OSS Watch National Software Survey 2008

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JISC

Acknowledgements

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Introduction

This report presents the results of the OSS Watch National Software Survey 2008.

The 2008 survey studies the status of open and closed software in Further Education (FE) and Higher Education (HE) institutions in the UK.

It opens with a "Summary of findings" that presents a narrative of the current situation and its possible evolution in the near future.

The Summary of findings is followed by a section that presents the "Survey results and analysis in detail". This section is split into five subsections, one for each group of questions in the online questionnaire:

- General information about institutions: Response rates, type of institutions, number of ICT staff
- ICT policy, procurement practice
- Software running on servers
- Software running on desktops
- Comments by survey respondents

Finally, three appendices are presented, one containing some figures related to the "Software running on servers" section, another with some observations about the online questionnaire, and a glossary of software products and their corresponding licences.

About OSS Watch

OSS Watch is a public (and free) service for Higher Education and Further Education institutions in the UK.

We are here to help institutions and projects who are using or developing free and open source software.

OSS Watch is funded by the JISC. Our offices are at the Oxford University Computing Services.

Here are some things we can help you with:

- building new or engaging with existing development communities (for sustainability)
- software licence advice (to comply with the JISC open source policy)
- engaging with commercial companies (e.g. software procurement)
- finding routes to exploit your outputs commercially (e.g. institutional technology transfer units)
- exploring options for sustainabilty of software development activities
- evaluating the best software solution (either open source or proprietary – we are non-advocacy)

Executive summary

An overview of open and closed source procurement in FE and HE

In broad terms, closed source software has been more popular than open source in Higher Education (HE) and Further Education (FE) institutions. This situation will probably continue for the foreseeable future.

On the other hand, there has been a significant trend towards increased awareness and usage of open source software in FE and HE. Looking from different perspectives, this trend appears more or less strong. For example, around 10% of all institutions will stop using closed source software only, on desktops, and a similar number will use open and closed source on equal terms. For servers, around 15% of FE institutions will do something similar, while the change in HE will be smaller. Another sign of increased engagement with open source is that while in 2006 only a quarter of institutions mentioned open source explicitly in their policies, at present it is over half of all institutions that do so. But from another viewpoint, open source appears more popular than policy suggests, because no matter what is stated in policy, in practice most institutions consider open source for procurement anyway. However, only a fifth of institutions consider open source equally to closed source, and contribution to open source projects remains unregulated, and possibly ignored. From this perspective, open source software still has a lot of ground to cover before it catches up with closed source.

Traditionally, HE institutions have led in engaging with open source software. This possibly follows from HE institutions having ICT departments that are approximately seven times larger than those of FE, and staff that generally have better technical qualifications. Nonetheless, some indicators suggest that FE institutions are catching up. And in some particular cases, as with the Virtual Learning Environment (VLE) Moodle, engagement has been clearly led by FE.

The main obstacle for engaging with open source software by FE and HE institutions seems to be a perception of difficulty and a need for more resources and highly skilled staff. Another main obstacle appears to be the perception that open source software is not supported. Even though most institutions rely on in-house support of their systems, the survey suggests that they also want somebody they can contact in case of trouble.

Software systems on servers

Regarding specific systems and software applications in use, this year we have expressed for the first time our concerns about whether online surveys are appropriate tools to evaluate deployment levels. In fact, results from the "Automatic survey of inbound mail (MX) servers in academic domains in the UK"[1] show significant differences to the responses of ICT managers in this survey for mail servers. The automatic survey showed that the open source mail server Exim leads in HE usage, while closed source Microsoft Exchange leads in FE. However, ICT directors responded in the online survey that 7 in 10 institutions use Microsoft Exchange.

Server operating systems are dominated by closed source solutions (Microsoft Windows, Apple Mac, Novell NetWare and Solaris), but the second most popular system – Linux – is open source.

For webmail, the dominant servers are closed source: Microsoft Outlook Web Access and Novell eDirectory. The most popular open source solution is SquirrelMail. Database servers are essentially restricted to closed source Microsoft SQL Server, open source MySQL and closed source Oracle.

For Virtual Learning Environments (VLEs), open source Moodle continues its dominance in FE, but now it has spread to HE too. Closed source Blackboard and WebCT are also relevant in this segment (it should be noted that Blackboard now owns WebCT).

Usage of Content Management Systems (CMSs) is very fragmented. Furthermore, around two-thirds of FE and a third of HE institutions responded that they do not use any CMSs at present.

For Directory Service systems, Microsoft Active Directory has a strong lead, with nearly 9 out of 10 institutions using it. Novell eDirectory has lost ground in FE, and the open source solution OpenLDAP has gained a significant share of nearly 1 in 10 in FE and twice as many in HE.

Other server systems, e.g. calendar/diary servers and Project-Management servers, have low response rates. More information about them can be found in the next sections of this report.

This year, we also asked what server systems were being considered for procurement or replacement in the future, and we found that there is interest in several areas: operating systems, CMSs, database servers, webmail servers, blogs and wikis.

An overview of open and closed source procurement in FE and HE (continued)

Software systems on desktops
Operating systems on desktops are predominantly closed source, with almost all institutions running Microsoft Windows XP, and many running either Mac OS or Mac OS X. Solaris is used in a significant number of HE institutions too. The only open source system in use is Linux, running in a third of HE and a few FE institutions. But it seems that the actual competitor of Windows on FE and HE desktops is Mac.

Microsoft Office dominates the office suite segment, and it is available in all institutions. Meanwhile, the open source alternative OpenOffice had a small increase in FE, and it is installed in a third of FE and a fifth of HE institutions.

The web browser Microsoft Internet Explorer had a significant decrease in HE, but it is still more widely available than the open source products Mozilla Application Suite browser and Mozilla Firefox. Considering that Internet Explorer is installed by default as part of Windows, and that all institutions run Windows, it is quite significant that so many HE institutions have taken the steps to actually uninstall/disable it.

In terms of mail clients, both the closed source applications Microsoft Outlook and Outlook Express, and open source Mozilla Thunderbird have lost popularity, especially the latter in FE. It would be interesting to study whether this has something to do with the increasing popularity of webmail.

Regarding Voice over IP (VoIP), quite a significant number of FE and especially HE institutions have already made the closed source application Skype available on desktops. No institution seems to provide an open source solution such as Ekiga or Wengo.

As in the case of servers, we also asked what desktop systems were being considered for procurement or replacement in the future, and found that in general interest is smaller for desktops than servers. Systems under consideration are operating systems, VoIP clients and office suites.

Links
1: *http://www.oss-watch.ac.uk/studies/mta-survey.xml*

Summary of findings

An overview of open and closed source procurement in FE and HE

This section presents a summary of the "Survey results and analysis in detail" section.

"Q1" refers to Question 1 in the questionnaire, "Q2" to Question 2, etc.

Perception of open and closed source in FE and HE
In broad terms, closed source software has been more popular than open source in Higher Education (HE) and Further Education (FE) institutions. Anecdotal evidence suggests that some institutions (particularly FE) consider that open source is harder to find, install and support, and believe that support can only be done in-house by highly skilled staff [Q31]. This is not necessarily true, and in fact the UK has the biggest consortium[1] in Europe of commercial companies that provide open source solutions and support. But the goal of this summary of findings is to distil an overview of the perceptions and opinions of ICT directors from their replies to the 2008 survey, rather than present general facts about software procurement.

The staff problem
That FE and HE institutions perceive open source as difficult to engage with is not only a matter of the anecdotal evidence mentioned above. When FE or HE institutions decide against an open source product for servers, the most likely reason is lack of staff expertise, and training needs [Q23]. This reason is also the second most likely when FE institutions decide against open source on desktops [Q30]. On the other hand, expertise of staff and need for training does not rank very high as a criterion for software procurement [Q21, Q28].

The above seems to present a contradiction: expertise of staff is not so important for procurement, but it is the main reason to decide against open source. Nevertheless, both perceptions can be reconciled by supposing that most institutions consider that open source does not score high enough in their main procurement criteria (performance, meeting user expectations, Total Cost of Ownership, etc.) to justify the perceived need for extra resources and more skilled staff.

