

OPEN SOURCE SOFTWARE IN THE DESKTOP: THE PERSPECTIVE OF THE PUBLIC ADMINISTRATIONS IN UK

Andres Baravalle, Sarah Chambers, Siobhan North, Mike Holcombe
Department of Computer Science, University of Sheffield, Sheffield, UK.

Keywords: Open Source Software, Open Data Standards, Public Administrations, United Kingdom.

Abstract: Open Source could potentially play an important role in e-Government. The COSPA project has been investigating the possibilities of using Open Source in the desktops in Public Administrations in Europe. During this two year project, the attitudes towards Open Source appeared to have differed in the UK compared to similar organisations within some other countries in Europe. In this paper we investigate and discuss possible causes of this.

1 INTRODUCTION

This paper is based on research undertaken during the COSPA project, "A Consortium for studying, evaluating and supporting the introduction of Open Source Software and open data standards in the Public Administration". The project, funded by the European Union's Sixth Framework Programme, includes 15 main partners from Academia, Industry and public administrations across Europe.

The aim of the consortium is to identify, analyse and provide support in dealing with issues arising from introducing Open Source software and open data standards for personal productivity and document management in European public administrations. The issues being considered include the cost of data migration, interoperability and integration with existing solutions, personnel training, support and maintenance.

Even initially it was clear that not all the partner public administrations had the same commitment to carrying out the experiment planned to investigate the potential use of Open Source. Within the project some public administrations have been making progress with trial transitions to Open Source, while the progress of other public administrations has been slow, or has almost stopped, as in the UK.

It was essential for the project that experimental sites were available where a number of desktops could be migrated, first to the use of Open Source software within the operating system they were already using and then, in a second phase by replacing the operating system as well. In the UK there were major problems in finding suitable

experimental sites for the project, whereas this was not the case for the other partners countries within the project.

SOCTIM, a professional association for information and communication technology managers in the UK public sector, was in charge of providing experimentation sites in the UK. Economical incentives for the participating public administrations were available, and a call for participation was publicised, but none of the proposed projects were deemed acceptable.

As a consequence, the project had to be restructured, and an interesting question arose: why is it so hard to introduce Open Source on the desktops of UK public administrations, compared with the public administrations in other European countries?

A variety of issues affect the decision of adopting Open Source in the desktop (Kovaks *et al.* 2004). The following sections focus on the UK experience and we will propose answers to our question.

2 OPEN SOURCE AND THE PUBLIC ADMINISTRATIONS

The Open Source movement (Perence 1999) is an offshoot of the Free Software movement (Stallman, n.a.) and advocates the freedom to use, modify and redistribute software, on both pragmatic and philosophical grounds. As the two movements share many points of contact, Open Source and Free

Software are often commonly referred as FLOSS (Free/Libre and Open Source Software) (Ghosh 2002). In this paper we are using the term Open Source on the grounds that it is more inclusive than Free Software and is more widely understood in the target community.

Open Source is a property of the software related to the licensing policy; practically software is considered Open Source if it is using any licence that has been approved by the Open Source Initiative (www.opensource.org). Linux, the Mozilla-based applications and OpenOffice.org are some examples of successful Open Source products used in the desktop.

Proprietary software is, on the other hand, software which does not provide all the liberties of Open Source. For example, the user may have the freedom to use and redistribute the software, but not to change it; this is the case in some royalty-free binaries such as in freeware or in shareware.

Some organisations involved in Open Source development base their business on selling services (as Novel, Sun and RedHat do). Some Linux distributions are a customisation of existing software, with additional software for facilitating system configuration. Whereas, some companies, such as MySQL AB, do business by selling non-Open Source versions of their Open Source products.

For public administrations, using Open Source can be an interesting from many different points of view, and e-government is one of the more obvious ones. Firstly, Open Source increases the inclusiveness of electronic communication. Much Open Source software is distributed free of charge; thus a public administration using Open Source does not force their citizens to purchase software in order to communicate using it. To communicate with public administrations that use proprietary software it can be necessary to have the software itself.

Promotion and support of Open Source has an impact not just on the public administration itself. It may affect the local economy and the vitality of local businesses, as public administration will require, in many cases, support for the implementation of Open Source and for technical support.

Moreover, Open Source naturally provides the roots for cooperation, which can be a key factor for transforming services. Public administrations which acquire their software in the free market and adapt it to their needs are equally free to pass it on to other public administrations. Thus Open Source can be strategic for lowering the cost of acquisition, as solutions developed by or for other public administrations can simply be adopted. Reusing and improving software can have a high impact on both

the quality and variety of new digitally-based services provided.

