	Functionalities	35%
6.	Low Cost	30%
7.	Easy to use	25%
8.	Support and training	15%
9.	Stability	10%
10.	User friendliness	10%
11.	Politic reasons	10%
12.	Because IBM, HP, etc.	5%

The most used OSS on servers

The duo "Apache/Linux" is cited first. The Apache web server is even more used than Linux (Apache runs also on other platforms), with a rate of 60% in our public sector panel - corresponding to the global market share (61% in 2001 according Netcraft). According to the fact that 63% of our panel use some kind of OSS solution, the conclusion is that nearly all public sector OSS users run Apache somewhere.

Linux comes after (55% against 18% for BSD variants).
MySQL seems to be the most used database.
The use of Zope is growing in several new projects (in France, Spain, Germany).
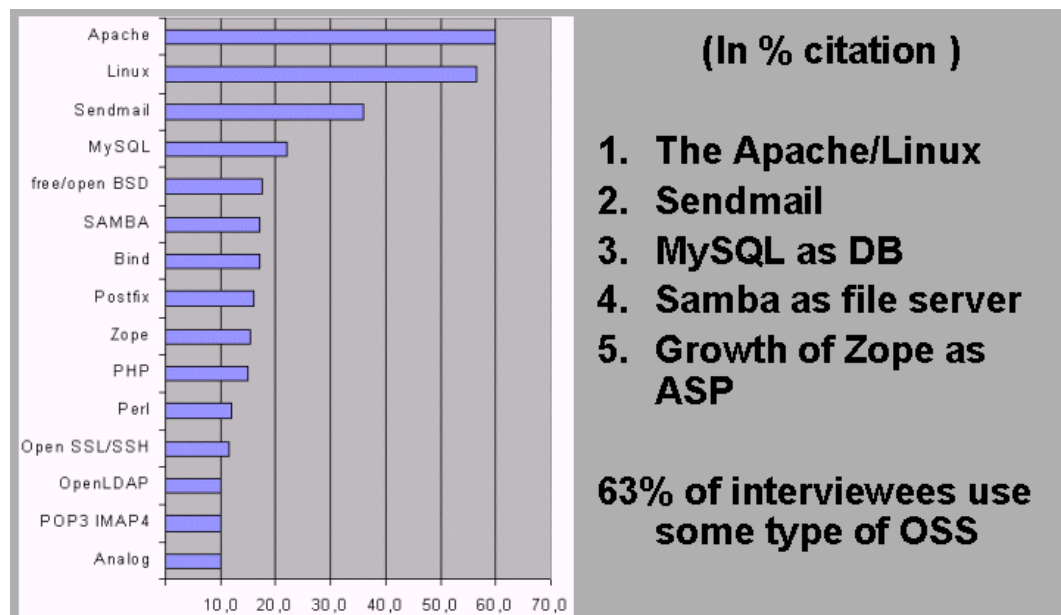

The most used solutions on desktop

If for the servers, some solutions (Apache, Samba) are now really considered as well established "market standard", the desktop situation is quite different: the current use of OSS is still low and the situation may change rapidly, with the emergence of new products (especially office suites). Contrary to the server solutions, desktop products are also more subject to criticism: some solutions are missing, have insufficient functionalities, or are "too heavy", or encountering interoperability problems…

Linux of course, the Mozilla-Netscape browser and the KDE desktop graphical user interface, are currently the most used solutions in a desktop environment.

Concerning the office suites, StarOffice, released as Open Source by Sun in October 2000, starts now to find its developer's community and is currently the most used. This is mainly because it requires minimal additional training, compared to its proprietary rival, and because it is the most interoperable solution, running also on multiple platforms (including Windows and Linux). The main general reproach against StarOffice is that it is still quite "heavy" and resource consuming, with all components loaded at the same time.
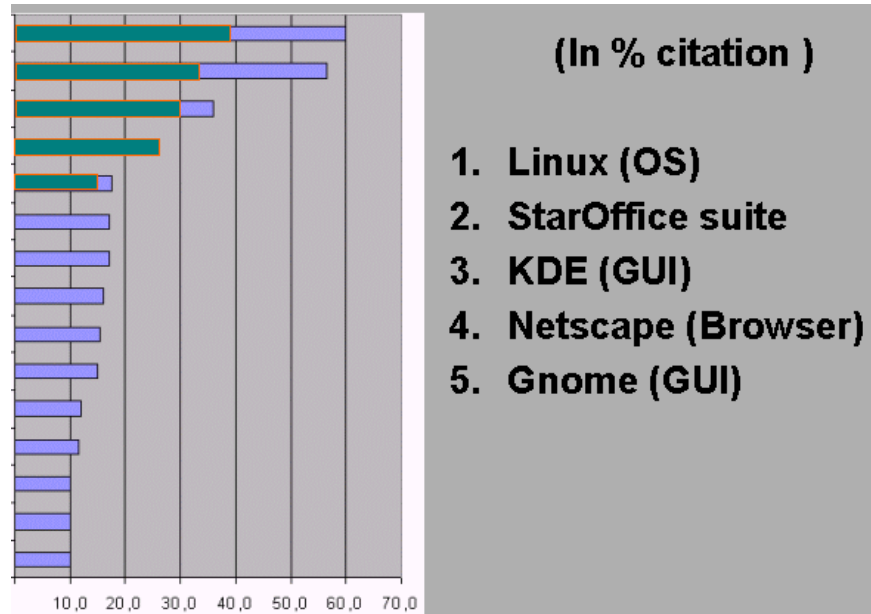
The main issue regarding "local desktop running office suites" is that, generally, their interoperability is not measured according to a neutral and published standard, but versus the dominant Microsoft Office suite.

This measure corresponds to the "user" point of view: importing a document from Office 2000 for example, modifying it, then re-exporting it to Office 2000 and see if everything works.

A measure example was given by "01 informatique" in May 2001[16]:

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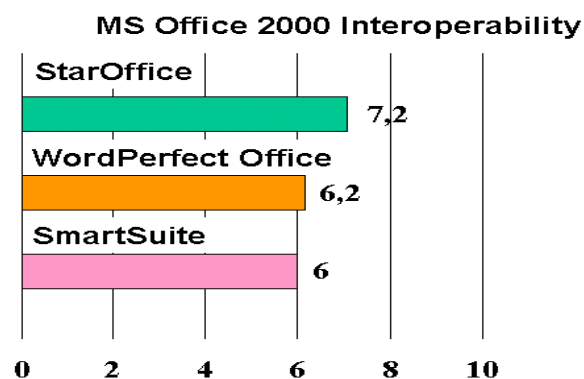
[16] 01 informatique, 4 may 2001p.34 – "Suites bureautiques: des alternatives à Office" by Ludovic Arbelet

The main encountered problems were:
- Especially from MS-Excel, many elements cannot be imported /exported: VBA (Visual basic for application) macros, Cross dynamic sheets, Validation fields, List controlled fields etc.
- From MS-Word, VBA again and problems with tables, table of content, index and illustrations

Belgium

Summary:

In Belgium, the use of Open Source software is not resulting from a oriented government policy in favour of Open Source, but is rather the expression of the needs:
It does not appear in the official statistics, but many public sector organisms use Open Source to find an easy and immediate solution to specific problems.
At least one of the three regions (Brussels) is trying to include a part of Open Source tools and developments in its ICT strategy.

General e-Government situation:

Belgium is a federal state that consists of 3 communities and 3 regions.
The federal government made a declaration (July 1999) wanting "An administration that really communicates", in order to reform the Belgian policy on communication and ICT. The public authorities have a twofold ambition as regards the information society: on the one hand, to act as "enablers" by removing legal and concrete obstacles to the development of ICT; on the other hand, to set an example regarding the use of ICT and communication with the citizens.
In this framework, the government intends to:

- Take general re-organisation and support measures;
- Adopt an annual ICT policy plan which includes various concrete projects;
- Realise, in the short term, a whole range of innovations:

  o The creation of an integrated Intranet network of administrations that allows citizens and private companies to communicate in a simple and modern way with public authorities, while respecting confidential information and the private life.
  o The creation of an Internet server accessible to everyone for the purpose of the on-line management of as many acts and forms as possible; it may also be used by citizens as an interactive forum.

This policy has resulted in the creation of a number of competent bodies:

- The National Joint Committee on Barriers to the Information Society: set up in March 2000, it comprises representatives from all Belgian public authorities, academic experts and representatives from private firms and from associations active in this field. Its task is to study the problems posed by the expansion of the information society and to then send its opinions to the Council of Ministers. Items on its agenda are matters such as the electronic signature, the electronic identity card or electronic offices/desks, the feasibility of which will be studied by the joint Committee in the light of public-private partnerships. The Committee briefly examined the use of Open source software in May 2001 and further sessions on the subject may be held.

- The ICT units: A unit with a horizontal vocation will be set up to give the necessary impetus to, and ensure the coordination of the accelerated and integrated development of Information and Communication Technology. A network of ICT units will moreover be created in all future federal public services.

Created in 1995 and managed by the Federal Information Service, the official site of the Belgian government (http://www.belgium.fgov.be) is a "portal site" which contains the official Internet sites of the federal administrations and of the other public authorities (Communities, Regions, Provinces, Cities and Municipalities). It is also an electronic address where users can communicate with the federal authorities.

The Ministry of public administration (http://www.mazfp.fgov.be) promotes the Copernicus project, to modernise the federal administration process. An important part of Copernicus is dedicated to human training and valorization.

The Flemish Government launched the "Vlaanderen-Europa 2002 plan", for a long-term vision of ICT. The plan is supported by the "Institute for the promotion of innovation by science and technology in Flanders[17]" and includes "action programmes" in the domains of Aviation (VAL), Energy (VLIET), Media (MediaLab), ICT planning, Studies and inquiries, Multi-media presentations. None of these projects is specifically focused on Open Source Software.

The Walloon Government[18] launched important programmes to improve the use of the Internet: WIN (Wallonie Intranet, an optical fibre network), the "Du numérique au Multimedia" programme and the "Cyberécoles" programme to establish a wide network of cyber media centres[19].
In addition, an interesting "Guide (Vademecum) for municipalities to develop a citizen-oriented Internet site" is published on-line[20]. Here also, this guide does not contain recommendations regarding a possible use of Open Source Software.

The Regional initiative of Brussels

Brussels (a group of 19 municipalities) is also one of the three Belgian regions. There is a long established Unix culture concerning most of the servers (we are speaking about proprietary – generally Sun, Unix). Open Standards are also a part of this culture, concerning the mail system: SMTP, POP, LDAP, IMAP (although running on a NT proprietary application). On the desktops, the use of the Microsoft OS and Office suite was generalised.

The Region introduces gradually some Open Source components in its Unix infrastructure and includes OSS knowledge in its public calls for tender (Linux, SamBA, MySQL, Perl).

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[17] IWT : www.iwt.be
[18] http://gov.wallonie.be
[19] http://www.cyberecoles.wallonie.be
[20] http://www.awt.be/cgi/fr/vad/vademenu.asp

The Brussels region participates also actively to the promotion of open standards, by organizing events like the conference "Internet and the Society" (March 8, 2001) which was due to the formal inauguration of IRISNET, a high capacity network serving the entire capital region (both the EU institutions and Belgian capital).