Other barriers to the adoption of open source software
Another important barrier to the adoption of open source is the perceived lack of support in servers [Q23]. The reason for this perception is unclear. There are commercial companies that sell open source software for servers, the same way that there are commercial companies that sell closed source software. In both cases, the company typically provides support for their product for a fee. Thus, Q23 may be indicating:

1) That no commercial companies offer support for the specific open source products required by FE and HE.
2) That there are such open source companies, but they have not made themselves known to FE and HE institutions.
3) That FE and HE institutions are not looking for open source commercial companies, based on the misconception that open source software is necessarily unsupported.

However, this concern seems at odds with the fact that in almost all cases support is performed in-house anyway [Q24]. This apparent contradiction will have to be addressed in future surveys.

HE friendlier towards open source than FE
From OSS Watch early scoping study in 2003[2], HE institutions have shown a consistent trend of being friendlier towards open source than FE institutions.

Following the argument above, this is possibly due to the difference in staff resources between FE and HE. FE institutions typically employ 7 to 10 staff in their ICT departments, while in HE, ICT departments are approximately 7 times larger [Q5]. Not only do HE institutions have many more staff, but it is known that on average HE staff have better technical qualifications. In addition, universities and research centres have traditionally been driving forces behind open source development, so knowledge of open source can be found in the ICT department, amongst academic staff and students.

In 2008, HE institutions remain friendlier towards open source, but the general trend appears to be that growth is faster in FE. The opposite has happened in some cases, though. For instance, FE took the lead in the procurement and usage of Moodle (a Virtual Learning Environment), but now HE is catching up [Q17].

An overview of open and closed source procurement in FE and HE (continued)

Procurement policy
Closed source systems are still more widespread than open source ones, but there has been a steady growth of the latter in FE and HE. This has been reflected in policy. Even though in 2006 most institutions had either an official ICT policy or other policies that mentioned software, only a quarter mentioned open source explicitly. In contrast, roughly 7 in 10 institutions in 2008 have an official ICT policy [Q6], and over half of all institutions mention open source in their policies [Q7].

Procurement in practice
As the 2006 survey found out, no matter what policy they had, in practice most institutions considered open source for procurement. This is still true in 2008, but the result is misleading, because only a fifth of institutions consider open source *equally* to closed source for procurement; most institutions consider open source in a marginal manner [Q8].

Contributions to software projects
If presence of open source in FE and HE is small but consolidating, contributions by FE and HE to open source projects is uncertain. For instance, contributions to software projects are explicitly addressed by contract only in a negligible number of institutions [Q9].

Coexistence of open and closed source: past, present and future
The current landscape of software installed on servers and desktops shows that most of it is closed source; this has been so in the past, and will remain the same in the foreseeable future [Q12, Q25]. This result holds both for FE and HE, but, in general, the prevalence of closed source is greater in FE [Q12, Q25].

Nevertheless, there has been a slow but steady trend towards an increased usage of open source. While institutions typically used only closed source in the past, currently most of them run some open source on their servers too [Q12, Q25].

In all likelihood, this increase will continue in the future. For desktops, some 10% of all institutions will stop using solely closed source, and a similar number will consider using open and closed source on equal terms [Q25]. For servers, around 15% of FE institutions will do something similar, while the change in HE will be smaller [Q12].

Software systems on servers

Limitations of this study
This year, we have expressed for the first time our concern about whether online surveys are appropriate tools to assess the deployment levels of software systems. However, they do represent one of the few available options we have in practice. Ideally, we would prefer to quantify deployment of systems with other types of studies. The survey would then be used to examine why some systems are preferred, and what they are used for.

With this in mind we ran an "Automatic survey of inbound mail (MX) servers in academic domains in the UK"[3] in 2007. This has provided an insight into the validity of usage results obtained by this survey.

The 2007 automatic study found that Exim (open source) led in HE usage, while it was used in only a fifth of FE. Microsoft Exchange (closed source) was the other way around: leading in FE, and second in HE. Other systems in use were Postfix (open source) and Sendmail (neither open source nor closed source).

However, in the 2008 survey, Microsoft Exchange was reported to be in use in 70% of both FE and HE, followed at a distance by Novell GroupWise (closed source), Exim and Sendmail.

While there may be several reasons for the discrepancy between studies (for details, see section "Mail servers" in this report), the difference is very significant, and this advises caution when interpreting the results for the rest of systems that were addressed by the 2008 survey. The 2007 MTA study collected much more data and the general trend that it shows should be more reliable. Similar automated surveys could, theoretically, be conducted in other domains.

Links
1: *http://www.opensourceconsortium.org*
2: *http://www.oss-watch.ac.uk/studies/scoping/*
3: *http://www.oss-watch.ac.uk/studies/mta-survey.xml*

Software systems on servers (continued)

Snapshot of the current situation

Server operating systems [Q13] are dominated by closed source solutions (Microsoft Windows, Apple Mac, Novell NetWare and Solaris), but the second most popular system – Linux – is open source. It is worth noting that Windows is used by all institutions. These results provide limited information, as they only indicate deployment of operating systems, but not how they are used or what for.

For webmail [Q15], the dominant servers are closed source: Microsoft Outlook Web Access and Novell eDirectory. The former has increased its usage to 6 in 10 institutions. The most popular open source solution is SquirrelMail.

Database servers [Q16] are basically restricted to closed source Microsoft SQL Server, open source MySQL and closed source Oracle. In this segment, there was little change from 2006.

For Virtual Learning Environments (VLEs) [Q17], open source Moodle continues its dominance in FE from 2006, but in 2008 it has spread to HE too. This is interesting, as it is usually assumed that HE institutions have the initiative with IT innovation and open source. Closed source Blackboard and WebCT are also relevant in this segment (it should be noted that Blackboard now owns WebCT).

Usage of Content Management Systems (CMSs) [Q18] in the 2006 survey was very fragmented, a trend that continues in 2008. Furthermore, around two-thirds of FE and a third of HE institutions responded that they do not use any CMSs at present.

For Directory Service systems [Q19], Microsoft Active Directory retains a strong lead, with nearly 9 out of 10 institutions using it. Novell eDirectory has lost ground in FE, and the open source solution OpenLDAP has gained a significant share of nearly 1 in 10 in FE and twice as many in HE.

Other server systems [Q20] have low response rates. In addition, the functionality attributed to some systems by the respondents is incorrect (e.g. Microsoft SharePoint as a VLE, wiki or blog system). Calendar/diary servers have been essentially limited to two closed source products from 2006 to 2008, Microsoft Exchange/Outlook followed by Novell GroupWise. Institutions interested in Project-management servers are mostly choosing the closed source product Microsoft Project.

Possible future trends and future research

This year, we also asked what server systems were being considered for procurement or replacement in the future, and we found that there is interest in several areas.

Operating systems are being considered for procurement and/or replacement by half of FE and one-third of HE institutions. However, the survey results do not indicate whether this is a result of institutions thinking about upgrading to the new Windows Server 2008, or moving to Linux, for example.

CMSs are also on the radar of about one-third of institutions, although there appears to be no dominant system. Thus, it could be potentially useful for FE and HE institutions to have a list of recommendations available.

FE institutions show an interest in database servers. We saw above that this is a field dominated by 2 closed source systems and one open source system, and it would be informative to learn about the experience of those institutions that have already procured them.

Two closed source systems dominate the webmail market, but there is also an open source alternative used by a significant number of institutions. Further research as case studies would provide an insight into both approaches.

Blogs and wikis are systems used by very few institutions, but a significant number of HE institutions are considering them for procurement. A follow-up study could show what those systems will be used for, as well as which particular systems will be used.

Software systems on desktops

Snapshot of the current situation

Operating systems on desktops [Q26] are predominantly closed source, with almost all institutions running Microsoft Windows XP, and half of FE and three-quarters of HE running either Mac OS or Mac OS X. Solaris runs in a significant number of HE institutions too. The only open source system in use is Linux, running in a third of HE and a few FE institutions. But it seems that the actual competitor of Windows on FE and HE desktops is Mac.