Finally, it is important to mention that a current priority of public administrations in UK is e-government: it was the target that all public services should be available online by the end of 2005 (Office of the Deputy Prime Minister 2004), with the opportunity to apply for extra funding to work towards this goal. If e-government is, and has been, the main priority, migration to Open Source can be a key factor for the implementation of this strategy.

Nevertheless, in the UK, Open Source is not having the same degree of success as elsewhere in Europe. Organisations requiring new software have different levels of interest in Open Source. In some cases, Open Source is not seen as an asset, or is seen as irrelevant. The main concerns for this type of organisations are related to functions (the software must meet their requirements), stability (the software must work as expected), security (the software must not harm the behaviour of the system where it is installed), documentation (reference material on how to use the software), support (help to solve any problems that arise when trying to use the software) and economy (the software must be as cheap as possible). Still, even considering Open Source only from the point of view of its suitability to solve the key needs of the public administration, many mature Open Source software products could compete with and overtake the corresponding proprietary implementations and yet are not widely adopted in the UK.

3 DISCUSSION

The evidence for the causes for the UK anomalous position comes from a variety of sources, including: personnel of European public administrations; European companies working with public administrations; meetings; conversations; informal interviews; personal mail messages; discussion in mailing-lists; press and academic articles.

The subsequent sections will address the main issues which may have influenced the limited success of Open Source within the UK public administrations.

3.1 Technical Considerations

3.1.1 Lack of Success Cases in the UK

When the COSPA project was searching for experimentation sites in April 2004, there was limited information about the use of Open Source on

desktops within UK public administrations, and a number of articles were not favourable to Open Source (Lettice 2003 and Computer Weekly 2004). Although these articles were not based on experience trials (as there had not been many experience trials in European public administrations before the launch of COSPA), they are likely to have influenced their readers. Press articles are often an important source of information for managers.

In October 2004, the eagerly awaited report on the UK Government Open Source Software Trials from the Office of Government Commerce (OGC) (OGC 2004) was published. One of the key conclusions was that "Open Source software is a viable and credible alternative to proprietary software for infrastructure implementation, and for meeting the requirements of the majority of desktop users". However, it also stated that "Open Source desktop products (including desktop platforms such as Linux, and 'office' personal productivity suites) are developing but there still has been little significant widespread implementation, though these are currently starting to be rolled out in public sector bodies in other European countries."

Within the report it was stated that "several of the case studies had migrated or were in the course of migrating, their desktops to the StarOffice desktop personal productivity suite or, less commonly, the OpenOffice suite.". The report acknowledges that StarOffice is not Open Source but states it has been included because it has been developed from OpenOffice.org, and its development is being carried out using Open Source methods. The deployment of OpenOffice.org was not referred to explicitly in the UK trials and the references to it in the report are to the Munich case study (IDABCa 2004). It may be that if StarOffice were not included in the trial there would have been insufficient data to study.

Case studies are perceived as important and an IT manager of a UK council was quoted (Clark 2003) saying "We need other councils that are using Open Source to show the benefits and [demonstrate] that it can integrate with existing systems." However, just because examples are given of the planned or successful deployment of Open Source in other parts of Europe, e.g. France (Mohamed 2003; Sayer 2005) and Germany (IDABCa 2004; Blau 2005), it does not necessarily imply that UK public administrations will think it will be applicable to them.

According to Saran (2004), a survey was undertaken by the Parliamentary IT group (Eurim) who questioned government departments on their use of Open Source. Less than one percent of Whitehall uses Open Source. Within the same article the Department of Health is reported as saying it was

not using Open Source on any of its implemented or planned IT systems.

A more successful case involved the Department for Education and Skills who funded a study exploring the contributions that Open Source software can make to the education sector. The research was undertaken by Becta (British Educational Communications and Technology Agency) and a case study report was published (Becta 2005). The study investigated the possible use of Open Source for the operating systems and office suite within four primary and four secondary schools. The main consideration for investigating Open Source options was the potential cost saving, with seven of the schools reporting savings which allowed them to buy more hardware and support. Problems encountered included curriculum software that was incompatible, interoperability issues, lack of familiarity and resistance to change.

The Office of the Deputy Prime Minister recently funded an Open Source Academy project (Knowledge Asset Management 2005). As part of it a number of councils have been given grants to investigate the use of Open Source software on servers and desktops but no results are available yet.