François-Xavier de Donnea, Minister President of the Brussels Capital Region and Charles Picqué, Federal Minister of Economy, hosted this three day event, providing insight into how Internet technologies will bring about fundamental changes in business as well as in the education system and in the public administration at all levels. The third day of the conference was especially devoted to the use of Open Standards in E-Government.

A Linux brochure for managers

The Computer center of the Brussels Region published a brochure "Le guide pratique de Linux destine aux décideurs [21]". Although not original (the text is an adaptation of a more complete text published in France[22] and a partial translation of an Ganesh C. Prasad article in www.osOpinion.com), it was specifically adapted to public sector users with an intention of promoting a reflection on the various alternatives concerning operating systems.

Belgian Army: An example of Linux accommodation

The CTIDN - CVILV Centre for information processing of the national Belgian Army (Evere south) makes several applications of various Linux components:

1) Routers with 30 Linux routers installed since 1998 for managing communication traffic (internally, to and from the Internet) The relatively small size of the Linux kernel made it possible to work on RAM from a floppy (no hard disk). Advantages are availability (no down time, easy to replace components), easy upgrades, out of the shelf hardware and security (secure shell instead of Telnet).
2) Terminal emulation with Logics (cost reduction compared to a previous SINIX-Z solution for BS-2000 mainframe emulation).
3) Web server. Log server, database server and FTP server, + mrtg – engine - BigBrother monitoring server.
4) CVS server for versioning control for the web development team.
5) Proxy with squid and squidguard supporting a monthly 200 Gigabytes traffic (squidguard is used to stop access to "non related to work" sites … as – for example - pornographic ones…).
6) Virus scanning with AMAVIS, a mail virus scanner for all incoming and out going mail.

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[21] http://www.irisnet.be/docs/Public/CIRB-CIBG/Publishing/Booklets/CAHIER14.PDF
[22] http://www.linux-france.org

National Botanic Garden of Belgium

The Royal Botanic Garden (in Meise, near Brussels) implemented (2 years ago, under direction of the formal IT manager, after a cost and needs analysis) 7 Linux servers for about 100 desktop workstations.

The Linux servers (Web server Apache, File server Samba) also enable users to use the server office application applixware.

The particularity of the installation is that desktops also are Open Source, or more exactly "dual boot" (Windows - Office/Linux - StarOffice) for all the new installed workstations.
According to the actual IT manager, Linux gives "complete satisfaction" on servers, but on desktop the real use of Linux by the users is about 30% (Windows is used 70% of the time) and there are quite frequent claims of Linux desktop users for "not having the same" office software as others (corresponding administrations, at home etc…).

France

Summary:

Since the beginning of 1999, an appreciable quantity of Open Source solutions has been adopted in the French public sector: Ministry of Culture, Ministry of Defense, National Education, Research, Customs, Taxation, Prime Minister services etc.

In today's "political culture" it becomes usual to hear or to read (in call for proposals) that new developments require transparency of the used tools, open and non-proprietary interchange standards. As everywhere, the first implementations were realised by visionary "pioneers", those are now « relayed » by politicians and managers.

A long-debated law proposal plans to impose the use of open standards in all ICT tools used by public sector departments. Even if, in the near future, the use of these standards will probably not be « imposed » by the law, it will be strongly recommended to the department directions (whose directives are generally followed).

On the impulsion of the MTIC, the IRIA and other leading organisations, OSS should know a major growth on administration servers during the next two years.

General e-government IT policy[23] -

The PAGSI

France started later than other countries with the development of an Internet based information society[24]. A government action programme "Preparing France's entry *into the inform@tion society*" *(PAGS*I), was launched in 1998. The PAGSI main guidelines are in line with the e-Europe initiative to promote e-government and better use of the Internet.

The PAGSI text[25] does not formally mention OSS (Logiciels libres) although the ESIS report[26] mentions (p. 109) that under the general priority "Creating digital opportunity for the future" one of the measures is the allocation of 153 million Euros for Research & Development, where OSS is one of the 11 priorities:

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[23] General policy notes are detailed in the ESIS report prepared by Isabelle Chatrie and Paul Wraight, http://europa.eu.int/ISPO/docs/services/docs/2000/October/ESIS_IS_Strategies_en.pdf or in the EIPA report «The Use of ICT in the public administrations of EU Member States" by Jean-Michel Eymeri – www.eipa.nl

[24] Partly because of the previous local success of the French "Minitel" communication protocol.

[25] http://www.internet.gouv.fr/francais/textesref/pagsi.htm

[26] ESIS report, Sept 2000, for DG INFSOC by Isabelle Chatrie and Paul Wraight, LL&A http://europa.eu.int/ISPO/docs/services/docs/2000/October/ESIS_IS_Strategies_en.pdf

"Among national priorities for IT research will be security, software and technologies namely smart environment, smart transport, house automation, technology for the disabled, open and free software, online educational training resources, online health, 3D real-time computing on line and 4D multimedia".

ICT main decisions are taken in two types of meetings:

- Inter-ministerial committees for the information societies (*CIS*I), which address the topic of the information society as a whole;
- Inter-ministerial committees on State reform (*CIR*E), which place ICT in the context of global administrative modernization

The Internet site documenting this general policy is: www.internet.gouv.fr.
The development indicators of the electronic administration are updated every three months by the Ministry of the Public Service and State Reform (http://www.fonction-publique.gouv.fr/lareform).

The law proposal "Société de l'Information" (LSI)

Promoted by the Ministry of Industry, the law project « Information Society » has been approved by the Council of Ministries on June 13th 2001[27]. This law is the French adaptation of the European directive of 8 June 2000 on electronic commerce (facilitating e-signature, electronic transactions and the use of the Internet).

The Rapport Carcenac

At the Prime Minister Jospin's request, Thierry Carcenac delivered on April 19 2001 a report « for a citizen oriented administration » [28].

The report gives six priorities, and three of them (3, 4 and 5) will have a determinant impact on the future OSS adoption in the French administration:

1. A process reengineering (towards integrated, citizen oriented administrative procedures)
2. A better training and motivation of human resources
3. Standardisation of administrative data (based on XML open standards)
4. Adoption of Open Source Software (logiciels libres)
5. Better Internet networks
6. Support organisation

For the six priorities, 57 short, medium and long-term measures are proposed.

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[27] http://www.lsi.industrie.gouv.fr/
[28] Thierry Carcenac, "Pour une administration électronique citoyenne" http://www.internet.gouv.fr/francais/index.html

Concerning the adoption of **Open Standards** (IETF and W3C), they should be "prescrits" (= very strongly recommended). Obviously Carcenac estimates that a "legal obligation" is not necessary, as such prescriptions are generally respected. Another motivation to avoid a law enforcing open standards may be to allow a softer evolution of some costly proprietary infrastructure.

> Note: The free software user association AFUL and others prefer[29] to impose open standards by law, as in the "**Le Déaut / Paul / Bolch / Cohen law proposal**"[30] and regret that this proposal is rejected by the Carcenac report. This **Le Déaut** proposal presents four measures concerning all exchange of computer data by the government organs (central or federal, local):
>
> - Impose the use of open standards;
> - Use only software for which the source code is available;
> - All persons should be authorised to use or to make public any software designed for the communication with other software or applications;
> - Creation of a public sector organisation (ATIC – Agency for Technology of Information and Communication) to identify the software and standards responding to open standards, to inform and make recommendations, and represent the government in European co-operation forums.

Concerning the use of **Open Source Software**, the Carcenac report does not use the term "prescrire" but uses the much softer term "inciter" (= invite to use, encourage). At the same time, it reflects the preoccupation to fight against software patents.

Concerning the support structure, the report proposes to reinforce the MTIC role – and – knowing the actual MTIC position – this should also reinforce the support given to Open Source.

Government engagement in favour of OSS

The Minister in charge of the public services [31], Michel Sapin, declared[32] at the first "Open source in public sector day" on March 5, 2001 that Open Source Software has started, since 1999, its "emergence" in public ICT.

Some of the key points of M. Sapin's intervention are:

- In a complex and fast moving ICT world, the respect of open standards is the main guarantee for preserving long-term public investments. More than the low cost, respect of open standards is the motivation to adopt Open Source.
- There will be no constraint to push Open Source adoption, but as soon it offers the requested services for the same global cost, it should be preferred.
- The part of Open Source project implementation will jump from 10% to 33% (1,1 million euro) in the « fonds de modernisation» (inter – ministerial).

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[29] See the AFUL comments on http://aful.org/presse/pr-ledeaut.html
[30] Concerning the « Rapport Le Déaut – Cohen » see (http://www.mission-cohen-ledeaut.org)
[31] http://www.fonction-publique.gouv.fr
[32] Ministry of Public sector and of State re-organisation, published on the French government site on
http://www.fonction-publique.gouv.fr/leministre/lesdiscours/discours-200103051215.htm

- Recognition of the positive input from the Open Source community to e-government transparency and best practices.

Other parliamentary work

In addition to the law « Société de l'Information » and to the « Le Déaut proposal » mentioned above, an investigation on the site of the National Assembly, www.assemblee-nationale.fr illustrates regular mentioning of Open Source (logiciels libres) and open standards (standards ouverts) in parliament work and proposals.

The MTIC role

Created in August 1998, the MTIC is the inter-ministerial technical support mission for the development of ICT in Government administration.

Depending on the Prime Minister, its role is to reinforce inter-ministerial co-ordination and to help the various administrations to set up ICT projects, providing guidelines and common standards, recommendations in terms of software. In addition, the MTIC distributes an e-mail newsletter to more than 4000 subscribers.

The MTIC is coordinated with the State Reform organisation[33] (DIRE), collaborates with the IRIA and the AFUL (French association of Libre software users) and its engagement in favour of Open Source appears from its web site:

Several of the MTIC home page chapters are directly dedicated to Open Source:

- Technology and standards (focus on interoperability)
- Meetings and events (invitations to seminars on Open Source)
- Dossiers de la MTIC (interoperability and a specific dossier on "Open source"[34] with practical instructions to install Linux applications)
- "Le Bouquet du libre". Here, the MTIC provides various OSS services:

- **Atelier du libre** : a permanent workshop with regular meetings (first meeting organised on 15 May 2001)
- **outils libres** : A structured list of the main OSS tools (from about 15 tools in January 2001, the list was expanded to more than 50 solutions in June 2001)
- Links to technical guides on Linux, Zope and other solutions, FAQ lists, distributors, service and training providers, case studies and a forum.

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[33] http://www.fonction-publique.gouv.fr/lareform/
[34] The English term "Open source" is used here by the MTIC, although the French wording is "Logiciel libre"

Inscrivez-vous à la lettre de la MTIC

Inscription

chercher

La mission
Présentation, Textes, Organigramme,...

Programmes
AdER, Téléprocédures, Conservation

Technologies et standards
Interopérabilité, Référentiels, Accessibilité

Rencontres et événements
Inscriptions, rencontres, Evénements,
Electrophées 2001

Dossiers de la MTIC
XML, Interopérabilité en Italie, Groupware/Open
source,...

Mission Carcenac

Le Bouquet du libre
Atelier du libre, Outils, Distributeurs,
Réalisations,...

Avantages XML
Répertoire des schémas XML,
Recommandations,...

Canal mutualisation
Internet/Intranet clé en main, Multimédia/IP,
AdERpro, ...

Liens utiles
Administrations, Associations, Téléprocédures,
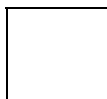Rapports,...

Forums
Logiciels libres, XML, Internet/Intranet,...

