
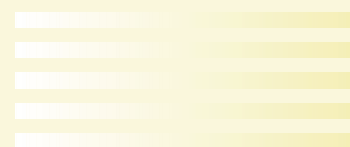


Interchange of Data
between Administrations



**Symposium on use
of Open Source
Software in
EU public
administrations**

Symposium on use of Open Source Software in EU public administrations

To meet the growing interest in the use of Open Source Software (OSS) in EU public administrations, IDA organised a symposium on OSS in Brussels on 22 February 2001. Opened by Erkki Liikanen, Commissioner for enterprise and the information society, this event brought together 94 representatives of the European Commission, national and local governments, and the information technology (IT) industry. The one-day programme provided a platform where Europe's administrations could share their experiences. In addition, it permitted dialogue with the private sector on the benefits and pitfalls of OSS in the public sector.

Software requirements – are administrations different?

Egon Troles, Koordinierungs- und Beratungsstelle (KBSt), Ministry of the Interior, Germany

When a KBSt circular issued in February 2000 proposed the use of OSS as an alternative to proprietary software for German administrations, it caused uproar. Since that time, events such as the problems caused by the 'I love you' virus, and the 7 June judicial findings against the Microsoft 'monopoly', have changed opinions.

In recent weeks, the Bundestag has discussed open software – a first for the German parliament – and voted unanimously that 'OSS should be used and promoted throughout the administration'. The relevant committees are now considering this motion.

However, there are some risks to be faced:

The EU has limited the availability of software patents, but some restrictions on OSS could still occur if more patents are allowed. In addition, problems will occur if encryption procedures do not remain entirely open. It will also be crucial to ensure that data storage formats are designed to permit access to archives for many decades hence.

On the other hand, there should be no danger of discontinuities due to bankruptcies or arbitrary decisions by suppliers. With freely available code, other developers can always pick up the thread. Nor should viruses be a serious threat, as the widespread development community is likely to ensure that patches will quickly be made available.

In Germany today, the public still has to pay for access to legislative texts. Responsibility for the information society is spread over several ministries – economy, interior, and education and research. Numerous initiatives are now under way at federal and regional level, although these are moving ahead at differing speeds.

Until recently it was assumed that all applications would have to be specially written at substantial cost, but now it is apparent that OSS is economically feasible. The German company SAP, for example, will aggressively market a client-server product range in OSS/LINUX. IBM is also spending \$1.5 m worldwide on LINUX-based operating system development.

Administrations and IT specialists alike need to be made more aware of what OSS can do for them. A tool to project its effectiveness and profitability is available, and pilot projects could be carried out as a means of gaining experience. Greater use of common standards must be encouraged – so that gaps in functionality can be identified and interoperable solutions found. The establishment of a central support facility is another possibility. By addressing these needs – and with support for broader education at all levels – much can be achieved.

DISCUSSION

What OSS is available to meet administrative requirements?

(B. Schnittger) IDA is in the process of assembling a document listing packages suitable for common use. When completed, this will be distributed to the administrations, and may also be made publicly available.

What can Open Source Software offer to administrations? A view from the open source community

Jean-Pierre Laisné, Vice President,

Association Francophone des Utilisateurs de Linux et des Logiciels Libres (AFUL)

A number of examples indicate how OSS may be used to advantage by administrations and other organisations:

- The bankrupt local authority of Garden Grove, California was able to accommodate a 600-strong user community – including the police and city hall – using OSS on just four Pentium-based servers.
- A UK insurance company with 250 branches opted for Linux in 1998. Today, its system links the headquarters and all branches on an intranet, and enables it to offer all services over the Internet, without any commitment to a proprietary supplier.
- In France, the Ministry of Taxes avoided the cost of upgrading hardware by creating a nationwide network of 850 servers running a special version of Linux, with Apache application servers to relate http requests to its Oracle databases on larger servers.

So, Linux has become part of the architectural movement among professionals. Other large administrations – such as education and culture – are already proposing similar solutions. These avoid the need to promote costly proprietary systems that could create a barrier to access by children and poorer sectors of the population. Many more people – even the military – are also looking at sharing information between countries. OSS is secure, free access to the code ensures transparency and so this interests everyone.