Open Source is already in use on servers in many public administrations. What is still lacking is examples of successful experimentations in the desktop in the UK. Some authors (Waring and Maddocks 2005) identify a wider sets of Open Source experimentations in the desktop – but this is done considering as Open Source software that is not commonly considered such (StarOffice).

3.1.2 Perplexity on Support

According to SOCTIM, one of the main reason for the reluctance in considering Open Source is to be found in the perceived difficulty of obtaining support. The UK public administrations investigated acknowledged that they did not often use support for desktop software, but nevertheless stressed how important it was for them to know that support was available. They perceived that it was difficult to find these competencies in the market.

This result was confirmed by a questionnaire we circulated to the current suppliers of software to public administrations in May 2004 (using SOCTIM software index of 2003 for the list of suppliers): none of the suppliers who responded was providing either Open Source, or consultancy on Open Source.

In the most recent SOCTIM survey published in May 2005 (Soctim/FT 2005) almost 50% of the respondents saw support issues as being the one of the main drawbacks in using Open Source.

3.2 Economical Considerations

3.2.1 Availability of Funds

The public administrations that are part of the COSPA project report that their budget for IT is increasing year by year. They underlined that the costs are increasing year by year as well, but the budget is sufficient in (almost) all of the partners for their normal activity.

The availability of sufficient budget is a clear argument for keeping the status quo for the software applications that fulfil the public administrations requirements for their activity.

However, the COSPA public administrations in Italy expressed the fear that their budget would shrink in the coming years, and they want to be prepared. Presently, in response to Gershon (2004), UK councils now must make 2.5% efficiency saving per year for the next 3 years, and that might lead to different evaluations.

3.2.2 Software Piracy

Statistics on software piracy published in 2004 by Business Software Alliance (BSA) and IDC show that the estimated piracy level in UK is the 6th lowest in the world (BSA 2004a and BSA 2004b).

The study gave the figures at 29% piracy rate in the UK, compared to 37% across the European Union and an average of 70% in Eastern Europe. The other countries represented in the COSPA, apart from Denmark (26% of estimated piracy) all have a higher estimated piracy rate: 49% for Italy, 42% for Hungary, 41% for Ireland.

A possible consideration is that public administrations in countries where piracy is more widespread are likely to be affected by the problem. It is possible that the decision in favour of an experimentation with Open Source might be linked, in some cases, to the need for action on software piracy. This view is confirmed by the fact the COSPA project is having problems in Denmark as well, while Italy and Ireland are the countries where more success has been achieved. Furthermore, one of our European partners explicitly stated that one of their motivations in migrating to Open Source software was a change in the law making software piracy a criminal offence coupled with a suspicion that not all their software was legal.

3.2.3 A Different Structure of Costs

The Open Source model is based, from the economical point of view, on a shift from commodity to service. Decomposing the cost of

software into the cost of the product itself and the cost of transfer (including installation, training and support), it can be seen that the latter is more variable than the former across Europe. An Open Source solution is characterised by a cost of the product itself that is or tends towards zero, and by a higher cost of transfer, compared to proprietary software (due to factors including the necessary customisation, installation and to the level of expertise required).

The implications is that the outcome of a comparison between an Open Source and a proprietary solution is strictly linked to the cost of labour, and because of that, the comparison may differ in the UK, compared to the southern and eastern countries of Europe.

Moreover, the public sector in the UK is thought to be one of Microsoft's most important customers outside the US, accounting for an estimated £200 million of sales a year (Bolger 2004). It is reasonable to assume that, consequently, the UK negotiating position with respect to Microsoft is stronger than other countries.

The widely publicised UK study on the cost of Open Source in the UK, at Newham Council, suggested that switching to Open Source would be 68% more expensive for the council, and that a upgrade to new Microsoft technology would save £3.2 million over five years. However, the fact that the study was paid by Microsoft itself and that a "special" price was conceded to the council (Lettice 2004) may limit the value of the study.

3.3 Socio-Cultural and Political Considerations

3.3.1 Dealing with Failure

A concept that has occurred repeatedly in our interviews with different sources is that the positions of the managers in the UK public administrations are not as secure as in other parts of Europe. A strong personal responsibility links the managers with their decisions, and that makes them easily subjects of Fear, Uncertainty, and Doubt (FUD). Decisions are possibly affected by consideration, not only of what is best for the public administration, but possibly what is the safer option for the individual decision maker.