Outils en téléchargement

The MTIC infrastructure is based on the following tools:

Operating system :
FreeBSD version 3.4 - stable

E-mail :
Sendmail 8.8.8

Web server :
Apache 1.3.6

Php :
Php version 3.0.7

Database :
MySQL 3.22.32

File server :
Samba 2.0.2

Groupware (information diffusion) :
Sympa 3.0.3
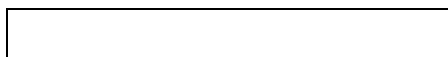
MS Exchange mail takeover:
Fetchmail 5.0
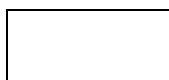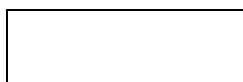
Remote administration:
Webmin v0.8
PhpMyAdmin v2.0.5
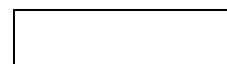
And others…:
Virtual Network Computing VNC ver 3.32

The INRIA

Created in 1967 at Rocquencourt near to Paris, the INRIA (Institut National de Recherche en Informatique et en Automatique) is the French National Institute for Research in Computer Science and Control. It is a public scientific and technological establishment (EPST) under the double supervision of the Research Ministry and the Ministry of Economy, Finance and Industry.

INRIA's ambition is to be a world player, a research institute at the heart of the information society. INRIA aims to network skills and talents from the fields of information and computer science and technology from the entire French research system. This network allows scientific excellence to be used for technological progress, for creating employment and wealth and for new uses in response to socio-economic needs.

INRIA's decentralised organization (5 Research Units), its small autonomous teams, and regular evaluation enable INRIA to develop its partnerships, with 47 research projects out of 87 shared with universities, high state's schools ("Grandes Ecoles") and research organizations. It is also strengthening its involvement in the development of research results and technology transfer: 600 R & D contracts with industry and 40 technology companies have been born of the Institute. INRIA has also created more than 40 start-ups or "spin-off", for example Ilog that is Nasdaq-listed: 5 start-ups have been launched in 1998, 6 in 1999 and 11 in 2000.

The four-year 2000-2003 State-IRIA contract includes

- INRIA participation in such standardization bodies as the W3C, the IETF and the ICANN;
- The distribution of software whether free or commercial.

The INRIA distributes about 80 software, most of them as Open Source, including its homemade software[35].

The Ministry of Defense

The French army has deployed solutions based on Open Source Software, after successful security and reliability tests. FreeBSD is the most used solution.

The Ministry of Culture

The Ministry of Culture and Communication announced the massive migration of its servers (both Unix and NT) to Linux. About 400 servers are concerned. The migration should be terminated at the end of 2003[36]. A full Open Source infrastructure is the 2005 objective.

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[35] on the distribution site: http://www.inria.fr/valorisation/logiciels/index.fr.html
[36] http://www.linux-mandrake.com/fr/pr-anantgo.php3

The first concrete step of this evolution was contracted with the French Linux distributor Mandrake soft, for a Linux server installation in six province museums[37].

The Ministry of Justice

The Ministry of Justice and the "Casier Judiciaire National" Intranet (criminal register) are based on OSS solutions[38].
Starting in 1997 with limited resources and an old infrastructure (386SX Windows 3.11 PCs) the first developments were based on Intel servers (Pentium 120 Mhz) with (SCO 3.2.4 Unix – later 5.0.4). Most other components were free: (qpopper and SendMail), Apache as web server, Perl and standard HTML (Java was too "heavy" for the out-dated clients), the SAMBA file server and fetchmail to integrate external e-mail messages.

Internet Explorer 3.0 was provided (for free) by its vendor.

The development steps were the following:

- feasibility prototype
- pilot project with 20 representatives of the various services (and hierarchic levels!)
- Productive installation (the 100 first users)

The main applications (implementation started in 1998) are telephone directory, calendar, meeting room reservation, graphical planning.

Today, the infrastructure moves to a paperless system and will be generalised from 100 users to 300 (the whole staff). The proprietary Unix will be replaced by Linux, PHP and MySQL will be adopted.

The National Education

The Department of National Education, directly or indirectly through universities, academies and other high and professional schools is the major OSS user in France. Among these universities:

- The Louis Pasteur University, in Strasbourg, where the "Osiris" system joins about 14.000 computers. 26% of the 620 servers (51% of the 174 web servers) are based on OSS (Linux, Apache, Zope, Postfix, SendMail). On the 13.500 workstations, 2% are now Open Source (foreseen evolution within 2 years: 5% of 15.000 workstations).

- The University of Lyon I[39] with all its servers and 80% of its workstations.

- Université d'Artois[40] with 60% of its servers (95% of web servers) and 10% its of workstations.

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[37] http://www.linux-mandrake.com/fr/pr-culture.php3
[38] More information may be obtained at the Justice dept: Laurent Rieuneau (Laurent.Rieuneau@justice.gouv.fr)
[39] Laboratoire de probabilité, combinatoire et statistique http://www.lapcs.univ-lyon1.fr
[40] www.univ-artois.fr

- Université de Nancy 2[41] with 20% of its servers (50% of web servers) and 10% its of workstations.

- Académie de Rouen[42] with 50 % of its servers (100% of web servers) and 3% of the workstations.

- Institut national des sciences appliqués[43] of Toulouse with 20% of servers (100% of web servers) and 40% of its workstations.

The Customs and Taxation (Ministry of Economy, Finance and Industry)

At the "Direction Générale des Douanes et des Droits Indirects" (general customs and VATdirection), the requirements of security and reliability are known to be extremely high, with interchange of data related to anti-fraud, VAT and external customs with EU administration and other Member States taxation units.

A single partner was selected to install an applicative solution (electronic information desk) and proposed an Open Source server with Linux, Apache, a secondary Domain Name Server and the SamBA file server. This first server is now installed and used by 60 workstations. The cost of this investment was estimated to be low, also concerning training and administration.

According the MTIC site[44], however, the Open Source extension (to the other servers of the Intranet) is "for the time being not actual, but the good performance of the installed server may lead to consider the duplication of the installation with a second information site on the same Intranet".

The case of the Customs and VAT General Direction illustrates the delivery of a «turn-key" applicative solution, where the integrator proposed an Apache web server. As noted by the MTIC, "It is possible that the use of Open Source Software will be made faster popular by integrators than by client's requirement[45]".

950 servers

More important, at the «Direction Générale des Impôts» (DGI / General direct taxation direction) the decision was taken to select Red Hat 6.2 Linux as environment after the DGI decided to upgrade 650 Oracle database servers. The new implementation will be extended to 950 servers and the deployment was awarded to the support partner Linbox[46]. A decisive factor in the IT division's choice was Factory, an automated installation procedure developed by Linbox to facilitate large-scale deployment.

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[41] http://www.univ-nancy2.fr
[42] http://www.iufm.univ-rouen.fr
[43] http://www.gmm.insa-tlse.fr
[44] See point 5 "Le bilan du projet" on http://www.mtic.pm.gouv.fr/bouquet-libre/experiences/ac/douanes/
[45] The growing part of Linux in embedded products is evoked in the part 3 of the Study
[46] Communiqué on http://linbox.com/en/news/pr/2000-12-21-dgi.html

The SIT of the Bas-Rhin[47]

A SIT is a « Service of territorial information" organised in a French "Département" (territorial subdivision) to facilitate the interchange of information between the various administrations and between the citizens and the administration.

Powered by Zope, the web site received the price of the "best government site" at the net-economy congress (Paris – La Vilette 28-30 March 2001).

The SIT du Bas Rhin, with Linux, Apache, Zope, Mailman, MySQL OpenSSL and OpenSSH / mindterm, is considered as a pioneer 100% OSS organisation (servers only, as end-users are external to the SIT).

The French Free software users community

Represented by the AFUL[48] association and various other organisations, the French users of free software Association includes members of public sector and, as the more official MTIC, provides motivated comments about the government's projects, in addition to strong fighting against software patents.

The content of the Carcenac report (April 2001) was well received with regards its technical recommendations to use open standards and free software. The AFUL however would like to go further, requesting an obligation concerning the use of these open standards (and not a simple recommendation).

AFUL says it is in favour of "equality of chances" between proprietary and free software, as long the communication formats are always (and mandatory) open (in other words, "no matter if many public sector IT managers purchase a commercial, proprietary and dominant office suite, provided it can be certified, - by an authority independent from the vendor - that the produced documents are in total conformity to non proprietary standards" (this position reflects the content of the "Le Déaut-Paul-Cohen-Bloche » law proposal).

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[47] http://www.bas-rhin.sit.gouv.fr/
[48] Association Française des Utilisateurs du Libre - www.aful.org

Germany

Summary

Prominent figures of the Federal Government of Germany, such as the Federal Minister for Economy and Technology, Siegmar Mosdorf, are convinced that "Open Source development can form the European base model in the information age."[49]

The Federal government took a number of concrete initiatives to inform and to clarify the advantages and disadvantages of Open Source Software, in order to introduce a real discussion on the subject in institutions that are still widely using a single proprietary operating system and office suite.

Several main concrete initiatives were prepared:

- Information letter from the KBSt advisory organ;
- Practical instructions to enterprises;
- A national Open Source competency center, providing a technical infrastructure, a discussion forum and marketplace (BerliOS).
- The support of an encryption product, corresponding to a direct government need (GnuPG)
- OSS process reengineering in specific departments like the "civil service" sector.

General e-government IT policy

In December 1999, the German Federal Government adopted the programme "Modern State - Modern Administration" (www.staat-modern.de), which is currently implemented throughout the federal administration with 15 main projects and 23 complementary projects (a total of 38 projects). The ICT plays a prominent role in this programme, under the name "BundOnline 2005".

It should lead to a fundamental change in the administrative structures and means of providing services to the citizens, as the objective of the federal government is to offer from 2000 to 2005 a large number of electronic administrative services to citizens and companies. The programme must be realised taking in consideration the federal structure of the country: each "*Länder*" has its own autonomy, and therefore the decisions and efforts will be shared between the three levels of authority (federal, states and municipalities).

The KBSt role

The Ministry of Home Affairs[50] has set up a Co-ordination and Advisory organ: the KBSt, a center of competence of the Federal government for information technology and communication into the federal administration [51].

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[49] (as it was declared at the Linux Day 2000 (http://www.internetnews.com/intl-news/article/0,,6_408271,00.html)

The KBSt maintains a specific web site at: Http://linux.kbst.bund.de, providing links to Open Source events.

One of the most relevant KBSt initiatives was the publication of the KBSt letter No 2/2000 "Open Source Software in the Federal Administration"[52]. KBSt letters are used to provide an overview of best practices, developments and experience in the IT Federal authorities area, and may be used for planning and guidelines.

> The KBSt letter 2/2000 recognised the advantages of Open Source Software regarding the reliability and confidentiality, indicating that it was "already possible to satisfy entirely office requirements using OSS, and that a successful migration strategy must be oriented towards coexistence between the software of a variety of manufacturers, taking in account the existing equipment level".

According to the KBSt analysis, the current situation in the federal administration is characterised by the deployment of office communication packages from a single manufacturer. Few people are ready for the "adventure" of changing this situation, invoking migration and training cost.