Software applications on desktops [Q27] of FE and HE institutions are basically limited to office suites, Internet browsing and email, and are generally dominated by closed source Microsoft products.

Microsoft Office dominates the office suite segment [Q27] and, as in 2006, it is available in all institutions. Meanwhile, the open source alternative OpenOffice had a small increase in FE, and it is installed in a third of FE and a fifth of HE institutions.

The web browser [Q27] Microsoft Internet Explorer had a significant decrease in HE, but it is still more widely available than the open source products Mozilla Application Suite browser and Mozilla Firefox. Considering that Internet Explorer is installed by default as part of Windows, and that all institutions run Windows, it is quite significant that so many HE institutions have taken the steps to actually uninstall/disable it. The closed source web browser for Mac, Safari, is present in an unexpectedly small number of institutions, considering the spread of Mac and that Safari is installed by default. In fact, all Mac applications have low percentages, an unlikely situation considering the figures for Mac OS and Mac OS X in previous sections. This could be explained by a lack of familiarity of ICT directors with Macs.

In terms of mail clients [Q27], both the closed source applications Microsoft Outlook and Outlook Express, and open source Mozilla Thunderbird have lost popularity, especially the latter in FE. It would be interesting to study whether this has something to do with the increasing popularity of webmail.

Regarding Voice over IP (VoIP) [Q27], quite a significant number of FE and especially HE institutions have already made the closed source application Skype available on desktops. No institution seems to provide an open source solution such as Ekiga or WengoPhone.

Possible future trends and future research

Interest in deployment/replacement of software systems is in general smaller for desktops than servers [Q29].

In terms of procurement for desktops, operating systems [Q29] are a top concern for ICT departments. But for HE institutions, procurement of VoIP clients is of even more interest. It will be interesting to see whether the closed source application Skype continues as a monopoly, or whether open source solutions like WengoPhone and Ekiga get a share of the market too.

Almost half of FE institutions are considering office suites [Q29] for replacement/procurement. This could be due to upgrades of current versions or comparison of different options, e.g. Microsoft Office vs. OpenOffice.

Few institutions are considering web browsers and mail clients [Q29], though. As those are basic applications in widespread use, it could be assumed that most institutions are happy with their current systems.

Survey results and analysis in detail

This section presents detailed results and analysis for each question in the 2008 survey's questionnaire. The discussion includes a comparison to the 2006 survey[1], where relevant. In some cases, two icons indicate whether percentages are computed over all submitted surveys (red dot icon ●), or only over those that responded to the corresponding question (blue half dot icon ◗).

Analysis of the results was performed using the statistical package GNU R[2].

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/*
2: *http://www.r-project.org/*

General information about institutions

Response rates and type of institution

The OSS Watch National Software Survey 2008 ran from 11 February to 13 March 2008. Building on our experience from the 2003 and 2006 studies, we sent Oxford University Computing Services headed letters to the ICT directors (or equivalent positions) of 454 FE and 161 HE institutions in the UK, followed by email messages and reminders. Other JISC services have observed respondent fatigue in their surveys, and some of our respondents submitted empty surveys (probably to stop receiving reminders), but with almost 1 in 5 institutions submitting a valid questionnaire, our response rate is reasonable, significant and slightly better than in 2006. Moreover, all but a handful of survey respondents were able to complete the questionnaire with estimates for their whole institution, instead of just for their ICT department.

It was necessary to simplify and categorise institutions as either FE or HE, even though many institutions offer a combination of both types of education. Using this classification, response rates were similar for FE and HE.

The OSS Watch National Software Survey 2008 questionnaire was available online on the domain *http://survey.oss-watch.ac.uk/* from 11 February to 13 March 2008. The response rate was 17.2% in FE and 23.6% in HE (see Fig. 1). The combined response rate was 18.9%, a small increase from 18% in the 2006 survey[1].

The 2006 survey achieved a large increase, from 6% respondents in the 2003 scoping study to 18%, by sending an introductory email and reminders to all ICT directors. Building on that approach, we sent Oxford University Computing Services headed letters to the ICT directors (or equivalent) of 454 FE and 161 HE institutions in the UK the week before the survey went live, followed by an introductory email, and a reminder email every week with a URL to the online questionnaire. The URL contained a unique token to make sure that only the intended recipients could respond to the survey, and only once.

Actually, nearly 25% of those we targeted submitted the questionnaire. That 25% is split into 18% who completed the questionnaire, and 7% who sent the questionnaire empty, probably to stop receiving reminders. Other JISC services have observed a certain respondent fatigue caused by the increasing number of surveys.

We asked the survey respondents to try to make estimates for their whole institution. In case that was not possible, Q1 allowed them to explain what department they were going to respond for. A small number of institutions, 3 FE and 3 HE, responded only for the ICT department.

Q1: If you are unable to make estimates for your whole institution, please leave a comment in the box below explaining why, and what department you are going to respond for.

Q2: What type is your institution?
- *Further Education (FE)*
- *Higher Education (HE)*
- *Other*

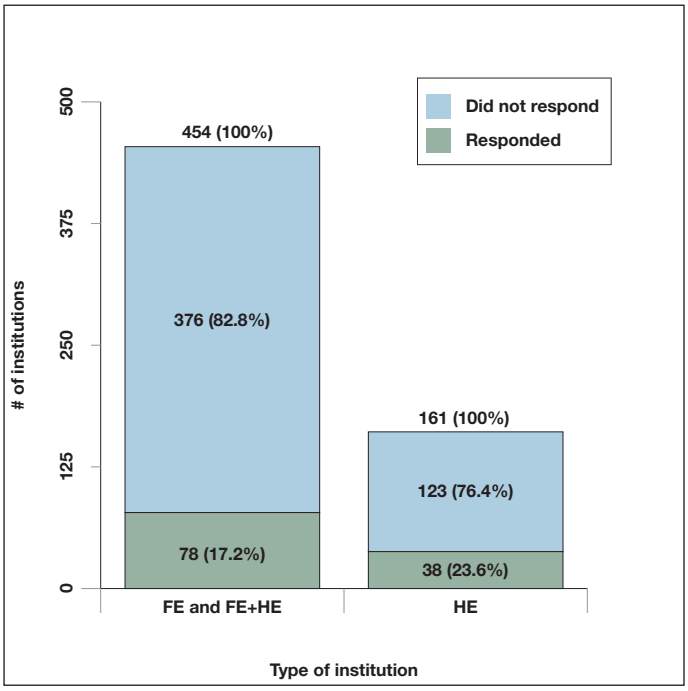

Fig. 1: Response rates

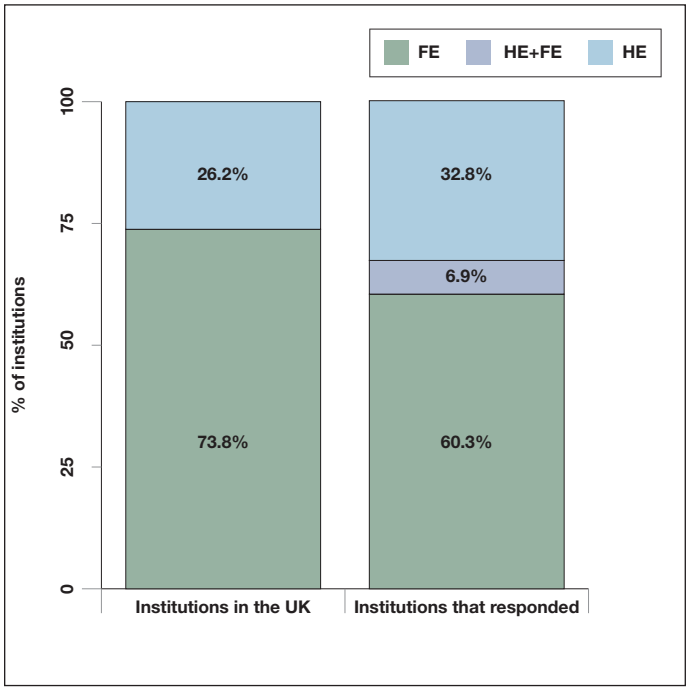

Fig. 2: Proportionality of response rates. FE+HE refers to FE institutions with HE provisions. FE in the left bar includes FE+HE institutions too.