What is essential is a real open architecture, based on common standards. OSS users are already completely independent of hardware and software vendors – and are fully in tune with the Internet concept of free software. In addition, they are dedicated to promoting open standards from independent groups such as W3C and the Linux community itself.

The benefits are mainly in terms of TCO (total cost of ownership). Because most users are non-skilled people, it is vital to provide tools that meet their needs and empower them to work effectively. Independence is crucial in giving the freedom to choose an optimal route and control one's destiny.

For big organisations, especially, the cost of being obliged to move from one proprietary technology to another can be very high – and may bring no functional or commercial advantage. With OSS, evolution is problem-free. It can also provide a means of redistributing power between the main players, some of which are already investing in Linux.

At the same time, it brings opportunities for innovative SMEs to compete with the big vendors. Start-up companies are now using Linux for all kinds of applications, and engineers will be emerging from the universities with OSS as their tool of choice. All of this provides a real chance to challenge the software majors, who have been very lazy in supporting the end-user, because OSS is now becoming a general trend throughout the IT industry. But it is important to support the smaller companies by being prepared to pay for the valuable services they can provide.

The use of Open Source Software in European administrations – Spain

Juan Jesús Muños, Ministry of Public Administrations, Spain

The Ministry of Public Administrations (MAP) occupies 10 main buildings in Madrid, which communicate with more than 200 other large and smaller offices spread throughout the country. It sought a common administrative solution that would be scalable, would run on inexpensive hardware and would require less professional maintenance. Management was to be from Madrid, and safeguards were required to protect data stored on the servers from user errors or local workstation failures.

In 1999 MAP decided to migrate from Windows 3.1.1 to OSS, to avoid the cost of licence fees and enable investment to focus on creating a purpose-designed system.

Given the very large user community, the approach to the selection of hardware and software was very cautious. Linux was chosen for the servers because of its reliability, and the fact that many application packages were readily available. MAP adopted the Debian version of Linux for secured ISDN communication, allowing essential tasks to be implemented remotely from Madrid. Inexpensive Linux servers were designed to permit automatic installation by local engineers with no previous knowledge of UNIX.

Initially, the intention was to integrate Unix and Windows using the Samba file server, but the version then available was incompatible with NT workstations. Subsequently, MAP discovered the Anglo-German development NIS-GINA on the Internet. This enabled it to retain all the facilities of NT, while using its Unix servers. Another proprietary solution that was examined was abandoned by its American supplier a few months later, so would have caused major problems. Meanwhile, OSS had produced a viable alternative...

It is true that money not spent on licences tends to be spent on support. However this expenditure leads to a specific solution rather than a generic one. There are many experienced Linux people and user groups around the country, so help is available.

By contrast, Windows technicians are used to dealing with 'black boxes', but do not really know how they work. For large installations it is vital to know precisely the consequences of keying in a command.

Our first concern was for the servers; we had older Sun equipment but are now replacing it with cheaper hardware. This means we can afford to have back-up hardware available, allowing service to be resumed within a few minutes of a fault developing.

A limitation is that today everyone wants to use Windows-based programmes, especially Word. They do not even wish to consider Star Office, even though it could meet their needs effectively. So, while OSS is getting better, it still has its limits. Because we do not yet have all the answers, it could be very useful to establish a forum where administrations could share their problems and experiences.

The use of Open Source Software in European administrations – Denmark

Simon Gjedde, Ministry of Environment and Energy, Denmark

The Ministry of Environment and Energy comprises several agencies, for which a central IT facility has now been created. The organisation already has some OSS in-house for cost and manageability reasons, but is now reviewing its IT strategy.

A problem with Windows is the restriction to one product, one vendor and fixed price. Other issues are security and the length of time needed to adapt the software to specific needs.

Now there is an information explosion, made greater by the demands of e-government. With the total quantity of data forecast to double every 72 days by 2002, computers must be able to handle and filter this vast volume, in order to deliver the facts that are needed at any given time. When systems are required to run 24/7, reliability and security become crucial – and the overall costs are attracting a great deal of senior management attention. In addition, there is considerable political interest, as the Danish parliament debates the question of open government.

Under e-government, citizens will expect to have access to all information in the public domain that is relevant to them. This vision is easy to propose, but difficult to implement. A study suggests that governments which have not yet adopted cooperative architecture will not meet the e-government transformation objectives by 2003.