On the other hand, some disadvantages of this dependency are becoming apparent to the KBSt:

- Software upgrades or releases make old hardware obsolete (since the existing hardware does not achieve the performance required by new software);
- In most case, official documents are saved in proprietary format (and older versions of the software cannot process documents from newer versions);
- The generalisation of a proprietary format makes the use of competing software difficult or impossible;
- Users cannot be sure that the range of products with which they have become familiar will continue to be available in the future;
- In some specific cases, the fact that the program code cannot be read leaves doubts regarding the reliability, particularly in terms of confidentiality, and is not in conformity with a German government request to "only use products which are transparent in terms of the way they operate".

After this analysis, the KBSt letter defines the OSS alternative (history, description of the main solutions, possible uses in the office area), analyses the possibility to integrate OSS with proprietary software, support and installation effort, cost, training and security.

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[50] Bundesministerium des Innern

[51] Koordinierungs- und Beratungstelle (KBSt) – Kompeteuzzentrum für Informationstechnik une Kommunikation

[52] http://www.kbst.bund.de - an English version of this letter exists at: http://linux.kbst.bund.de/02-2000/brief2-2000-en.pdf

A specific Open Source government information site

The site http://linux.kbst.bund.de provides information and links to events (meetings, symposia, workshops, parliamentary discussions), to documents and press articles related to Open Source Software in the federal administration.

The BMWi OSS guide for small and medium enterprises

The Federal department for Economy and Technology - BMWi[53] provided another important encouragement with its brochure: "Open Source Software, A guide for small and medium enterprises"[54]
The brochure of March 2001 is composed of the following parts:

1. Introduction
2. A definition of Open Source Software (history, development and economic model, main project examples (GNU, Linux, KDE, Gnome, Apache, Mozilla, Databases and Office suites) and explanations about licenses;
3. Practical explanation of pro and contra of OSS, user friendliness, services and support, cost models with two examples: web server and internet router, migration strategies.

The BMWi illustrated the OSS advantages by two cost models (original DM prices are converted in euros):

a) The cost model for a web server installation

Component	Open source		Mixed solution		Proprietary	
	Product / Qty	Price (euro)	Product / Qty	Price (euro)	Product / Qty	Price (euro)
Operating system	Linux distribution	50	Proprietary OS	1.250	Proprietary OS	1.250
Web server	Apache	0	Apache	0	Included in OS	0
Page system	PHP	0	PHP	0	Included in OS	0
Database	Postgress	0	MySQL	0	Proprietary DB	2.145
Installation	8 hours	800	8 hours	800	8 hours	800
Total		**850**		**2.050**		**4.195**

b) The cost model for a router with Internet access

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[53] Bundesministerium für Wirtschaft und Technologie - http://www.bmwi.de
[54] BMWi "Open Source Software, Ein Leitfaden für kleine und mittlere Unternehmen – March 2001 - http://www.bmwi.de/Homepage/download/infogesellschaft/Open-Source-Software.pdf

Component	Open source		Mixed solution		Proprietary	
	Product / Qty	Price (euro)	Product / Qty	Price (euro)	Product / Qty	Price (euro)
Operating system	Linux distribution	50	Linux distribution (Red Hat)	50	Proprietary OS 15 clients license	1.250 718
ISDN	ISDN – Packets	0	ISDN – Packets	0	ISDN Packets	0
Firewall	Ipchains	0	Proprietary, 25 IP max, 1 year update	2.700	Proprietary	2.700
Proxys	Squid	0	Squid	0	Proprietary	1.217
Messaging	Postfix	0	Postfix	0	Proprietary	2.708
Mail client	Varia	0	Varia	0	Netscape	0
Installation	20 hours	2.000	20 hours	2.000	20 hours	2.000
Total		**2.050**		**4.750**		**10.593**

4.	In addition, the BMWi gave best practice examples, with six case studies giving the concrete solution, the name of the user, the web sites URLs.

5, 6, 7	The brochure examines legal questions (licenses, liability, patent law, OSS business model) selection criteria and annexes with a list of addresses.

BMWi Support for the BerliOS-Project

BerliOS was founded by the FOKUS (Forschungsinstitut für offene Kommunikationssysteme – Research institute for open communication systems) with the federal department of economy and technology support. Www.Berlios.de provides an original "Support and Mediation structure" and a competence center for Open Source Software. The objective is to provide an intermediate support structure between the OSS developers and the commercial distributors or the service providers, or between developers and the public sector: identifying the needs, the availability and maturity of existing OSS solutions, playing the role of a global German "market place" The BerliOS services include:

- Documentation
  The worldwide emerging documentation about Open Source Software is classified by BerliOS and contains HOWTO and FAQ documents, free books and books directories, standards and other documents. Besides the offering of English documents a main goal of BerliOS is the provision of information in German language.

- Databases
  Through databases extensive information is offered to users about Open Source distributions and application software, hardware and software products as well as support services and companies.

- News & Events
  Recent news and event notes about Open Source topics are offered in a compact form.

- Software Archives
  The main archives of worldwide-developed Open Source Software are mirrored to support extensive software offering with fast access in the national domain (Germany). Downloads are provided by World-wide Web and FTP.

- Solutions for particular trades
  Existing solutions in particular companies are introduced and documented. The experience gained during realization and deployment then can be used as an example for implementation in other companies to show opportunities and risks. BerliOS offers a technical infrastructure for the exchange of experience between users and provide a mediator function between users and developers as well as support companies.

- Software Exchange
  For free developer groups, incentives are provided by an Open Source Software Exchange. In the market particular enterprises, interest groups or the government may offer an amount of money for a needed solution, to the benefit of developers that supply the components.

- Search Engine
  BerliOS Web server provides an additional directory of other worldwide existing search engines.

The BerliOS open-source mediator site (www.berlios.de)

OSS Projects Support

GnuPG[55] privacy OSS

The German federal government (BMWi) expects an increase in security in data processing and data communication in supporting the GnuPG (GNU Privacy Guard) project, because if the Open Source code of a program is clear and visible and can be checked by experts, then security is considerably increased. "Security through Obscurity" must be replaced by "Security through Transparency".

This project is realised by the German Unix User Group (GUUG) in co-operation with several other firms (G-N-U GmbH, LinuxLand International, DFN-PCA-Projekt, Werner Koch Softwaresysteme). The BWMi announced support (1999) was 163.000 euro. The GnuPG purpose is to provide a reliable encryption technology to the public sector (and, as free Open Source, to everybody). It implements the OpenPGP-standard (an open adaptation of the de facto PGP standard) and is freely available under the GNU/ General Public License GPL.

At a time where the European Parliament recommends to the European Commission to combat possible industrial espionage[56], through a series of specific actions like "To devise appropriate measures to promote, develop and manufacture European encryption technology and software and above all to support projects aimed at developing user-friendly open-source encryption software", the development of GnuPG is considered as a major contribution to Europe's economic security.

The INTERMiT project

The State Secretary Claus-Henning Schapper (Federal Ministry of Home affairs) presented the Intermit project[57] inside the BundOnline 2005 programme. This Internet retrieval tool prototype, designed to fight against several forms of cyber-criminality like child pornography and right-extremism, is based on Open Source components.

Parliament work and projects

The use of OSS was debated in the German Parliament (152th session, 15.2.2001) on recommendation of two political groups [58] to promote the use of Open Source software into the German Federal Administration (http://www.bundestag.de/aktuell/hib/2001_040/04.html).
According to these groups, since the "e-Government – BundOnline 2005" project should lead to make available all government services electronically before 2005, a new public sector IT culture of independence, more open to little multi-media enterprises, should be developed. The groups recommend the adoption of OSS solutions to realise the "BundOnline 2005" objectives.

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[55] http://www.gnupg.de
[56] Draft report concerning the Echelon communications interception network – ZDNet news 29.05.2001 (http://news.zdnet.co.uk/story/0,,s2087713,00.html)
[57] http://www.bundonline2005.de/de/presse/data/PM160501.htm
[58] Fraktion der SPD and Fraktion BUNDNIS90/DIE GRÜNEN

Government support for events

Government representatives participate in various manifestations where Open Source promotion is debated.

As examples, we can mention:

- A specific congress about software patents (22 May 2000).
- Participation in the GUUG (German Unix User Group) association (http://www.guug.de/).
- Federal Ministry participation in workshops like the Linux DAY (Minister Müller to Linux Tag, Stuttgart June 29 to July 2 2001) and Congress (Minister Buhlmahn's participation to Linux Congress, 20-22 September 2001).

The Information Processing Centre of the Ministry of Finance (OSS success on Servers)

Web site and information reference: http://bff-online.de/linux/

The Ministry of Finance started its Intranet pilot project in 1997. The reasons to construct the pilot project with OSS (Linux platform) are the following:

- The existing personnel has already a Unix culture (this factor reduces the learning period);
- The necessity to use existing material without replacing it (mainly old PC with Intel i386 and i486 processors);
- The web-server required software is available as Open Source (Apache – Linux) at no license cost;
- The two above products had already achieved in 1997 a significant market share, with an impressive growth tendency.

From 1997 onwards, the pilot server is running without any trouble.
In 1999 it was decided to realise a wider Intranet /Internet system, for 850 services involving more than 15.000 users.

The services include:

- Content management system to cover the whole Intranet and Internet page content (with an hierarchic storage structure, links and data administration with links consistency test, retrieval engine, integration of workflow, document management, versioning, user's right management, import and export);
- Organisation of the Internet access (WWW, FTP, News) with proxy server;
- Domain names administration;
- Incoming and outgoing mail management with SMTP mail server;
- Firewall system;
- Time-server;
- Directory server.

All the above services were realised with OSS and the two work groups in charge of the project definition and realisation decided to continue with the Open Source Software, due to the good experience of the pilot project (and existing internal support) and due to reduced costs concerning the licenses and the server administration.

States (Länder) initiative (A case of OSS failure on desktop)

In the state of Lower Saxony (Hanover) the Ministry of Finance, responsible for higher financial administration and the 68 tax offices with more than 12,000 employees communicated in August 2000 its commitment to introduce Open Source into the state's administration, starting in October 2000 with a dedicated training program for its IT managers[59].

In the state of Schleswig-Holstein, The KBSt recommendation (that it was already possible to satisfy entirely office requirements with OSS) was studied with a concrete project to replace a significant part (about 100) of the state's administration workstations by OSS-driven units, with the realisation of a Pilot "Model-Project" based on Linux – StarOffice desktops, as it was announced in August 2000[60]. The project that was mainly supported by the "Greens" (Bundnis90 – Die Grünen)[61]

This migration of 100 workstations from NT4 to Linux was estimated at EUR 80.000 (instead of EUR 250.000 for a migration to Windows 2000). However, after debates, the state finance commission decided to reject the project at the beginning of 2001.

The rejection of this – relatively modest – pilot project seems to illustrate the difficulties to reproduce on desktops the OSS successes obtained on servers: the end office users have fears concerning document inter-operability, solutions availability, and do not see a vital interest to learn and experiment a new system (the StarOffice integrated suite in this case) when the current one is globally satisfying their immediate needs.

German Federal Army (Bundeswehr)

The German Federal Army is known as a large Open Source user in Germany.

According to "Der Spiegel"[62] it was even announced in March 2001 that the army had the intention (for transparency and security reasons) to ban all Microsoft software from its IT infrastructure. This sudden information was forwarded on numerous sites and widely commented on forums, but was also rapidly disputed by some forum participants, arguing the news was false or strongly exaggerated... On its side, Microsoft announced that the Federal Army had concluded a volume license agreement for 105.000 Windows 2000 (and Office 2000) workstations, and about 4.000 servers[63].