The immediate consequence of this is a lower propensity for innovation. At the same time, public administration managers feel that choosing a reputable company is a way of covering themselves if something goes wrong. The point of view that was presented is that they would be better able to justify their decision if something went wrong with a

reputable company or product than if they had chosen something new or different.

There is a common feeling that “somebody to sue” is essential, in case something goes wrong. However, while it is not (usually) possible to sue the developer of an Open Source, it is possible to have a service agreement with a provider, including customisation, support and responsibility clauses so this belief may be based on a false premise.

3.3.2 Political Considerations

Different political considerations play a role in the different perceptions of Open Source.

Regarding the political-economical perspective, liberalism (intended as a political and economical theory advocating free competition and a self-regulating market) is a common denominator among the society in the UK, and a common ideological background amongst the main political parties.

Political considerations – that cannot be appreciated with a reference purely to the values of a free market - are involved in the imperative of considering freedom before any other aspect. The position is expressed, among others, by Stallman: “I will reject [proprietary software] even if it is the best quality in the world, simply because I value my freedom too much to give it up for that.” (Biancuzzi 2004). The imperative driving technical decisions in UK is, instead, efficiency and convenience (Davies 2004), and does not involve evaluations of a political kind, or at least not to the same degree.

Moreover, we have to consider that important political forces across (continental) Europe (such as the PSE and the Greens) support Open Source, while this is not generally the case for the main UK political forces. In the COSPA project, there is commitment from the involved public administrations both at a technical and at a political level, thus allowing public administration managers to feel that there is a common perspective.

Informal political considerations may have as well facilitated the choice of Open Source in some countries, where it is linked to the perception that increased independence from the US is necessary (or to explicit anti-US feelings). This is not generally the case in the UK, that has a close relationship and political connection with the US.

Another important point is that in the Open Source model there is a shift from acquiring a product in the global market, to acquiring a service, very often in the local market. The side effects in the local market appear to have had a positive repercussion in the acceptance of Open Source, as demonstrated by the reports of some partners of the COSPA project so far (Baravalle *et al.* 2005). A UK public administration is likely to buy a product or

service from anywhere, while in other parts of Europe there is a strong believe that the public administrations need to relate to the local community and that local suppliers are often “informally” preferred.

The UK point of view is often based more on market metrics than on political choices. For example, in November 2004 (IDABC 2004b), Bristol City Council announced that it was to migrate 5,000 desktops to StarOffice in a bid to save £1.4 million over a five year period, after they conducted a successful trial on 600 desktops. However, again this is not Open Source, and it is significant that StarOffice was chosen instead of the OpenOffice.org.

4 CONCLUSIONS

It is not easy to foresee a commitment to Open Source in the desktops by the UK public administrations based on the same motivations that have been accepted in other European countries.

Technical and economical motivations need to be sufficiently strong for UK public administrations to consider Open Source to replace software already in use. Alternatively, the Open Source community needs to convince the UK society that freedom is more important than free market – but this may prove to be a more difficult task.

For Open Source to have a realistic chance of succeeding in UK, the only viable option relies not only on demonstrating that it is more suitable than proprietary software from a technical and economical point of view, but on effective dissemination of the results among the public administrations.

REFERENCES

- Baravalle, A., Chambers, S., North, S., 2005. 'Experience report on the implementation of OS applications in the partner PAs'. Deliverable 4.3 of the COSPA project.
- Becta, 2005. 'Open Source Software in Schools: A case study report'. Retrieved May 18, 2005 from www.becta.org.uk/corporate/press_out.cfm?id=4681
- Biancuzzi, F., 2004. 'Freedom, Innovation, and Convenience: The RMS Interview'. Retrieved Jan 2, 2005 from www.linuxdevcenter.com/pub/a/linux/2004/12/22/rms_interview.html
- Blau, J., 2005. 'Migrating apps is challenge for Munich Linux project'. Retrieved Dec 21, 2005, from open.itworld.com/4910/051025migratingapps/page_1.html