Denmark has been trying to analyse the pros and cons of OSS in terms of security, economy and freedom of choice. Possible scenarios include all-OSS or partial OSS – e.g. OSS for clients only. The prime consideration is functionality: can OSS deliver? In economic terms, where will the costs move to? Is it possible to gain freedom of choice without becoming a software house oneself?

The conclusion is that an OSS environment is interesting, especially if it can be run in conjunction with Windows 2000 or Winframe on very thin clients. For 80% of users, a screen with a computer card and embedded Linux would then form a suitable workstation.

OSS could be deployed if there are several suppliers supporting it. While there are problems with Microsoft Office, the Ministry remains reluctant to change, as it will be difficult to convince the users. E-government is firmly on the agenda; its needs must be embodied in whatever systems it is decided to adopt.

The use of Open Source Software in European administrations – Vienna, Austria

Peter Pfläging, Municipality of Vienna, Austria

Vienna is both a city and a federal state, having its own telematics competence centre dealing with the Internet, generic network service and system security.

The city administration employs around 62,000 people. It uses a top-of-the-range IBM OS/390, three large SAP systems, and 400 application and file servers running Windows or NT. Some 300 local networks are connected, usually by fibre optic links, and a total of 10,000 PCs and 700 notebooks is deployed.

Vienna provides not only on the basic public services, but also hospitals, housing, transport, etc. The competence centre is the IT provider for all of these sectors, so has to deal with virtually every business field.

The server systems, most of which operate 24/7, run dBase 3 and Linux. With very few exceptions, installation and maintenance is by OSS. The same applies to base and infrastructure services – network connectivity, http servers, distribution, DNS, DHCP, etc. For network and information systems, applications and development tools, much OSS is again used.

When the e-government project – eVienna – started around 18 months ago, a system allowing the recovery of data from various elderly legacy suppliers' systems was designed without using any commercial software. This is widely used, and continues to expand.

Although management was initially hostile to OSS because it felt that proprietary software would be better supported, ten years' experience has shown that OSS problems are actually easier to solve. However, a careful preliminary evaluation of the software is essential. System programmers or administrators make the best evaluators of OSS, because it is important to know how well coding standards are maintained and how high the quality of the package is.

A major advantage of OSS is that it allows virtually any operating system to be integrated – which very few commercial suppliers could offer. With an OSS operating system there is also a greater choice of equipment suppliers, a broader spectrum of peripherals and more service availability – particularly with Linux.

Of course, not all OSS is good software. It is important to be aware of the programming languages that are used, and to select packages that can be supported with the resources available in an organisation.

As well as using OSS, the Vienna centre has been actively involved in software development. It has produced self-written modules such as administration tools, but also develops and publishes the codes. After discussions with the legal department, it was concluded that code could be given back to open source, but that no support should be offered. This nevertheless implies a need to prepare it for public release, which has had a beneficial effect on the code quality and documentation produced by Vienna's programmers, who are aware that their peers will examine the work.

Hundreds of organisations around Europe have similar needs. As the OSS world is a very integrated environment, all can learn from one another. An Open Source Software pool could thus have significant economic consequences, and not only for public administrations.

The use of open source software in European administrations – Brussels, Belgium

Nicolas Pettiaux, Ministry of Brussels Capital Region, Brussels

For public administrations, IT systems must:

- ensure that stored data will be accessible in the distant future;
- be set up and maintainable at the lowest possible cost, in order to conserve limited resources;
- ensure security as an on-going process; and
- provide simple access to information for everyone, rich and poor alike.

To preserve information over the longer term, electronic documents, and the logic behind them, must be as permanently accessible as records on paper – for consultation in 10 or even 100 years' time. Public administrations therefore need to master the full range of tools available to create the documents and systems in general. To do this, one of the steps is to use open standards, for which the specifications are publicly available and controlled by a public institution via a publicly known process. They are also completely documented.

A law likely to be approved by June 2001 in Belgium will oblige all public administrations to use open standards. It will only admit proprietary products if they obey the openness criteria.

Extremely important in the framework of open standards is the protocols layer. The Ministry has already addressed this, so that the protocols are open and different kinds of system are usable – e.g. pop, smtp and ima for e-mails.