Lists of institutions were obtained from the Higher Education and Research Opportunities (HERO)[1] website, and classified as FE or HE. Q2 asked for the type of institution, and offered three choices: FE, HE and Other. It became apparent that this question was too limited as there are FE institutions that offer HE courses, and HE centres with FE students. Some respondents chose the "Other" option and wrote things along the lines of "FE with HE provision" or "FE and HE". We have denoted these as "FE+HE".

On the other hand, there are not enough FE+HE centres to obtain significant separate results. Fig. 2 displays the breakdown of responses submitted from each type of institution, compared to the proportion of institutions in the UK, according to the lists obtained from HERO. In the rest of this report, responses from FE+HE were aggregated to FE.

Links

1: *http://www.hero.ac.uk*

Number of students and academic staff

In the 2006 survey, we asked about the size of the institution in terms of undergraduate and graduate students (for HE), students in general (for FE) and academic staff (see "OSS Watch 2006 Survey, section 4.1.1, "Characteristics of the institution").

We repeated those questions in 2008, but in hindsight, they could have been omitted. The complexity of student classification goes well beyond undergraduate/graduate, as there are part- and full-time students, national and international, etc. Detailed statistics of students[2] and academic staff[3] in HE institutions can be obtained from the Higher Education Statistics Agency (HESA), although to the best of our knowledge there are not any similar statistics for FE institutions.

A further reason to remove these questions from future surveys is that this kind of information is not always available to ICT directors; we noticed this in the mismatch between the number of students estimated by the respondents and the actual figures provided by HESA.

Q3b1: What is the approximate number of undergraduate students at your institution?

Q3b2: What is the approximate number of graduate students at your institution?

Q3a: What is the approximate number of students at your institution?

Q4: What is the approximate number of academic staff at your institution?

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.1_div.1*
2: *http://www.hesa.ac.uk/index.php?option=com_datatables&Itemid=121&task=show_category&catdex=3*
3: *http://www.hesa.ac.uk/index.php?option=com_datatables&Itemid=121&task=show_category&catdex=2*

Number of ICT staff

While ICT directors may not know the number and classification of students and academic staff, it is reasonable to assume that they know how many staff work in ICT, even at institutions with many departments and colleges, and decentralised ICT services.

It is known that HE institutions usually have more resources and larger ICT departments. The results from our survey suggest that a typical FE ICT department employs between 7 and 10 staff, while typical HE ICT departments are 7 times larger.

Q5: What is the approximate number of ICT staff at your institution?

A typical ICT department in a FE institution employs between 6.6 and 10.4 staff. In the case of HE institutions, typical sizes for the ICT department are between 39.4 and 80.6 members of staff.

This can be seen in more detail from the notched box-and-whisker plots† of the number of staff in Fig. 3. HE institutions have larger ICT departments than FE institutions. The 95% Confidence Interval for the median is (6.6,10.4) for FE and (39.4,80.6) for HE. The median value for HE (60.0) is 7.0 times larger than for FE (8.5).

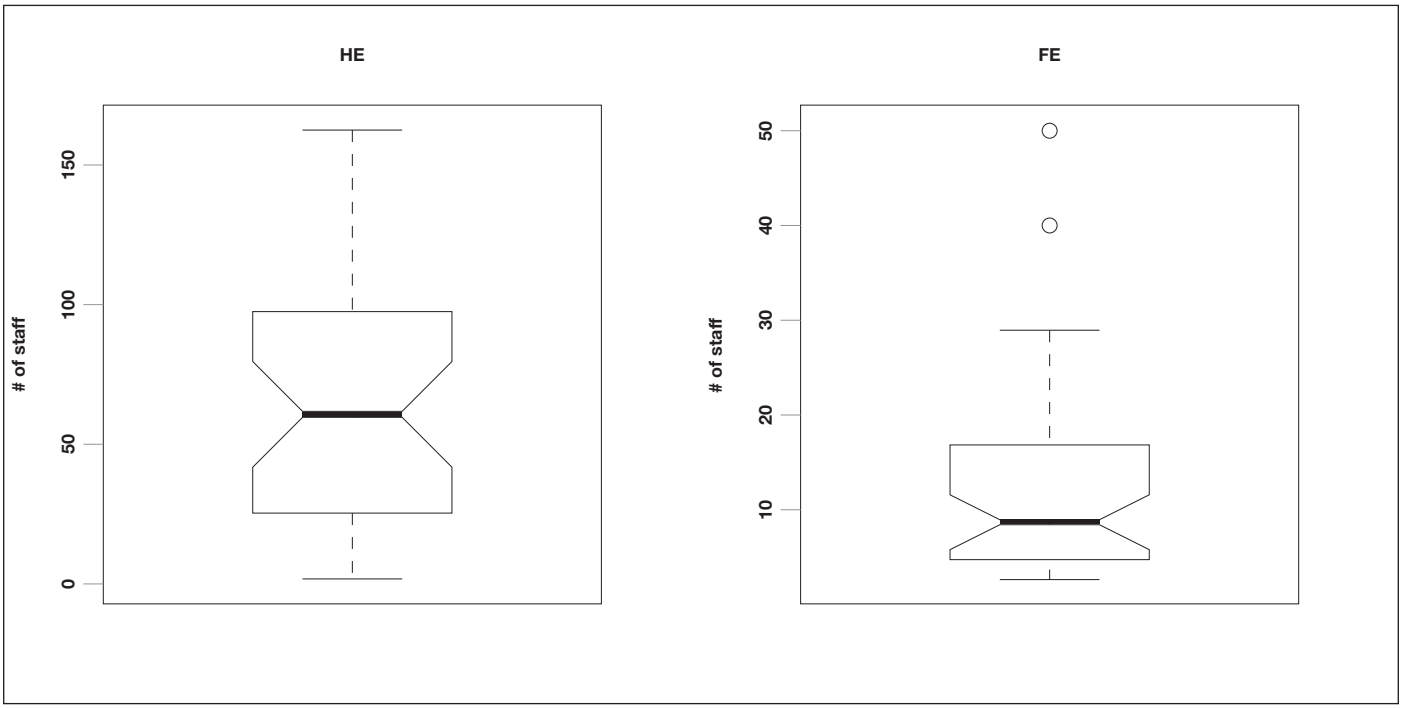

Fig. 3: Number of ICT staff

Notes

† The notched box-and-whisker plot is a convenient way to summarise the distribution of the number of ICT staff. The median (the horizontal bar in the middle of the box) is a value such that half the institutions have at least that many staff. The notches around the median indicate the 95% Confidence Interval. That is, in case of repeating this survey many times with random samples of institutions, the median would fall within the Confidence Interval on 95% of the occasions. For further information see e.g. "Constructing box-and-whisker plots"[1]

Links

1: *http://www.statcan.ca/english/edu/power/ch12/plots.htm*

Institutional ICT policies

The 2006 survey suggested that the vast majority of FE and HE institutions either had an ICT policy or software was mentioned in other policies. The phrasing in the 2006 questionnaire was confusing, and consequently its results cannot be compared to this year's findings. The 2008 survey suggests that 7 in 10 institutions currently have an official ICT policy. In this respect, FE has a small lead over HE. This could be explained by the larger size and heterogeneity of HE institutions, that makes it more difficult to define centralised guidelines.

Most FE and HE institutions have ICT official policies, but under a third do not have any yet. In those cases, ICT policies are spread across other policies, e.g. administration, accounts, etc., and there are only a few FE institutions with no policies at all.

Q6: What best describes your institution in terms of ICT-related policies?

In the 2006 survey (see section 4.2.1. "ICT policy"[1]) 95% of FE and 88% of HE had a "stated ICT policy". In addition, 81% (FE) and 79% (HE) had some policy/strategy that mentions software. These figures are confusing, because any stated ICT policy is expected to mention software in it, anyway.