- Bolger, J., 2004. 'Whitehall study may put pressure on Microsoft'. Retrieved Jan 2, 2005, from business.timesonline.co.uk/article/0,,9075-1332479,00.html
- BSA, 2004a. 'Major IDC Study Finds 37 Percent of Software in Use in the European Union Is Pirated'. Retrieved Jan 2, 2005, from www.bsa.org/eupolicy/press/newsreleases/Major-IDC-Study-Finds-37-Percent-of-Software-in-Use-in-the-European-Union-Is-Pirated.cfm
- BSA, 2004b. 'Global Piracy Study Press Releases'. Retrieved Jan 2, 2005, from www.bsa.org/globalstudy/pressreleases
- Clark, L. 2003. 'Public sector welcome for Open Source'. Computer Weekly, 9 Nov 2004, page 22.
- Computer Weekly, 2004. 'Linux still not ready for desktops'. Retrieved Jan 2, 2005, from www.computerweekly.com/articles/article.asp?liArticleID=129732
- Davies, W., 2004. E-government must use realistic targets. Retrieved Jan 2, 2005, from www.computing.co.uk/comment/1158276
- Gershon, P., 2004. 'Gershon Review: Releasing Resources for the Frontline: Independent Review of Public Sector Efficiency'. Retrieved Jan 2, 2005, from www.hm-treasury.gov.uk/spending_review/spend_sr04/associated_documents/spending_sr04_efficiency.cfm
- Gosh, R. 2002. 'Free/Libre and Open Source Software: Survey and Study'. Retrieved Jan 2, 2005, from <http://flossproject.org/report/>
- IDABC, 2004a. 'Green light for Munich's 'LiMux' project'. Retrieved Jan 2, 2005, from europa.eu.int/idabc/en/document/3356
- IDABC, 2004b. 'Bristol set to switch 5,000 desktops to Open Source office suite'. Retrieved Jan 2, 2005, from europa.eu.int/idabc/en/document/3420/5640
- Kovacs, G.L., Drozdik, S., Zuliani, P., Succi, G., 2004. 'Open Source Software and Open Data Standards in Public Administration'. Proceedings of the IEEE International Conference on Computational Cybernetics, Ed. W. Elmenreich et al., pp. 421-428.
- Judge, P., 2005. 'Birmingham begins major Open Source pilot'. Retrieved on May 18, 2005, from news.zdnet.co.uk/software/0,39020381,39198699,00.htm
- Knowledge Asset Management, 2005. 'Government Backs Open Source Drive'. Retrieved on May 18, 2005, from www.egovmonitor.com/node/319
- Lettice, J., 2003. 'Open source not ready for desktop, IBM told UK government'. Retrieved Jan 2, 2005, from www.theregister.co.uk/2003/11/07/open_source_not_ready
- Lettice, J., 2004. 'Savage discounts from MS flush OSS desktop from London council'. Retrieved Jan 2, 2005, from www.theregister.co.uk/2004/01/22/savage_discounts_from_ms_flush
- Mohamed, A., 2003. 'French ministry switches from Microsoft to Linux to reduce costs'. Retrieved Jan 2, 2005, from www.computerweekly.com/articles/article.asp?liArticleID=132010
- Office of the Deputy Prime Minister, 2004. 'Defining e-government outcomes for 2005 to support the delivery of priority services & national strategy transformation agenda for local authorities in England – version 1.0'. Retrieved Jan 2, 2005, from www.localegov.gov.uk/Nimoi/sites/ODMP/resources/PO%20Latest.pdf
- OGC, 2002. 'Open Source Software Policy Document'. Retrieved May 23, 2005, from www.ogc.gov.uk/
- OGC, 2004. 'Government Open Source Software Trials Final Report'. Retrieved Jan 2, 2005, from www.ogc.gov.uk/index.asp?id=2190
- Perens, B., 1999. 'The Open Source Definition' in Open Sources – Voices from The Open Source Revolution, edited by DiBona, C., Ockam, S., Stone, M., O'Reilly, ISBN: 1-56592-582-3, pp 171-288.
- Sayer, P., 2005. 'Paris accelerates move to open source'. Retrieved Dec 21, 2005, from www.computerworld.com.au/index.php/id;1941298570;fp;16;fpid;0
- Saran, C., 2004. 'Under 1% of Whitehall IT uses Open Source'. Retrieved Jan 2, 2005, from www.computerweekly.com/articles/article.asp?liArticleID=135052
- Socitm/FT, 2005, 'Socitm Open Source Survey with Financial Times'. Retrieved May 23, 2005, from www.socitm.gov.uk/Public/activity+groups/open+source+group/
- Stallman, R., n.a. 'Why "Free Software" is better than "Open Source"'. Retrieved May 23, 2005, from www.fsf.org/licensing/essays/free-sw.html
- Waring, T., Maddocks, P., 2005. 'Open Source Software implementation in the UK public sector: Evidence from the field and implications for the future', International Journal of Information Management, 25 (5), pp. 411-428.