Information systems comprise at least two parts: the server and the client. The server is hidden from the user, but holds most of the crucial information. This makes it easier to back-up and to ensure that the system remains on-line. The clients, on the other hand, should be as light as possible – perhaps consisting only of an Internet browser.

Most attention must therefore be focused on the servers. In Brussels, the majority of these run on proprietary and open source Unix systems.

New products are selected on the basis of their reliability, but most will be OSS. Information on the servers will be accessible through Internet protocols and in Internet formats. This will help to achieve the e-government goal of making it readily available to the citizens. Providing comprehensive documentation and pressuring people to use the technology will be other priorities.

Brussels region is involved in the EU-funded Cities project, which aims to put information terminals in public places such as railway stations. Most of these will run on Linux, because it is both reliable and cost-effective.

Some important questions to be considered are:

- Patents are effectively monopolies granted for fixed periods of time that some wish to see extended – is this situation affordable for public authorities?
- Can public institutions afford to depend on private companies, when they could be independent?
- Should we not change IT performance measurement from concentrating on expenditures to focussing on benefits?
- Should we not be teaching citizens – especially children – to understand generic functionality and find solutions, instead of training them to use a single product?
- With proprietary software we teach people that it is illegal to share information (although it is technically possible). Is this the type of value we wish to instil?

The use of Open Source Software in European administrations – European Environment Agency

Søren Roug, European Environment Agency

The European Environment Agency (EEA) is the hub of the EIONET network, which facilitates the collection and reporting of environmental data for Europe, and the collation of information from the individual countries. EIONET also has other responsibilities, such as project co-ordination, documentation for meetings and generic application development. Its national focal points and specialised topic centres each typically have a web server and other software, making a total of around 40 computers spread across the Member States. Topic-specific software – known as data exchange modules – is used by national resource centres to check syntax and forward data to the focal points.

Prior to 1999, the network employed an outsourced database-driven website. Although EEA paid for the development, the source code was owned by the contractor – and thus could not be moved to other platforms without specific agreement. When the website was running, further extensions were dependent on the same contractor, whose prices, expertise and pace of delivery were not necessarily in accordance with the requirements. However, it was not possible for the EEA's help desk to provide adequate service support, or to approach specialist suppliers to develop patches that would respond to particular needs. The only option would have been to put everything in the hands of the original contractor, creating an undesirable monopoly situation.

The solution was to release everything EEA owned as OSS on its website. This produced some unexpected benefits. It opened the field to other bidders for the provision of new features, resulting in more competitive prices. It enabled all of the network computers to use the same software without paying for multiple licences. It also allows maintenance to continue in cases where an original vendor may have lost interest.

It was necessary to decide under which rules OSS would be distributed from the website:

- General Public Licence (GPL) – no bundling into proprietary software;
- Berkeley Software Distribution (BSD) – redistribution or use in source or binary form, with or without modification; or
- Mozilla Public Licence (MPL) – software can be sold, but not as closed source.

Questions to be considered are: What if one of the OSS developments finds its way into a commercial product? What if this competes with one of EEA's own products? What if it is so good that members decide to purchase it, so a buy-back might be necessary to retain interoperability?

To eliminate such problems, external developers are required to send back any improvements for incorporation into the original code base. EEA therefore decided on MPL, which specifies safeguards such as the free return of improvements for up to 12 months. In addition, the Agency uses version control software to prevent the risk of conflicts between parallel developers.

What is needed is a committee to inspect the software and resolve any disputes, as well as someone to receive and accept contributions from the general public. It is vital to avoid situations where a next-stage developer must purchase from the previous developer in order to continue, or even to tender. This would be an economic barrier, enabling the original vendor to lock out competition.

DISCUSSION

It is generally accepted that OSS, especially Linux, is good on the server side – particularly for Internet applications. Everyone at the seminar has presented Linux experience on servers: what is the position regarding the desktop? And why not teach OSS in schools?

(N. Pettiaux) I use only Linux on the desktop. Provided there is not too high a barrier to learning a new system, there are no problems in using only OSS. It is important not to confuse personal and business environments. Most proprietary products are created for personal use. But I would consider a school as a business environment, where it is necessary to split the functions of use and maintenance.