Furthermore, of those who mentioned software in FE, 81% did so in an ICT policy/strategy, and 19% in another policy/strategy. For HE, the relation was 78% to 22%.

To make things clearer, in this survey we asked "What best describes your institution in terms of ICT-related policies?", and provided four choices:

- My institution has an official ICT policy.
- Policies about ICT are spread across other policies, e.g. administration, management, procurement...
- My institution has no policies regarding ICT.
- I don't know whether my institution has any policies regarding ICT.

The results are presented in Fig. 4. (Nobody responded "I don't know".) It is interesting to see that while the majority of institutions (71.8% in FE, 65.8% in HE) have official ICT policies, there is a significant number who have them spread across other policies. A small number of FE institutions do not have any policy at all.

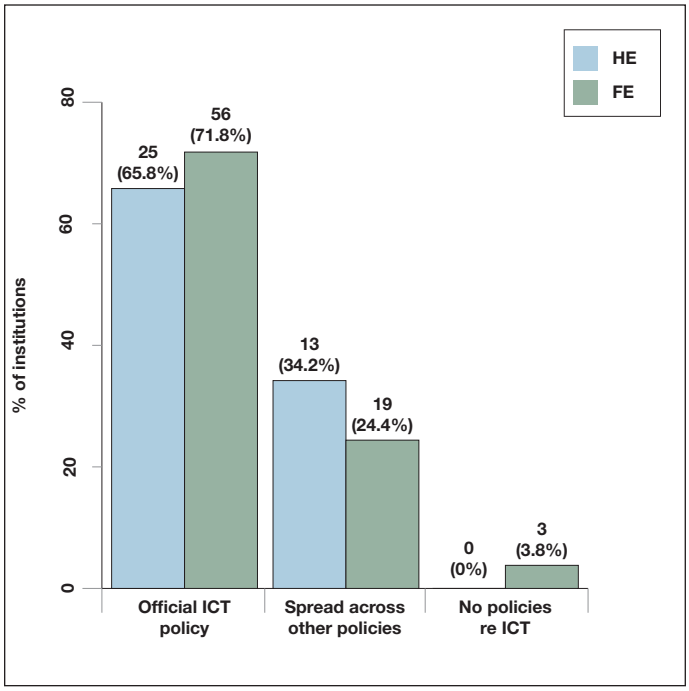

Fig. 4: ICT-related policies

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.2_div.1*

Institutional ICT policies for open and closed source software

The 2003 and 2006 surveys restricted the study of ICT institutional policies to open source, showing little change for that three year period. Until 2006, open source remained largely inconspicuous in FE policy. But the situation has changed in 2008, as more and more FE institutions mention open source in their policies and require that it is considered for procurement alongside closed source.

Open source was mentioned significantly more often in policies found in HE than FE between 2003 and 2006, but as the increase for HE in 2008 was smaller, the gap is narrowing. Currently, more than half of all institutions mention open source in their policies.

In 2008 we also asked about closed source software in institutional policy. Closed source is still favoured over open source, and more so in FE than HE. Closed source is mentioned in 60% to 70% of institutional policies.

Q7: What best describes your institution's policies about open and closed source software?

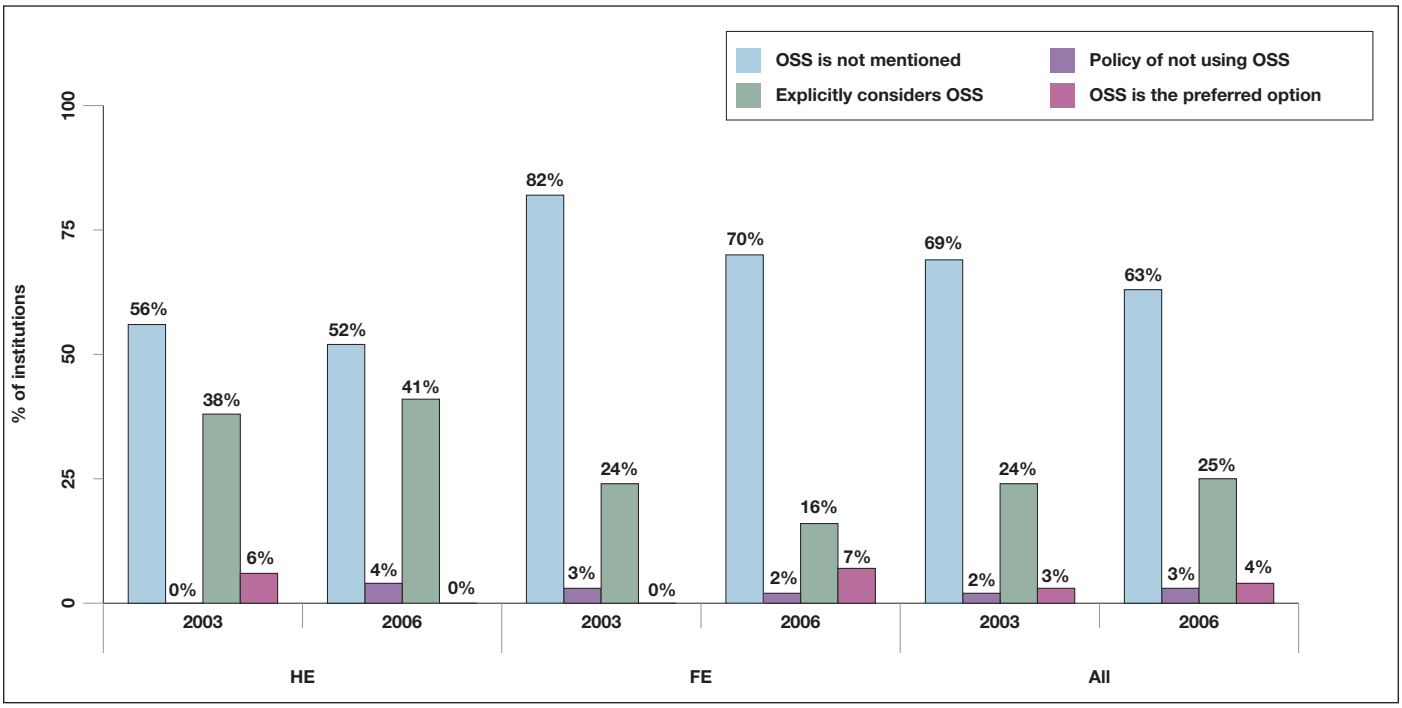

Fig. 5: ◗ ICT policies for open and closed source software (was Figure 1 in Survey 2006 with the title "Is OSS mentioned as an option when procuring software in policy/strategy?")

The 2006 survey showed the involvement of ICT policies in open source software compared to 2003 (see section 4.2.1. "ICT Policy"[1]). Fig. 5 is a reproduction of "Figure 1" in the 2006 report. From this graph, it seems clear that there was little change in policy for open source between 2003 and 2006.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.2_div.1*

Institutional ICT policies for open and closed source software (continued)

On the other hand, comparing Fig. 5 to Fig. 6, there are some changes from 2006 to 2008:

- The number of FE institutions where open source is not mentioned in policy have decreased from 70% to 43.3%.
- At the same time, FE institutions where open source is to be considered (either as the preferred option, an option, or just mentioned) has increased from 16% to 55.6%.
- There is a small increase in the number of HE institutions where open source is not mentioned, from 41% to 48.6%, but this is compensated by a similar increase in those where open source is to be considered, from 41% to 51.2%.
- Overall, the number of institutions with policies that talk about open source software has doubled, from approximately 25% to 50%.