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[59] http://www.heise.de/newsticker/data/prak-22.08.00-000
[60] http://www.heise.de/newsticker/data/prak-24.08.00-000/
[61] .pdf extracts from debates and Bundnis 90 – Die Grünen position are presented on the State's parliament network ParlaNet http://www.parlanet.de/english/
[62] Der Spiegel – 17. March 2001 - http://www.spiegel.de/netzwelt/politik/0,1518,123170,00.html
[63] http://www.microsoft.com/germany/ms/businessloesungen/verwaltung/presse/bw.htm

Italy

Summary:

Since the end of 1999 there is a growing interest in Italy for Open Source from local IT managers in municipalities, regions and some sections of the administration.

The role of the AIPA (Authority for IT in Public Administration) is to preserve the fair competition in Public sector IT markets, and therefore "to avoid the dependence from one single vendor". This authority was until now lagging behind concerning OSS and has still to develop competence in the field.

The global situation is therefore a quasi "total absence of Open Source Software in the Italian public administration". However, due to the Senate recommendations, the perceptions of European initiatives and a growing political demand, the situation may move rapidly.

General e-government IT policy[64]

The administrative reform[65] is characterised by decentralisation, simplification of procedures and a new focus on government-citizen relations.

The Authority for IT in Public Administration *(AIP*A) is the technical body that organises three-year programmes with the aim to provide strategic guidelines to each administration.

The 2000-2002 programme intends to:

- Improve processes of self-administration;
- Improve services provided to the citizens by reducing the number of intermediaries and by simplifying procedures and direct access to the services;
- Increase application software investments;
- Manage the Euro migration.

A "Ministers Committee for the Information Society" and a "Forum for the Information Society" (mixed work structure open to regional/local institutions, private firms, unions, universities, and citizens' organisations) was set up in 1999.

The Italian Government translated the e-Europe initiative (European Council of Feira, March 2000) into an "Action Plan for the Information Society", with three priorities:

- Human resources (training, education and research),

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[64] General policy notes are detailed in the EIPA report «The Use of ICT in the public administrations of EU Member States" by Jean-Michel Eymeri – www.eipa.nl
[65] Mainly organised by the Bassanini Laws

- e-government (innovation in public services)
- e-commerce (definition of rules for e-commerce)

The three corresponding objectives are:

- Interconnect public administrations (Interchange of Data between Administrations) in order to improve efficiency;
- Provide integrated services (once information as address, civil status etc. is available in one of the administration, it should not be asked again by another)
- Ensure on line access to all (local administrations will be the front office, while central data and administrations will be used as back-office.

The Italian Government's main sites regarding IT policy are:

- Presidency / Council of Ministers: www.palazzochigi.it
- Ministry of the Public Service: www.funzionepubblica.it
  - Ministry of Finance: www.tesoro.it

No explicit government engagement in favour of OSS

Until the end of 2000, there was little official Government engagement in favour of OSS in Italy: Initiatives are mainly concentrated in high schools, municipalities and specific regions, as Trentino, Toscana[66]

In reference to the e-Europe initiative (and the decision of the European Feira Summit in March 2000), the government issued the "Guidelines for organisation, usage and accessibility of public sector web sites [67]" that stressed (in its introduction) the conformity to the W3C standards. The 10 practical rules are related to page organisation, limitation of the use of images and animation, scripts etc., without specific references to Open Source.

Evaluating the use of Linux in Italy, A. Vitali and V. Giglioli pointed out that they see "incompetence and misinformation" as the main cause of the "total absence of Open Source Software in the Italian public administration", resulting from a common belief that no sufficient assistance is available for free software and from the absence of Linux training inside the Italian public administration [68].

As an example, they mention the recent Italian Parliament initiative on Copyright Law 248/2000, that imposes the clear identification of the author of any computer programme, by a certificate delivered by the Italian Society of Authors and Editors. This initiative ignores the Open Source development model and may be "potentially damageable" to Open Source diffusion.

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[66] As reported by "Municipia" (13 November 2000), the Open Source theme became more actual in public administrations during the year 2000. The Pisa High School Sant'Anna organised its first "Open Source Convention" in December 2000.

[67] Linee Guida per l'organizzazione, l'usabilità e l'accessibilità dei siti web delle pubbliche am-ministrazioni,
(http://www.governo.it/sez_dossier/linee_web/direttiva.html)

[68] Linux: State of the art in Italia, by Andrea Vitali and Valeria Gigioli

The reactions

Various personalities reacted against what they called a "relative inaction of the Italian Government and of the AIPA". Quite typical is the open letter published in the Interlex on-line magazine, stressing the "IT dependence of the Italian Sate towards Microsoft"[69].This letter, reminding the state's treasury objective is to provide public services at the best value for citizen's money, ascertained the quasi monopolistic presence of the MS Office suite and asked for:

- A study about the real cost of ownership of this solution, considering not only the license fees, but also the constraints (indirect cost, training, interoperability between document versions) of regular updates "…*as every two years, a powerful marketing declares that the brand-new announced version is "revolutionary", compared to the preceding one…"* and various other factors as security, transparency, independence.
- A real examination of alternatives

The Senate recommendation

Following the proposal of Senator Millio, the Italian Senate studied a modification (amendment) to the financial law in order to facilitate:
1) The adoption of Open Source Software in the public sector and
2) Free access to public data.

Finally, as part 2 was delayed for financial reasons, part 1 was transformed into a simple recommendation[70]:

"Considering that,
- *The public sector IT budget is in permanent growth;*
- *The Adoption of free software / Open Source Software presents advantages as:*
  - *Price compression*
  - *Product transparency*
  - *Avoiding dependency from one single vendor (introducing competition concerning prices)*
  - *Possibilities to re-use developments without contractual infringements;*
  - *More profit for the local (support and development) economy and less license fees sent "overseas"*
  - *…*

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[69] Interlex, 19 Octobre 2000 Open letter to the Public sector Ministry, the AIPA and the State's Treasury – www.interlex.it/pa/letterap.htm
[70] 15 December 2000, ref 9.4885.564 – http://www.interlex.it/pa/emendam.htm

The Senate asks to the Government (the AIPA – Authority for Information technology in Public Administration) to produce directives in order to progressively adopt non proprietary applications, adapted to the specific needs of each concerned administration, taking in consideration the possibilities to save funds and to develop the national software production without additional cost for the State."

The AIPA.

The Authority for Information technology in Public Administration[71] plays a key role in ICT deployment (similar to the MAP in Spain), but is still investigating the question (and tries to improve its own competences regarding Open Source Software, as it was admitted by its president Guido M. Rey[72]). Since the beginning of its activities (June 1993) it has tried to improve the level of competition, mainly by augmenting the percentage of public calls for tender (although negotiated procedures still concern more than 50% in global value) and by separating the purchases of PC hardware and software.

The president Rey's response is mentioned indeed into the new AIPA tri-annual plan 2001-2003[73] (page 28) in the list of concrete actions:

- "l'avvio di una convenzione con la Scuola superiore Sant'Anna di Pisa per la realizzazione e la sperimentazione di un sistema di protocollo conforme alle regole tecniche emanate dall'Autorità sviluppato in modalità *Open Source* »
  (the start of an agreement with the Sant'Anna – Pisan University to realise and experiment a protocol system, in conformity to the Authority technical rules, that system being developed according Open Source principles).

Considering the domination reported by the Senate, the AIPA argued quite prudently that the situation in Italy just reflects the global (and international) market, although the public sector has indeed the obligation to find other short term and long term solutions, in order to avoid dependency from a unique provider.
The AIPA conclusion is that the possible adoption of alternatives depends of the definition and acceptance of non-proprietary standards (for example XML based) for the various document types, and of a complete Open Source applicative panel.

Three current (June 2001) AIPA working groups exist:

- Data integration and system interoperability through XML

The AIPA attaches a predominant importance to interoperability in its concept *Sistema Informativo Unitario* (SIU). This is not a project or a real programme, but a kind of strategic guideline, developed in concordance with the tri-annual plan, in respect of a strong autonomy of the various administrations.

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[71] www.aipa.it
[72] In its response of March 28 2001 to the Interlex open letter, G. M. Rey reported a "recent" collaboration agreement with the Sta Anna High School (Pisa) to improve AIPA experience of OSS
[73] available at http://www.aipa.it/attivita[2/pianificazione[2/pianotriennale[2/

- [Digital signature](#)

- [Access for disabled persons to the Public administration e-services](#)

Spain

Summary:

Until recently, the use of Open Source Software was not resulting of a declared government policy in favour of OSS, but was rather the expression of the isolated concrete needs. The meeting held in Madrid for the present study with state IT managers demonstrated a high level of interest for European and foreign initiatives regarding OSS, although their use is still globally considered as "marginal" in the Spanish administration.

The use of OSS solutions on servers does not yet appear in the official statistics (The IRIA 2000 report does not even mention it), but the situation seems to change rapidly with the example given by the MAP (Ministry of Public Administration) and the Virtual MAP project may greatly influence other departments.

A summary of the main current OSS initiatives in the Spanish public sector was published by the ASTIC, which is the professional association of IT public sector managers[74].

General e-government IT policy[75]

Starting from a situation of under-equipment, a "Strategic Government Initiative for the Development of the Information Society" was adopted (first phase 2000-2003 – with a budget of EUR 2,524 million).

One of the many objectives of this plan is to create an "information society for all", a "transparent administration focused on the citizen", by using electronic mail, putting administrative forms on line and through e-procedures, including use of the electronic signature and electronic payment.

In addition, a "General Plan for Administrative Simplification" is adopted each year by an Inter-ministerial Committee on the Information Society and New Technologies, and by the Inter-ministerial Committee on Administrative Simplification.

These two actions[76] are linked to the e-Europe initiative (which is recommending, among other measures, the use of Open Source Software as government best practice).

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[74] BOLE&TIC No 14 – July 2000 – published by ASTIC – Associación Professional del Cuerpo Superior de Sistemas y Tecnológias de la Información de la Administración del Estado.
Note: see also the substantial contribution of Mr. Jesús Gonzalez Barahona to the European Libre Software Working Group report (available on http://eu.conecta.it/)

[75] General policy notes are detailed in the EIPA report «The Use of ICT in the public administrations of EU Member States" by Jean-Michel Eymeri – www.eipa.nl

[76] documented on www.myct.es/infoindustrias and www.sgc.mfom.es

The key role of the MAP (Ministry of Public Administration)

In order to implement a single Internet portal to reach all the public sites (of the three levels of administration in Spain: Central Ministries, Autonomous Communities, Local Municipalities) the MAP plays a central role, maintaining in its site www.map.es a list of more than 1300 existing administrative sites classified according to institution, and creating a central access to administrative information and procedures (HITA) www.hita.map.es.

Although the white book for public sector best practices[77] (http://www.map.es/libro/pdf.htm) refers to a series of measures (section 13 – "Los Compromisos") without specific focus of the use of Open Source ("Libre Software"), the Virtual MAP project (see hereafter) becomes now the largest Open Source implementation in Spain.