In one Brussels primary school, we set up a Unix system comprising a server and 25 clients for the same price another administration paid for five stations running proprietary software. It is easy to use, easy to maintain and has not been infected by viruses. Today, it is possible to do whatever is needed while working almost exclusively with OSS.

(J-P. Laisné) Migrating to Linux on the desktop is quite easy, and experiments in schools have shown that it is suitable for teaching children to create with computers. But when a global company can spend over € 50 million on an encyclopaedia just to retain a captive audience for its own operating system, it is difficult to challenge.

(B. Lang) Schools should be using several competing products, so students can learn that there is more than one solution to any problem. Linux does have an adequate office suite in Star Office, but it can be difficult to exchange documents between platforms. The need is to enforce precisely defined open standards for full compatibility, so that more and more people can co-operate.

***(B. Bray)* There are technical/legal problems in releasing administration-owned software to the public as OSS. Are there any initiatives that contribute by releasing existing OSS from such sources?**

(L. Dachary) The legal aspect is important, since different administrations choose different licences. This is a complex area – because free software has a firm legal basis, whereas OSS is less well defined. Clearer guidelines are needed.

(B. Lang) Why not make everything free? Public administration OSS is often very good software, so it can help the community. It can also help the administration itself, as developers will use the software and return it in an improved state. We must create an economic infrastructure in which the companies that can help with support and training can themselves be supported. And we should not make them wait too long.

What else can public administrations do to help the OSS community?

(P.B. Jensen) Someone has to pay for software development. Administrations should be prepared to bear the cost of quality products and expert help, so that the companies concerned can operate profitably and benefit from their efforts.

In the world of OSS there is sometimes a lack of the professional attitude that is essential to compete with the major players. As with the Internet, certification of products and the control of standards are vital to channel the creativity of a global community into a unified professional environment.

(Egren) ‘Free’ OSS software never implied free of charge. The transition from proprietary software to OSS is difficult; staff have been told for years that it is better to buy and use the dominant commercial product, because it is reliable and well supported. Furthermore, the people who have been trained to become expert in tuning ‘black box’ solutions are likely to remain in place for some time to come.

In budget terms, it will be necessary to switch from licence and hardware costs to greater investment in IT-qualified personnel. This will not happen unless the policy-makers have a very clear vision that it is worthwhile to do so.

There will be huge problems of interoperability in the transition period. The approach could be to look for volunteer users who are motivated to make the change. But the old and the new will not succeed in communicating without some regulatory obligation to use standards that allow co-operation.

OSS still has to evolve in the provision of meaningful guarantees and certification. Administrations may be able to contribute with a research programme that assists in the provision of suitable tools for documentation and the future re-engineering of architectures.

(M. Herbert) Companies developing OSS face a dilemma in that, while often dealing with a broad base of generic customers, they encounter difficulties in generating sufficient profit to sustain the development. Administrations should remove bureaucratic procedures that prevent them from dealing with SMEs which have the relevant problem-solving expertise.

(A. Østergaard) Administrations should not wait for wall-to-wall solutions, but rather choose the best people for particular tasks. A generation of OSS engineers is emerging that prefers the freedom to create rather than fixing bugs.

Also, the public sector should not support products that are promoted by near-monopoly vendors and demand high-specification hardware, because this is unfair to the taxpayers. Administrations should rather commit to OSS, which is free of patents, because this will emphasise the direction in which we wish to advance.

Let us profit by collecting the examples we already have. Other countries clearly face the same needs; collaborating and sharing our knowledge should be the goal.

(B. Schnittger) Public procurement is governed by the rules of the World Trade Organisation, and administrations must treat all bidders fairly. Boycotting proprietary suppliers is not desirable. We must nevertheless be careful in the way that we describe our requirements, in order to give OSS an equal chance. We can then choose whoever provides the best value for money.

(J-P. Laisné) When adopting new ways to work together, old rules may not apply. In the past, IT managers would count on their suppliers to be responsible for support. Today they must control their own destinies. Perhaps we also need an open source forum comparable to the W3C, where all of the issues can be discussed.

It should be realised that there remains a de facto support for monopolies in the EU. An administration can purchase Microsoft Office without discussion, because it was considered that there was no viable alternative. Now there is, even on the desktop.