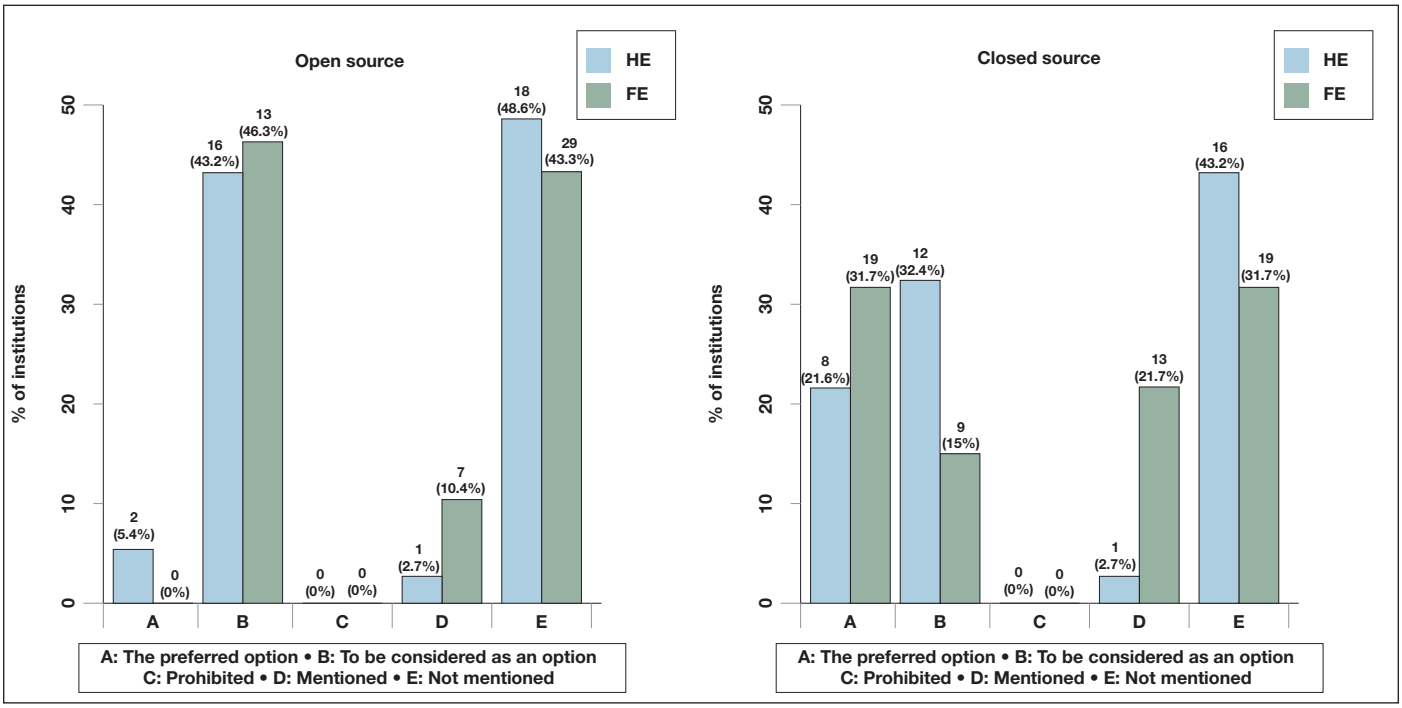

Fig. 6: ◗ Institutions policies about open and closed source software

The results show greater levels of institutional awareness about open source in 2008 for FE, and similar for HE. On the other hand, this time we also asked in the survey about closed source software, and this allows us to put those figures in context.

Policies about open and closed source are now similar in FE and HE, but with FE institutions more likely than HE to favour closed source software. For instance, 31.7% in FE institutions consider closed source as the preferred option, while for HE the percentage is only 21.6% (and 5.4% in HE consider open source the preferred option).

Software considered for procurement/deployment in practice

In practice, open source is considered for procurement more often than institutional policies would suggest. Currently, 9 in 10 institutions consider open source in practice, a 10% increase from 2006. But these figures can be misleading, because even though most institutions consider open source, many do so as a secondary option only.

Thus, it is important that ICT policy not only mentions or considers open source software, but also that it does so in equal terms to closed source. In addition, a well-drawn policy is necessary, but will be ineffective if in practice most institutions continue to consider closed source as their primary option.

Q8: In practice, what software is considered for procurement/deployment in your institution?

● The 2006 survey found that despite policy favouring closed over open source software, in practice 77% of FE and 76% of HE institutions examined open source for procurement (see section 4.2.2. "Practice"[1]). In 2008, the percentage has increased by about 10% from 2006, to 87.2% in FE and 89.5% in HE.

● However, we realised that this result is incomplete: A large number of institutions considering open source seems to suggest high levels of awareness and popularity. But this is only the case if open source is considered as frequently as closed source software. This time we wanted to get a broader picture, so we asked about both open and closed software procurement practice. The results are displayed in Fig. 7. Quite interestingly, there are only a few institutions that would consider only closed source software, but a large number (70.5% in FE and 63.2% in HE) consider *mostly* closed source.

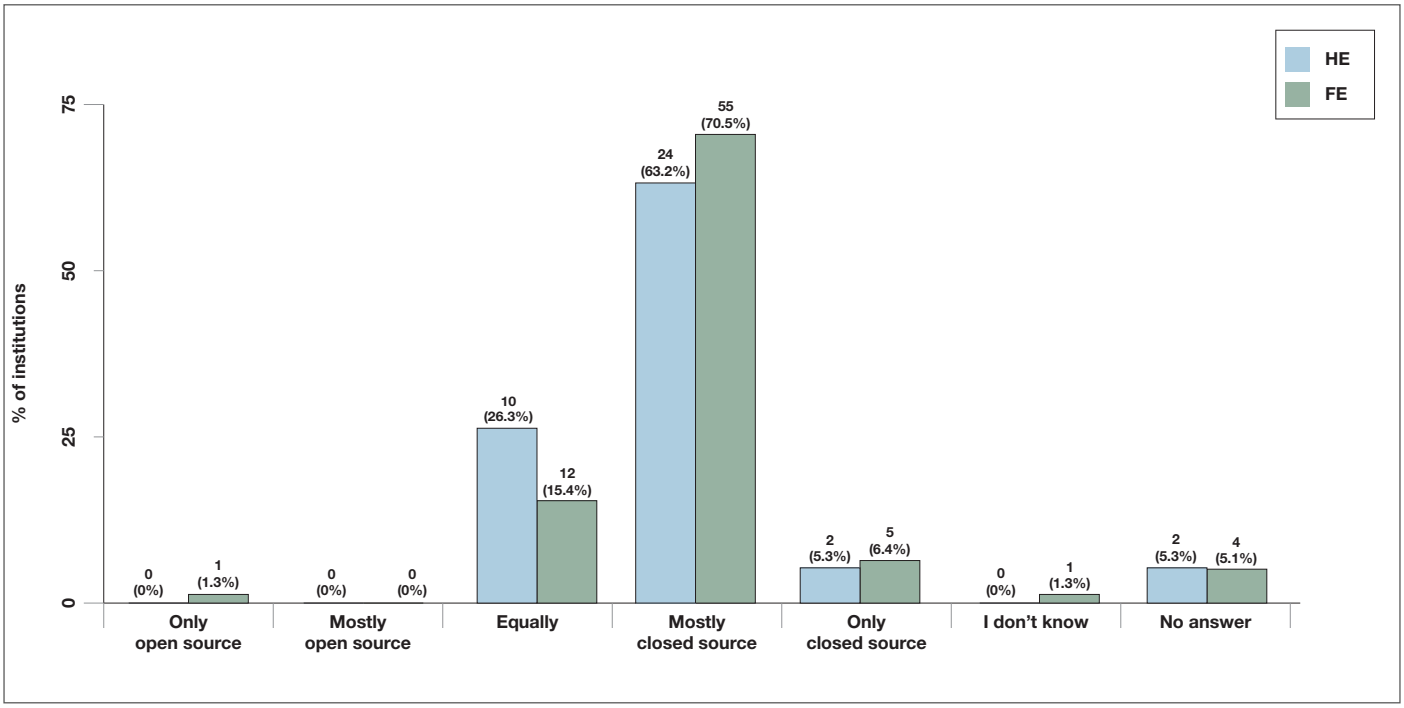

Fig. 7: ● Software considered for procurement/deployment in practice

Extrapolating these results, we could infer that asking only about open source in 2006 suggested a rosier picture than the reality. While a large number of institutions may consider open source, it seems that they do so only as a secondary option and closed source software is still prevalent. This will be illustrated in the following sections by the deployment percentages of software systems. Finally, Fig. 7 also suggests that HE institutions are more likely to consider open source and closed source solutions equally (26.3% of HE to 15.4% of FE).