Following the example of the Virtual MAP project, various organisations and lobbying groups have sub-scribed to a "press campaign to implement libre software into the public sector"[78]

The global IRIA statistic of the State's IT Infrastructure

Spain has provided the effort to establish a global bi-annual report on IT in the Public Sector. The last edition of this "Informe IRIA 2000" was published on April 2, 2001 [79]. The IRIA report gives an overview of the IT infrastructure (here measured in IT units on January 1st 2000) as follows:

	Multi-User systems / Servers	Personal Computers
Central State	13.199	313.103
Regions	3.529	139.769
Local administration	3.278	121.509
Total	**20.006**	**577.381**

The central state multi-user systems include (1.1.2000):

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[77] Libro blanco para la mejora de los servicios publicos

[78] http://www.kriptopolis.com/abierto/prensa.html

[79] Las Tecnologías de la Información en las Administraciones Públicas, Informe IRIA 2000 – Madrid April 02, 2001

Large main frames	102
Medium systems	1.808
Little systems (servers)	18.096
Total	**20.006**

The Servers operating systems

On the central state little systems (servers), Unix still represents (in 1999) 64% of the installed basis, against 19% for Windows NT and 16% others (OS/400, VAX VMS, CSP/FX etc).

Gráfico 4-32

Ámbito: Administración del Estado   Nº de unidades
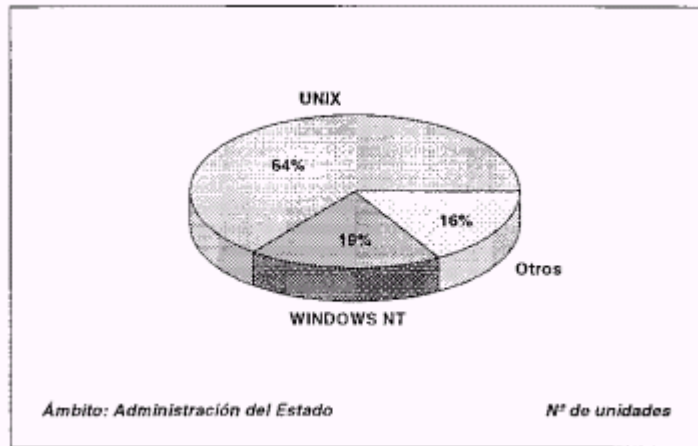
The Unix dominance is quite inverted at the profit of NT in both the autonomous regions and the local administrations, where most of the IT developments are more recent:

Level	Number of servers	Unix	NT	Others
Central State	12.191	64%	19%	16%
Regions	2.998	31%	47%	21%
Local	2.907	34%	45%	22%
Total	18.096			

The Desktop operating systems
In all the three levels of administration (central, regions and local) the Microsoft products represent about 97% of the desktop OS installed basis, mainly divided between Windows 95 & 98 (75% together), NT (7%), MS/dos (still 15%).

Gráfico 4-33

Ámbito: Administración del Estado   Nº de unidades
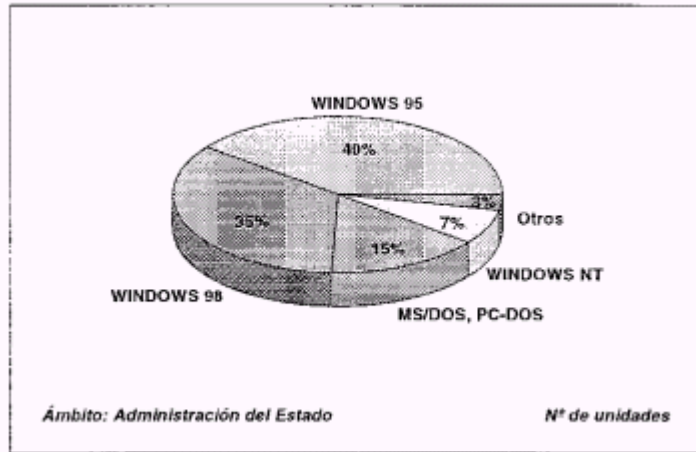
The IRIA 2000 report also estimates the use of 7 categories of software, identifying for each of them the most used solution (1.1.2000):

Programming languages and compilators	Natural (36%)	Basic (8%)	Clipper (6%)
Data bases	Oracle (25%)	Informix (17%)	DBase (15%)
Document management	Knosys (53%)	Abys, Lois II (18%)	BRS/Search (7%)
Word processing (only)	WordPerfect (59%)	MS-Word (19%)	Amipro (13%)
Spreadsheets	Lotus 123 (63%)	Excel (33%)	Quattro (4%)
Presentation	Harvard Graph. (21%)	Freelance Graph. (20%)	Powerpoint (11%)
Office Suites	MS Office (47%)	Lotus Smartsuite (14%)	Works (12%)

The use of Open Source in the IRIA statistics

Despite Virtual MAP and other concrete applications in Spain (see hereafter) the use of Open Source software in the Spanish public sector does not appear in the 2001 edition of the IRIA report.
This may be explained by the fact that the report is mainly based on 1999 data (or 1.1.2000 data), that it reproduces the concept of old previous reports and that the use of the Linux kernel (on servers) was probably considered as "Unix flavour". The model of questionnaire[80] used by IRIA refers to a list of 22 operating systems, but ignores Linux or FreeBSD and recommends responders to report all Unix versions in the same cell.

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[80] IRIA 2000 report, p. 228

Based on the MAP experience, the situation may change rapidly and in future editions of the IRIA report, it should be interesting to measure separately the specific Open Source character of the used solutions.

Concrete Open source initiatives in Spain

The Virtual MAP project

Virtual MAP is a case of Linux implementation to reinforce and replace Unix proprietary systems.
The Ministry of public administrations (MAP) is competent for definition, implementation and maintenance of information systems. The MAP has inherited 70 local area networks (TCP/IP – ISDN) installed from 1994 to 1997.

Existing situation before starting the project[81]:

Servers:
Most of these Sun Solaris servers had only 32MB of RAM, 5 years old, with 2 GB hard drives that were permanently full.

Clients:
Old Windows 3.1 could pass Y2K and a good automatic distribution and monitoring system was in place, but it was not convenient for browsers and new versions of applications asked for new versions of Windows. The work needed for maintenance was higher and higher.

The big effort for making the whole system Y2K and Internet compliant was the opportunity (and last big change for years) to re-orient the MAP IT strategy, making "ordinary" personal computers a low-cost standard platform for all future developments. The Operating System selection was a problem: NT 4 plus service-pack 3 was estimated stable and reliable, but services extensions would impose more RAM and more licenses.
There was indeed no budget for about 150 new NT servers and the corresponding 3000 planned client licenses. As the central ministry applications were already on UNIX, maintaining two servers per site (for the Unix and the NT applications) would be twice as hard and make more complex the distribution and monitoring infrastructure.

In addition, the needs evaluation demonstrated the necessity to regularly create new offices, most of them distant from each other and small, and without many technical staff to maintain the servers.

The solution had to be cheap, economically repeatable without additional investments, and integrate the existing UNIX applications, the critical automatic client configuration and the distribution of the standard MS-Windows suite on these clients.

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[81] described by Juan Jesus Muñoz Esteban in : « Software libre en el MAP : Un caso de uso extensivo" – Bole&TIC 6/7 – 2000 p. 34

At the end of the summer of 1999, the first project step was the decision to reinforce the 70 existing (SUN Solaris) local area network servers with Linux boxes including ISDN cards, e-mail server (SMTP/POP), Samba file server and Apache + SQUID proxy server. Several products of "libre software" were also integrated both in SUN servers (squid, SaMBa) and in personal computer with NT-workstations (identd, NISgina, perl).

Key issues of the new MAP solution:

- The need for a dedicated "MAP Linux distribution".
  As the standard distribution (Debian in the case of the MAP) included too many packages (hard to chose between so many possibilities), for security reasons and to limit the production environment to the strictly necessary components, a selection was done to distribute only a few needed solutions, to optimise kernel settings and configuration files, to automate procedures for creating users.

  The initial effort to elaborate the MAP Linux distribution was compensated by the scale effect of subsequent installations done in half an hour from 3 CDroms by persons without any previous knowledge of the system.

- Hardware devices as critical point.
  The lack of hardware drivers for Linux (because the Windows version appear mostly before) commanded a conservative approach. New models of ISDN cards for example, were hard to install on servers due to driver problems

- The priority attached to stability and reliability.
  No need to run permanently after "latest versions".

- The satisfaction of each need by an existing operational solution
  The absence of license costs removes the tendency to delay a costly investment and to wait for the "Next version" as a solution to problems: when an expected solution is not "ready", the Open Source panel of projects usually offers an alternative solution. In the MAP project for example the access to "Unix" files from "Windows" clients was solved with SaMBa but for authentication, another Open Source solution (NIS-NISGINA) was needed, as long as the new SaMBa 2 was not ready.
  During the same period of time, the MAP discovered that its commercial provider abandoned the commercial alternative that had been examined for the same purpose.

- The training and personalisation tasks are the most important to ensure the success.
  The global MAP IT budget was not reduced with the adoption of Open Source, but it was used differently, spending more money for investing in people (training, personalisation) as it is reflected hereafter in a comparison between the commercial and Open Source ("Libre") by the MAP project leading architect[82].

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[82] Juan Jesus Muñoz Estaban, currently in charge of the Ministry of Justice ICT project – provided this graph in its presentation of a case study of the use of libre software in Spanish administration – given at the Symposium on the use of Open Source Software, organised in Brussels by the European Commission – IDA – on 22-2-2001.
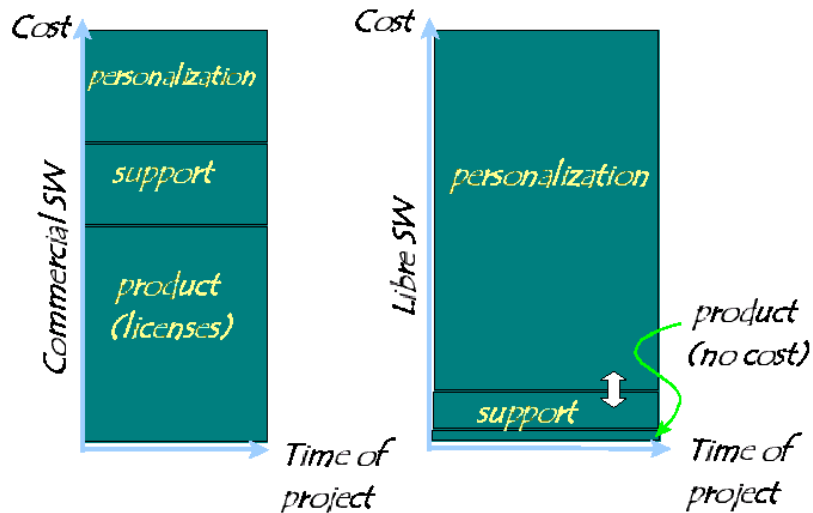
- The necessity to maintain Non-Open Source clients.
  The choice to maintain Windows clients is mainly due to the current domination of end-user tools for this environment: MS Office (Word, Excel etc.) and the fact most small dedicated applications from local Spanish companies were developed for MS-Windows only.

  People who have learned one tool suite do not want to learn any other one (first training determines what users will demand in the future).

  What people want is to exchange documents made with easy to use applications through a user-friendly interface. As most of the users are not actually concerned by independence from a proprietary vendor, by open standards and formats for document exchange and archiving, they are still not ready to give up their comfort just for political reasons.