(Dutch Linux support) My company uses only Linux on the desktop, and even new personnel very quickly become fully productive. Consequently it should be no problem to use it in other businesses.

(B. Bray) There is a large body of knowledge on OSS. People are interested in adding to this, but in the long term it will become increasingly difficult to make meaningful contributions. The emphasis must always be on innovative research, rather than reinventing the wheel.

In e-government, exit costs will remain a major consideration if administrations persist with proprietary software. In the US this problem is literally blocking the healthcare industry in its ability to innovate at the administrative level. The only people who can innovate are those who have the source code. Without OSS, e-government could face the same situation.

(J-P. Laisné) Thirty years of computer history shows that most software innovation has come from universities and private laboratories, usually working in an open fashion. Although Unix was initially proprietary, it essentially developed as an open source product.

But as software becomes increasingly complex, we shall have to condense the knowledge so that it remains manageable – otherwise progress will grind to a halt. Proprietary ownership acts against R&D, because data remains compartmentalised and is not available to aid the advance of technology. Even the companies themselves are beginning to recognise this.

Procurement issues

Axel Metzger and Till Jaeger, ifrOSS (Institute for Legal Issues concerning OSS)

Legal issues in OSS tend to lag behind the technical developments – so far, the courts in Europe and the USA have not delivered any judgements. However, expert discussion is now starting on three main topics:

- copyright law;
- competition law; and
- liability.

The good news is that the legal principles surrounding OSS are essentially secure. Copyright is a major concern in Europe and throughout the world. Under a 1995 directive harmonising the rules for Europe, software is protected as a copyrighted work. In the USA, companies tend to hold the rights, while in Europe the author retains them.

Licences are very important for OSS, as the author can forbid usage not specifically stipulated in the licence provisions. All OSS licences include several basic uses, including:

- free reproduction of software on all desktops within an authority;
- adaptation to one's own needs; and
- reproduction and distribution of the amended version (if mentioned).

In the General Public Licence (GPL), which applies to the new Linux, user obligations are also defined. Developers who distribute their products in the public domain must make their rights freely available. In Germany, this requirement is watertight. It is also obligatory to provide the source code for any developments.

The licence for the increasingly used FreeBSD software does not include the same requirement, so users do not need to make new developments freely available.

In the USA, it is possible to relinquish the copyright and place software in the public domain, but under EU law, the copyright holder cannot completely dispose of the rights. In extreme cases, this could pose problems for further development.

The basic consideration under competition law is whether public authorities can not only acquire OSS and actively develop it for their own use, as in Vienna, but also raise fees from such developments.

If the authority's developments remain for its own use, there are no problems. But if these are given back to the community, there are areas that need to be examined in terms of competition law.

In Germany, for example, the data protection ombudsman could make a particular encryption program available for download. If a private individual, or an authority, were to offer a similar product, it could be considered anti-competitive. This is a scenario that requires clarification. Also, if the authority invests in a development that is outside its normal remit, it might be regarded as a misuse of resources if it causes private competitors to lose market share.

Article 87 in the EC treaty forbids unauthorised state aid or promotion that gives unfair advantage to certain firms or activities, and this could apply to OSS. It would not be the case if cross-border cooperation meant that the advantage accrued in all Member States. Under Article 87/3, state aid could also be approved if the software serves the general interest of the EU.

From the perspective of the public administration, there are two points relative to liability law. First, who provides a guarantee if the software does not work properly? Secondly, if an individual employee develops OSS, to what extent is the authority liable – and for what?

Most licences tend to include exemptions from liability. It is questionable whether these are permissible, and if not, which liability rules would apply. Under German law, complete exclusion of liability is ineffective, because products are subject to general business conditions that protect the user and cannot be negotiated. The applicable law would depend on the contractual relationship. In the case of a gift, there is only liability for malicious intent or gross negligence. The same applies to downloaded software. But under a purchase contract, the liability would be substantially greater.

Product liability law is different, in that one can be held responsible for a problem without being at fault. Much OSS would be excluded if obtained privately and without fee payment. But if the software were developed within a company or authority, the product liability law could apply, and might have significant consequences.