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.2_div.2*

Staff contribution to software projects

Contributions to software projects can take on different guises. The 2006 survey only studied patch submissions, while this year we posed a more general question, to include community activities in a broader sense, e.g. writing documentation or testing programs.

This year's responses suggest that almost one half of ICT directors are potentially unaware of the institutional policy regarding staff contributions to software projects. A further 30% is unregulated, and only in a negligible number of institutions are contributions to projects explicitly addressed within employment contracts.

There is a noticeable number of ICT directors who did not answer the question about contribution policy, but who know how often staff contribute to software projects. In general, around a third of staff contribute to software projects with a significant frequency. Contributions are slightly more likely for open source projects, but quite interestingly, the gap between FE and HE is not large. This is quite confusing, because it is not clear how FE and HE staff could be contributing to closed source projects at all. A possible explanation is that our question was misunderstood.

Q9: What is your institution's policy regarding staff contributing to software projects?
Q10: In practice, how often do ICT staff contribute to software projects?

- The 2006 survey found that in 9% of FE and 22% of HE institutions staff "submit patches" to open source projects. And also interestingly, in 13% of FE and 21% of HE institutions the ICT director did not know of staff contributed patches (see section 4.3. "Skills and awareness of ICT personnel in relation to software"[1]).

- However, contributions to software projects are not necessarily limited to submitting patches, but can also be writing documentation, testing programs, etc. Thus, this year we posed a more general question, by asking about contributions to both open and closed source projects. The results are displayed in Fig. 8.

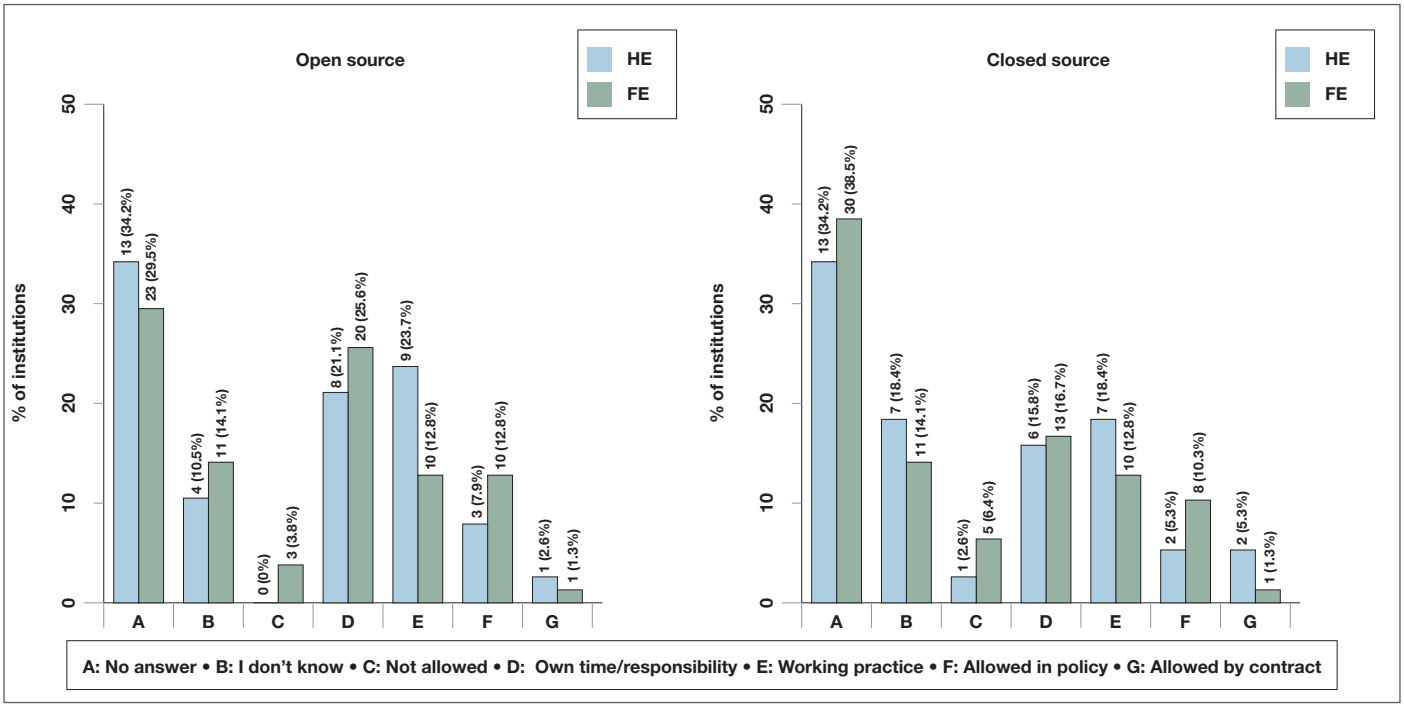

Fig. 8: ● Policy on staff contribution to software projects

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.3*

Staff contribution to software projects (continued)

The highlight of Fig. 8 is that between 43.6% and 52.6% of ICT directors do not know or did not respond. In addition, the number of institutions where contribution to projects is explicitly addressed within employment contracts is negligible.

Most of the staff who contribute to projects do so either in a casual manner, in their own time, assuming personal responsibility, or because the working practice encourages it (without regulating it). These kinds of contributions to open source are approximately 10% higher than to closed source.

Thus, in general it seems that contribution to software projects, whether open or closed is mostly unregulated or casual. There is nonetheless a small but significant number of institutions where contribution is allowed by policy or contract, which could be further researched as case studies.

Fig. 9 displays the results for Q10, which attempts to quantify the degree of involvement of staff in software projects.