The Next steps

After the successful installation of more than 150 Linux servers, the MAP was ready for the replacement of the 70 old Sun Sparc Solaris servers (by lower cost Pentium-III servers with enough RAM - 512MB and 27GB of RAID file systems) obtaining a stronger standardisation and a reduction of maintenance costs without new license costs and with limited software adaptation (a newer and better SaMBa-2 replacing then the originally selected SaMBa-1 + NIS–NISGINA couple).

The Virtual MAP objectives are:

1. To have only free Linux servers (400 servers are planned - with 4000 clients connected).

2. To extend free software specific solutions (when developed for public sector) by sharing software among administrations.

MAP Conclusions

The MAP conclusions are that the use of standard PC platforms combined with free software offers a reliable solution with the best value for public money, and leaves more budget for training, security improvements and devices (for example RAID storage etc.) and technical staff.

The successful OSS experience opened the way to modernise all the platforms that support the communication systems, applications and information services, to raise the number of servers and to interconnect all the offices of the Ministry at the lowest possible cost without having to resort to expensive special lines and specific communication devices (routers…).

Virtual MAP is reported by now as the largest implementation of Linux in Spain[83], and the Ministry for Public Administration appears as an opinion leader concerning the modernisation of its offices.

The Nuclear Security Council

Javier Ramón Camarna[84] reported the successful installation of Linux servers to access Internet (proxy, firewall for user access control) and to access Unix server data from MS-Windows desktops: instead of installing and maintaining a specific NFS access software on all workstations, it was less expensive and time-saving to install a single Linux server with SaMBa. This server can access all Unix data via NFS, and appears as a local network disk to all MS-Windows workstations.

Ministry of Home Affairs (Interior)

Francesco Romero Royo[85] reported the use of Open Source for various services: Web servers and proxys, e-mail, workstation management, remote workstation control, communication and statistics.

The main Open Source selection criteria were the correspondence to the needs and to the know how of the available personnel (and not the cost). The possibility to extend the use of OSS on desktop (Linux + StarOffice) is now "considered".

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[83] (see comments on the Andago site, a company that has participated from the beginning of the project in the Linux side, in maintaining and updating this distribution http://www.andago.com/Ingles/icaso_virtualmap.htm). The global project is designed and operated by civil servants.

[84] Javier Ramón Camarma, « Uso de software libre en el Consejo de Seguridad Nuclear » – Bole&TIC 6/7 – 2000 p. 40

[85] Francisco Romero Royo, Jefe de Area de Informatica – Subsecretaria del Miniterio del Interior, "Ministerio del Interior" - Bole&TIC 6/7 – 2000 p. 40-

The Senate

The IT direction of the Spanish Senate has decided to reinforce its actual Linux servers and to develop new services based on this operating system, reporting a high level of satisfaction[86]. Applications concern the usual FTP, file server NFS / SMB CD-ROM and DVD servers, distribution of press agency notices/telex, as well as the new life broadcasting of the senate assembly sessions

The adoption of Linux on server was easy for the Senate, because of a pre-existing Unix culture. On desktops, Windows (NT) is maintained as the dominant OS.

The Ministry of Justice

The Ministry of Justice bases its mail, web and proxy servers on "libre software", having installed during the last 3 years a series of Linux Servers.

Now the formal proprietary solution for file sharing is being replaced by SaMBa because of the technical benefits.

The whole software distribution, that deploys monthly the new versions of the main application for Courts (Libra), updates more than 700 UNIX servers using Open Source (free) solutions: it is based on **rsync** (for file synchronization), **OpenSSH** (for securing the transfer of files with sensitive information) and **Zope** (a web development platform for the interface of the planning tool, with other utilities as a web log: **squishdot**).

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[86] José Luis Bahillo Pereira, El tren de Linux tiene parada en el Senado – Bole&TIC 6/7 – 2000 p. 30

Sweden

Summary:

An examination of the situation of e-Government and the use of Open source software in the Swedish public sector illustrates a paradox.

The country hosts (with its neighbour Denmark) the largest Linux user's group in the world, and is often ranked first in e-Government evaluations, but the use of OSS in public administration seems to be very limited

As it was admitted by representatives of the Swedish Agency for Public Management, "Regarding public administration, Sweden is a MS-Windows country".

General e-government IT policy[87]

The global approach for e-government is in line with a Swedish tradition of freedom for agencies in deciding the ways and means to achieve the policy set by the government. The central administration role is to simplify and improve the agencies' contacts with citizens and enterprises, to increase public supervision and control of the agencies' activities, and to enhance the effectiveness of collaboration between agencies, with the rest of the public sector, and with EU institutions.

In July 2000, the government published an action plan to achieve the goals of the 1997/98 government's bill on "Central Government Administration in the Citizens' Service". The section on better services lists various items related to Internet-based, networked public authorities, but it makes no specific mention about Open source or free software.

According to the comparative national Internet intelligence test 2000 for governments and politicians of the EU conducted by PoliticsOnline Inc. and the Amsterdam-Maastricht Summer University, Sweden finishes on top of the 15 nations, with a total grade of 78 (while cross-national average is 57)[88].

The Swedish Agency for Administrative Management[89]

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[87] General policy notes are detailed in the EIPA report «The Use of ICT in the public administrations of EU Member States" by Jean-Michel Eymeri – www.eipa.nl
[88] http://www.politicsonline.com/specialreports/000808/eursurvey.asp
[89] www.Statskontoret.se (P.O. Box 2280, S-103 17 Stockholm

The Swedish Agency for Public Management provides support to the Government and Government Offices. The Agency's task is to conduct studies and to make evaluations at the request of the government and also to modernise public administration with the use of IT. Its activities are directed according to the Government's needs and demands.

The Agency also has the mission to ensure that electronic infrastructure in the public sector is open and secure. Open Standards and cost-effectiveness analyses are among its preoccupations.

The Agency follows the development of the e-Europe initiative regarding OSS by sending delegates to symposiums and working groups on the subjects, but no significant OSS realisation has been achieved until now in the Swedish public sector.

Universities and User's clubs

Umea

The **Umea University** organises the first ever totally-internet elections at the occasion of the 2001 student elections.

This experiment is conducted based on a contract with Safevote inc. and may be considered as a working prototype, providing findings for later public country or European-wide elections.

The Safevote system was designed for use with generic PCs, using any browser compatible with Netscape 3. The voter interface does not use JavaScript or ActiveX controls. In Umea, the servers used as secure election machines will be configured with Open Source Software including the operating system Linux, the database engine MySQL, the web server Apache and the server-side scripting language PHP.
As Safevote carefully indicates in its descriptive document "Umea University Student Union 2001 elections" (p. 59), the choices of Open Source are not mandatory choices and future systems can also use other software…

The SSLUG

A paradox of the relative "non-use" of OSS in the Swedish public sector is that the country Linux user group (LUG) Skåne Sjælland Linux User Group (SSLUG)[90], which spans across Sweden and Denmark is claiming to be the largest LUG in the world (its challenger is the Silicon Valley Linux User Group (SVLUG) in San Jose - Silicon Valley), with several thousands of recipients of its newsletter.

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[90] http://www.sslug.dk/english.html

European Commission

As the European Commissioner Erkki Liikanen stressed[91], "If we talk about electronic Administration, we also have to talk about **standards**. Public Administrations should be accessible to the Citizen, independently of the software he is using. He should not be forced to buy specific commercial software to be able to have electronic exchanges with his Administration. In the context, and in the framework of the IDA programme, the Commission is launching a study – together with Member States – **on Open Source Software**. "

> "We also have to put ourselves the question whether public procurement and tendering should continue to specify commercial products rather than be based on open standards.
> Open source software is also important for **security** reasons. Security by obscurity in a black box is an obsolete concept. With Open Source Software we have a new chance to tackle security issues."

This political request, form the commissioner in charge of enterprises and information society, is however quite far from the actual situation. Indeed, as most organisations, the Commission is today equipped with 25.000 desktop workstation operating under a single supplier system who also provides the bulk of the office application software.

Over the last years, the Commission - and namely the in-house computer services, the DI - has been very successful in creating a homogenous and functioning informatics environment in "escaping from constructor's domination".
For its future development, the commissioner opinion is that the Commission will have to take into account other options, given the increasing importance of free software and open standards.

Recently indeed, the Informatics Directorate declared" We have updated our internal evaluation guidelines, requiring that Open Source products will be systematically included in our product evaluations"[92]

The key word is, once again, *interoperability*. To obtain it, the question is: "should all officials, partners and citizens of the Union necessarily use the same commercial tools, of the same version?" The Commissioner Liikanen response is that Open source software can provide new interoperability opportunities and avoid this absolute domination.

Therefore, the two competent commissioners (E Liikanen for enterprises and information society and N. Kinnock, Vice-President of the Commission - responsible for the administrative reform) have agreed that their respective services will together examine the costs and benefits of moving towards the use of Open Source Software systems by comparison with the off-the-shelf systems currently in use.

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[91] Opening speech to the Symposium "Best practices in E-administration" – Luxembourg June 30, 2001 –
http://europa.eu.int/comm/di/symposium2000/liikanen/index.htm
[92] See a more complete citation in context next pages (José MARÍN, DG Admin/DI/STB in Commission en Direct, 8-14 June 2001)

Current situation in European Union Internal services

1997: Escaping from constructor's domination

IT infrastructure for the European Institutions is directed by the Informatics Directorate (hereafter DI, mostly based in Luxembourg). The main DI orientations were published[93] in June 1997, mainly in the "Informatics Architecture" document.

In 1997, the Computing Centre was running on a small number of proprietary platforms. The concept of "proprietary platform" was then mostly related to hardware (or at least to proprietary environments related to specific proprietary hardware). In this sense, the 1997 documents consider Unix and Windows NT environments as "non proprietary" because they allowed the DI to adopt less expensive hardware platforms of its choice.

The main selection criteria being to obtain the best value for money, the DI motivated its strategy by the growing availability of servers complying with Unix-type specifications, and by the lower cost of "Wintel" platforms. The choice of these environments was then not linked to the impression to enter in a new dependency – at the contrary, it responded to the priority to escape from constructor's dependency. The choice of NT on document servers for example, was then perceived as the adoption of a standard, and as real "liberation" compared to the previous situation.

At the same time, the need was stressed to simplify support and therefore to limit server heterogeneity by restricting narrowly the choice of suppliers, selected according the machine's robustness (mean time between failures - MTBF) and the efficiency of the support (mean time to repair - MTTR). The penetration of the server market achieved by Windows NT was monitored very closely, Unix remaining the reference platform for database servers, and Windows NT being used in accordance with product management procedures and with the relational database systems selected for the institution.

The migration was accelerated until the turn of the year 2000: Documentary and menu-access databases were ported from previous proprietary environments to Unix or Windows NT.

At the same time, the DI is evaluating various OSS solutions (see EU concrete actions hereafter) and already decided to use it in specific sectors (the translation engine Systran is an example).

The actual DI configuration

The actual DI configuration includes:

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[93] http://europa.eu.int/comm/di/di-info/pubs_en.htm

- **Database Servers**

  They are used by Directorates-General and the Computing Centre to hold all data and procedures giving access to them. They generally use Unix environments, meaning in conformity with operating systems complying with the ISO standard Posix 1003 and OPEN GROUP specifications UNIX 95 ™.

- **Application Servers**

  They deliver the "business logic" of each information system. Unix and Windows NT were selected as preferred platforms;

- **Document servers**

  Here also, in view of the problems related to (the various flavours of) Unix, the Commission's choice of document server operating system has gone to Windows NT server.