The Institute plans to set up a free document centre covering these issues, and would welcome contacts via its website: www.ifross.de.

DISCUSSION

(J.-P. Laisné) In 20 years in the software business, I have not heard of anyone winning a case regarding product liability. If GPL is not correct in European terms, we could all help to revise it so that it can be made acceptable to companies and individuals.

Is there room for improvement to the existing licences?

(P. Pfläging) Regarding product liability, we adopted a pragmatic solution, which is to issue sample code and always advise users to adapt this to their own situations. So far 80 to 90% of the returned code is open source, with expansions from the Apache, DSD and Linux distribution groups, etc. To date, we have not explicitly issued device drivers, because we do not wish to support individual firms.

Distortion of competition is the dominant issue we are facing in trying to establish a security portal for which we shall be publishing the code. This may also have to be issued to other authorities as an extension of a standard protocol, so that anyone can use it.

We apply the old BSD licence model, which is quite liberal, to all the code we issue. We forbid any firm from using the code in a commercial product, which avoids the question of distortion of competition.

Our primary task is to provide services to the citizens, rather than to develop software. However, we can justify this, as we are usually producing code segments that did not previously exist and are intended as IT services for the municipality.

In calls for tender, it may be necessary to have a mix of OSS and commercial software. Is this legal under procurement legislation?

(N. Pettiaux) Any PC licence states that the vendor has no responsibility, so it would be unfair to ask more of the OSS community.

A case is under way against a software vendor by customers of a bank whose ATM failure prevented them from using their own money. A verdict has yet to be reached. And in the case of the 'I love you' virus, which caused much loss of time and data, could the software vendor be held responsible for allowing the virus to spread?

(B. Lang) When one buys a computer, one is obliged to accept the licence terms for any pre-installed software, even if it may never be used. It is not possible to refuse to sign and obtain a refund of the software cost. In France, this is unconstitutional. Laws should evolve to suit the economy, and the EC is one of the places where appropriate action should be taken.

(T. Jaeger) In principle, it is acceptable for a public authority to issue code, yet there can be some problematic cases. Vienna prefers the BSD licence to GPL. But there can be more difficulties with BSD, which allows companies to use code in proprietary products, and can therefore distort competition. GPL means that the software remains available to the community.

Cost/benefit considerations

Frank Clarijs and Patrice-Emmanuel Schmitz, Unisys

E-government will allow public administrations to deliver increased value directly to their citizens, partners, suppliers and employees. To do that quickly and cost-effectively, they must take advantage of their existing IT assets and build on them. This allows them to maximise the benefits while minimising costs. But it is also important to look at the potential risks.

In order of perceived importance, the key factors for governments are: quality, security, interoperability and reliable support – with cost ranking only fifth.

Gartner research shows that in the typical distributed environment, hardware and software account for little more than 25% of total costs. Wages are a major element, yet many organisations have difficulty in assigning them accurately to IT. And the most controversial cost factor of all is costs associated with lost end-user time – an astonishing 45%+.

The Gartner TCO (total cost of ownership) model provides a consistent way of measuring these various contributions and capturing IT costs in a structured way. It permits the recording of adopted 'best practices' and their effect on overall costs, as well as polling of end-users to find out how much time they lose due to IT issues.

This introduces the concept of the TCO cycle:

- Where am I?
- How do I compare with peer organisations?
- Where can I go, through application of best practices?
- How well did I do in cutting costs by improving the IT strategy?

Using TCO, the expected effects of changes can be modelled and optimised. Candidate architectures can be assessed and compared until the most cost-effective is identified. It provides a powerful way of determining which parts of the infrastructure should be considered for outsourcing or managed services, and how much this should cost. In order to build a complete business case, the TCO-derived costs, along with the benefits identified from a proposed investment, can be fed into an economic value creation (EVC) model. EVC provides a detailed analysis of the financial effects over a defined timeframe, combining TCO with total benefit of ownership (TBO) and total risk of ownership (TRO). This is a very effective way of supporting a business case, and is useful in comparing alternative proposals.

However, the cycle has to be repeated into the foreseeable future – assessing how well a new architecture and services arrangements are working, reviewing the next stage of the business strategy, and then starting the process again. But, by starting from a much better understood baseline, successive cycles will become easier and easier to manage.