  The introduction of Windows NT has been seen as "the prospect of a high level of server reliability" and a facilitation of hardware management. In the absence of PC component standardisation, PC administration relies on the tools of Windows NT, which "is becoming the de facto standard for the market for office systems servers e-mail servers and Web document dissemination servers".

- **Desktops (PC and basic workstations)**

  On all office PCs, the DI use the most commonly used "open market software" and it means "Wintel PCs", as "Microsoft Windows dominates the PC market".
  As the DI mentions it, "The acquisition of Intel-based PC running Microsoft Windows has allowed the Commission to attain a high level of standardisation and workstation support on a technologically advanced base".

The supported software list

The problem for the DI is not to let people download or install (free, Open Source or proprietary) software, but it is to support it afterward. The commission's IT infrastructure consists today of 25.000 PCs, nearly 1000 servers and more than 1000 different software applications. Introducing Open Source in this infrastructure, and maintaining at the same time all the other applications and long-term framework contracts, would be more complicated and complex than creating from scratch a web information service in – let's say - a municipality.

The currently supported software list is published in the internal "Bulletin Informatique" of the Commission (DG Personnel / DI / Council and technical evaluation unit). This list is a reflection of the software and hardware that is supported by the Informatics Directorate. Software that is not on the list is not supported, but this doesn't mean that in certain cases non-supported software may not be used.

The listed products have a status as follows:

EV   Products in evaluation (test or pilot phases) with an ad-hoc possible support. These products should normally not be put in production;

OP   Operational products;

PO   Phased out products (still supported, but no new installations are recommended).

The (April 2001) list contains:

Product	Status	Supported environment
Apache web server	EV	Unix
SendMail	EV	MS NT Workstation
Mozilla	EV	MS NT Workstation

The evaluation of Apache is entering the final stages, and a new status for the support of the product will be proposed in September.

And Linux ?

Although not yet in the list, it is confirmed that Linux (several distributions of Linux) is now under evaluation. The aim of the evaluation is to find a response to a need: mainly giving a new life to older PCs, thanks to the compact character of the Linux kernel.
If successful, the evaluation will be concluded by the introduction of a specific (European?) Linux adapted distribution in the supported software list.

In addition (and linked) to the Linux and Apache evaluations, the DI has also started[94]: the evaluation of all the additional software tools that would be needed to integrate Linux into the existing network configuration. Therefore while Linux is being evaluated, the following aspects are being evaluated as well:

- Open LDAP;
- Kerberos implementation
- SamBA
- IpSec and IP v6 implementation
- Evaluation of Open source XML tools in the XML project;
- Evaluation of Open Source modelling tools in the UML project.
- Evaluation of Open Source ASP - application servers (e.g. Zope) in the context of REDIS 2;

There are other Linux distribution related products that will be tested at the same time as the Linux tests. In addition the Linux implementation of supported non-OSS products like Oracle and Coldfusion will be evaluated as well.

The Open Source options

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[94] Internal note – DI – Office systems and technical support – 14.12.2000

Having obtained, with a lot of efforts and investment, a certain level of standardisation and a reasonable service quality, the DI – even sensitive to political arguments - is not "naturally enthusiastic" to revise all or part of its strategy in favour of Open Source solutions.

Due to a certain autonomy of the DGs (General Directorates) there ARE a certain number of Linux servers (mainly used as apache web servers) operating in the DGs, but in June 2001, these solutions are officially limited to the above evaluations and to the inclusion of some minor components (as proxys).

Replying to a question of Mr Douglas Carpenter, the Head of Unit Technical support and Office answered (June 2001)[95]:

> "Last year the Informatics Directorate, in close cooperation with the Information resources managers of the DGs, proposed a strategy concerning the internal use of Open Source products at the Commission... The strategy can be summarised as follows:
> Linux and open-source software are not mature enough today for use for office automation and laptops for business use (as opposed to education or home use). Even the most enthusiastic Linux promoters agree that their use in this area is still premature.
> Our intention is to keep monitoring the evolution of the offering of this area with an open mind. We consider a number of Open Source products (Linux, Apache, Perl) as a complement to commercial software products, especially in the area of web development and we intent to use them more and more. A certain number of these products are now available at the Commission. We will evaluate Linux for possible use in certain areas, for example for web hosting servers and appliance platforms.
> Given the multitude of Linux flavours and "packaging", often incompatible between one another, we will have to select the flavour that works the best for us. Most of the software products in use at the Commission are adopted via product management procedures that follow and respect the Commission procurement rules. Our target is always to select the products that fulfil our requirements, offer the richest functionality for users, fit in the best within our IT environment, and for which high level of technical support can be guaranteed.
>
> We weight up the costs and benefits to ensure that we get the best deal.
> To make sure that we do not miss opportunities in the Open Source arena, we have updated our internal evaluation guidelines, requiring that Open Source products will be systematically included in our product evaluations. Obviously what is particularly attractive in the Open Source concept is the fact that there are no or small license fees. This should, however, be seen in the perspective that licensing costs typically only represents a small part of the TCO (Total Cost of Ownership)."

Some considerations help to better understand the DI carefulness:

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[95] in "Commission en direct", the weekly internal newspaper of the European Commission, No 205 – June 8-14 2001 -

- To implement Open Source on Commission's **workstations** destined for general purpose would impose to build a reference configuration with about 40 software elements, including the support of 10 different types of hardware. In addition, some key applications have been developed on the client-server model, and they should be rewritten if new Linux workstations are used as client.

- On file and print **servers**, Linux and Samba should allow connectivity with the existing – MS-Windows based – workstation network, but that is not enough: the systems should support drivers for all the different hardware (printers, scanners and other devices) used at the Commission, and the security management model should also be reorganised.
These two limitations do not allow a general recommendation of Linux servers in the Commission's infrastructure.

- On **Web, application and database servers**, the adoption of Open Source (Apache and its various module) will be easier. However, the front-end web tools are integrated with other products currently used for web development and database (ColdFusion, Java, Oracle). Although compatible, the integration of these components with Linux servers must be evaluated and tested. For example, there would be no immediate benefit or justification to migrate from the current Oracle database to an Open Source rival (for example, MySQL or PostgressSQL).

The main DI objective is to protect the existing investment, which has now allowed a good level of harmonisation of the solutions used throughout the various commission services and a panel of stable, high-level services.
In respect of that objective, the DI will be fairly open to Open Source Software in the places where it shows direct benefits, and deserves the objective of independency from vendors and the strategy of embracing open standards that will make the Commission less dependant on proprietary software.

EU concrete actions, support or use of OSS

DI initiatives

The new DI direction decided that SYSTRAN (the Machine translation system of the Commission), currently running on a Unix Solaris platform after migration from a main-frame will run on Linux. This solution was preferred since the global cost of the plat-forms was lower and because the supplier was able to fully support the system on this operating system.

The Apache web server is currently evaluated by the DI (after a first evaluation and comparison with I-Planet in the IT Unit of the Translation Service).

OSS were examined in various other projects, as REDIS where a few J2EE based OSS application servers were tested but still did not provided the required quality, and as the Meta-Directories project, where no convenient OSS solution was found until now.

Zope and MySQL inside the EIONET network

In 2000, the environmental network e-EIONET introduced a new strategy for data management and launched an Open Source toolkit for portals that is gaining growing acceptance across the EU[96]
EIONET is the European Environment Information and Observation Network. It connects 35 sites in EU Member States.

EIONET released a portal toolkit (PTK)[97] using the Zope platform.
This platform was selected for licensing cost reasons, because the portal has to be deployed on many sites, and because it allows dynamic content provision, delegation of authority in content management, XML support and MySQL database integration.

v-Commission

The growing importance of image and video transfers in office life (multimedia and video-conference) presents service opportunities (less travel, waste of time and pollution with personal videoconference) and issues (implementing a video server in order to control and regulate the network traffic, and user's access).
Together with 3 proprietary tools (Real server, Windows media server, QuickTime server) the DI also evaluates the OSS component Vidlux.

The DG Information Society Working Group

In 1999 a Working Group on Libre Software was created at the initiative of the Information Society Directorate General of the European Commission. The members of the group were representatives of various organisations and universities and the European Commission services (Information society) have also contributed to the published findings.

Under the title "Free Software / Open source: Information Society Opportunities for Europe? [98]", the Working Group experts published a structured defence of OSS, analysing the history, the development model, economics, Intellectual property impacts, scenarios and possible recommendations related to it.

Among these recommendations,

- Promotion of non proprietary standards

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[96] IDA report no 11 – March 2001 "Ida explores way to Open Source Software" p. 4 - http://europa.eu.int/ISPO/ida/
[97] See the PTK on e-EIONET public website: http://www.eionet.eu.int/
[98] Report available at http://eu.conecta.it/paper,)

- Promotion of Free software in research projects financed with public money
- Fight software patents (if used against OSS)
- Open up call for tender to OSS
- Inform, Train, Study
- Free software included in R&D IST Programme

e-Europe

The European Council of Feira (March 2000) promoted the European Commission **eEurope** initiative to bring Europe online:
- Cheaper, faster, secure internet,
- Invest in people,
- Stimulate the use of Internet

The development area for this is « Government on line: electronic access to public services » and one of the recommended measures is to « Promote the use of OSS in the public sector and e-government best practices »
(http://europa.eu.int/comm/information_society/eeurope/pdf/actionplan_en.pdf –p.23)

Interchange of Data between Administrations - IDA[99]

Created in 1995 to Facilitate Interchange of Data between Administrations, the IDA Programme was revisited (IDA II - 1999) and now promotes a series of Guidelines and measures:

- EU Co-ordination, Network Development, Public-Private Co-operation,
- Inter-operability
- New political priorities (citizens, Small and Medium Enterprises)
- Projects and actions (CIRCA, TESTA, EURES, EIONET, EUDRANET, TESS…)

The March 2001 IDA Report "IDA explores way to Open Source Software" explains the requirements related to the "government online" priority. In particular, considering the requirement to promote the use of Open Source Software, IDA supports the present Study. IDA has also set up a seminar that brought together 100 representatives of the Commission, national and local government and IT industry representatives (Brussels 22 February 2001).

The possibility is examined of releasing software already developed by IDA as Open Source packages.

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[99] More on the IDA website: http://europa.eu.int/ispo/ida

Information Society Technologies - IST[100]

The Information Society Technologies Programme (IST) is a single, integrated research programme that builds on the convergence of information processing, communications and media technologies. IST has an indicative budget of 3,600 Million Euros, and is managed by the Information Society DG of the European Commission.

Further to the report of the ISTAG[101], the IST programme Advisors Group in favour of such action, Open Source Software is listed in the major priorities in the next IST work programme (WP2000)[102] and there are several action lines specifically targeting support to use and development of Open Source and free software.

Open source solutions is one of the themes of research and technological development within the European Union's Fifth RTD Framework Programme (1998-2002) and a call for proposal meeting with 84 developers and OSS industry representative was held in Brussels on 18 May 2001 (proposals are expected to be sent to the Commission in October 2001).

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[100] More on the IST website: http://www.cordis.lu/ist/

[101] on: http://www.cordis.lu/ist/istag.htm

[102] http://www.cordis.lu/ist/home.html

Page: 13
[FOH1]Shouldn't this be called I Planet?
Page: 14
[FOH2]I don't really see this conclusion in the numbers or graphs presented.
Page: 16
[FOH3]I don't understand.