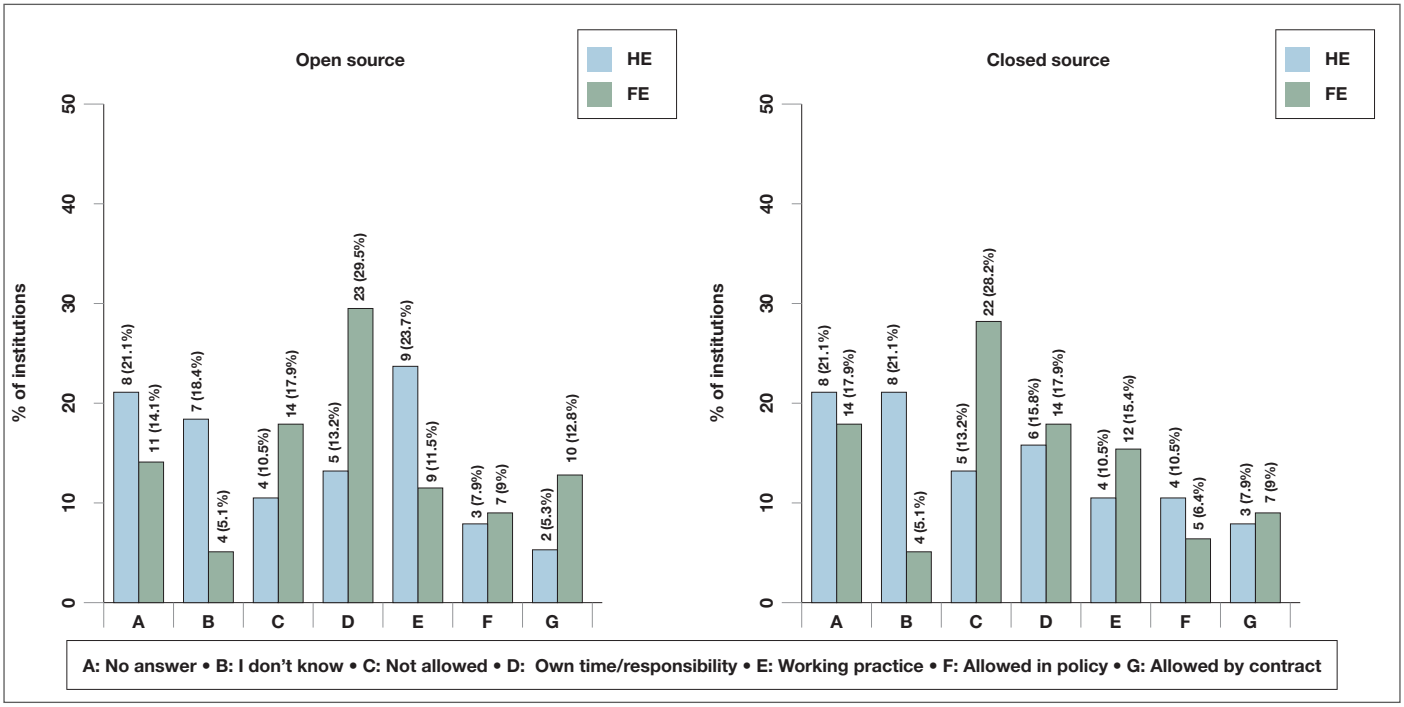

Fig. 9: ● Frequency of staff contribution to software projects

Similarly to the previous question, approximately 20% of HE institutions did not respond, and another 20% responded "I don't know". The rate of no responses was similar for FE, but much lower for "I don't know", only 5.1%

HE staff contribute a bit more frequently to open source than closed source projects. If we aggregate the "Sometimes" to "Always" responses, we get 36.9% (open source) and 28.9% (closed source).

In FE, the frequency of contribution is similar to that in HE, and more balanced between open source and closed source projects: 33.3% and 30.8%, respectively. There is, however, a difference for FE. The 29.5% who "Seldom" contribute to open source projects appears as a 28.2% who "Never" contribute to closed source projects.

The results for FE are unexpected, as this survey – and previous studies – indicate FE does not regularly engage with open source projects. We offer two possible explanations for this. Either the question was confusing, and it needs to be readdressed in the next survey, or maybe FE has more potential to engage with open source in terms of human resources than we previously thought.

Software support for servers

In 2006, staff in many institutions, especially in FE, supported servers without it being part of their job description, but the situation has become much more regulated in 2008. Currently, support for open and closed source software deployed on servers is part of the job of either some or all staff, except for a handful of institutions. Support is more likely to be carried out by all staff in FE than in HE institutions. A possible explanation is the difference in size: as HE institutions tend to have larger ICT departments and more users, it is reasonable to have staff specialised in different tasks.

Q11: What best describes the support for software running on your institution's servers?

● The 2006 survey showed that support for open source software was, in the main, performed by a few individuals with appropriate skills who provide support even though it is not part of their job specification (53% of FE indicated this was the case). On the other hand, 64% of HE institutions reported support was provided by individuals who had the task defined within their job specification (see section 4.5.3. "Institutional support for the use of OSS"[1]).

● The biggest change from 2006 to 2008 is that currently almost no institutions rely on staff's own initiative for support, whether for open or closed software, as displayed in Fig. 10. In HE, support is mostly part of the job description of some staff. In FE, most rely on *some* staff, but there is also a significant number of institutions where *all* staff are in charge of support.

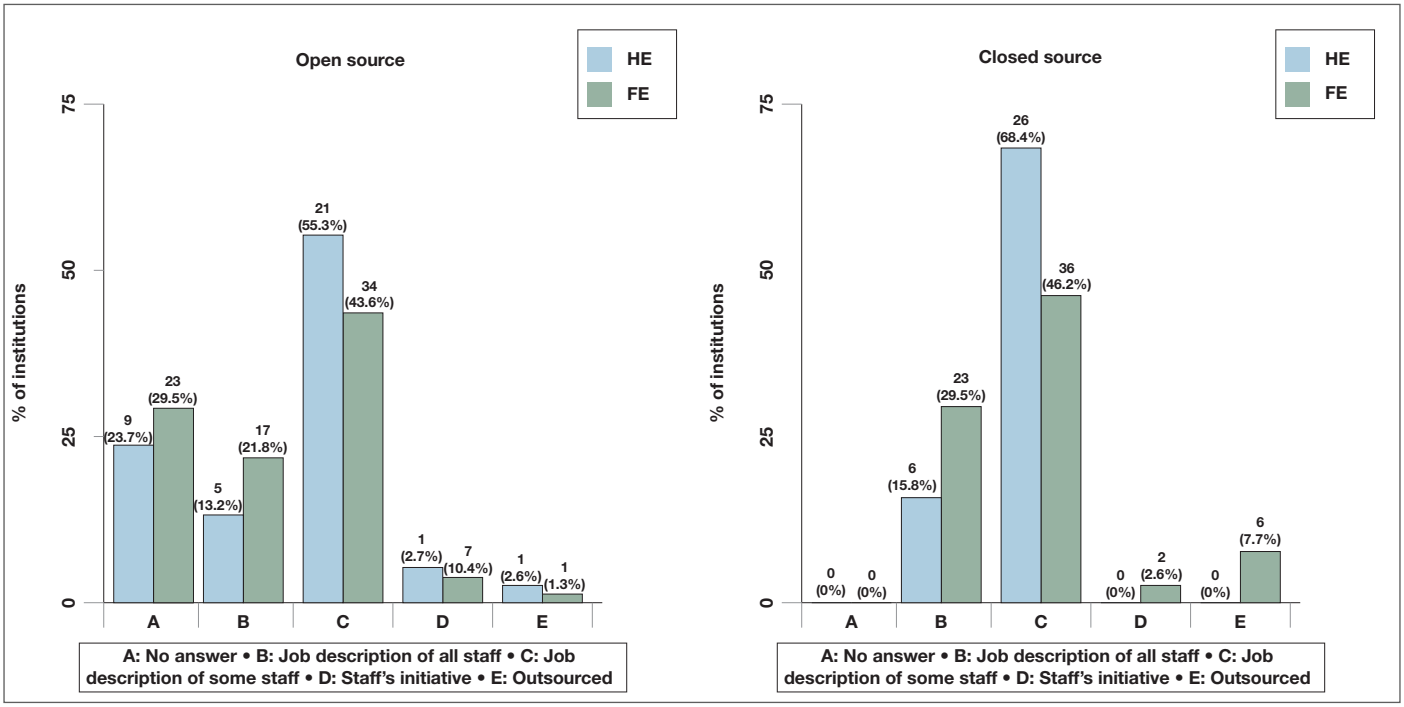

Fig. 10: ● Support for software running on servers [Q11]. "Staff's initiative" corresponds to the answer "It is done by some ICT staff, but it is not part of their job description."

It is also interesting to point out that while all institutions responded about support for closed source, in the case of open source 29.5% of FE and 23.7% of HE did not.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.5_div.3*

Ratio of open and closed source software deployed on servers

The 2006 survey found that under three-quarters of institutions in FE and HE had deployed and would deploy some open source on their servers. But similarly to the question about institutional policy above, the answer did not provide enough granularity. This year we used a five point scale to learn more about the open to closed source ratio, for software running on servers. The answers in 2008 that look back at the past suggest that some in 2006 often meant marginal.

But the situation is changing, and for the past years there has been a noticeable increase in the usage of open source. While institutions would typically use only closed source in the past, currently most of them run some open source on their servers too. In general, the prevalence of closed source is larger in FE than in HE.

Projections for the future suggest that although the status quo will not change drastically, the number of institutions running only closed source will continue to decrease. Furthermore, there is a significant number of institutions that will level off their usage of open source and closed source.

Q12: What is the approximate ratio of open and closed source software deployed on your servers?

- The 2006 survey found that in 66% of FE and 74% of HE "the institution has deployed and will deploy some OSS on its servers". It also found that 35% in FE and 43% in HE of those who had used only closed source software in the past would use open source too in the future (see 2006 survey, section 4.5. "Deployment of software on servers", Table 9[1]).

This year, we tried to make the question more granular by using a scale of five choices for the ratio between open and closed source. The results are displayed in Fig. 11.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.5*

Ratio of open and closed source software deployed on servers (continued)

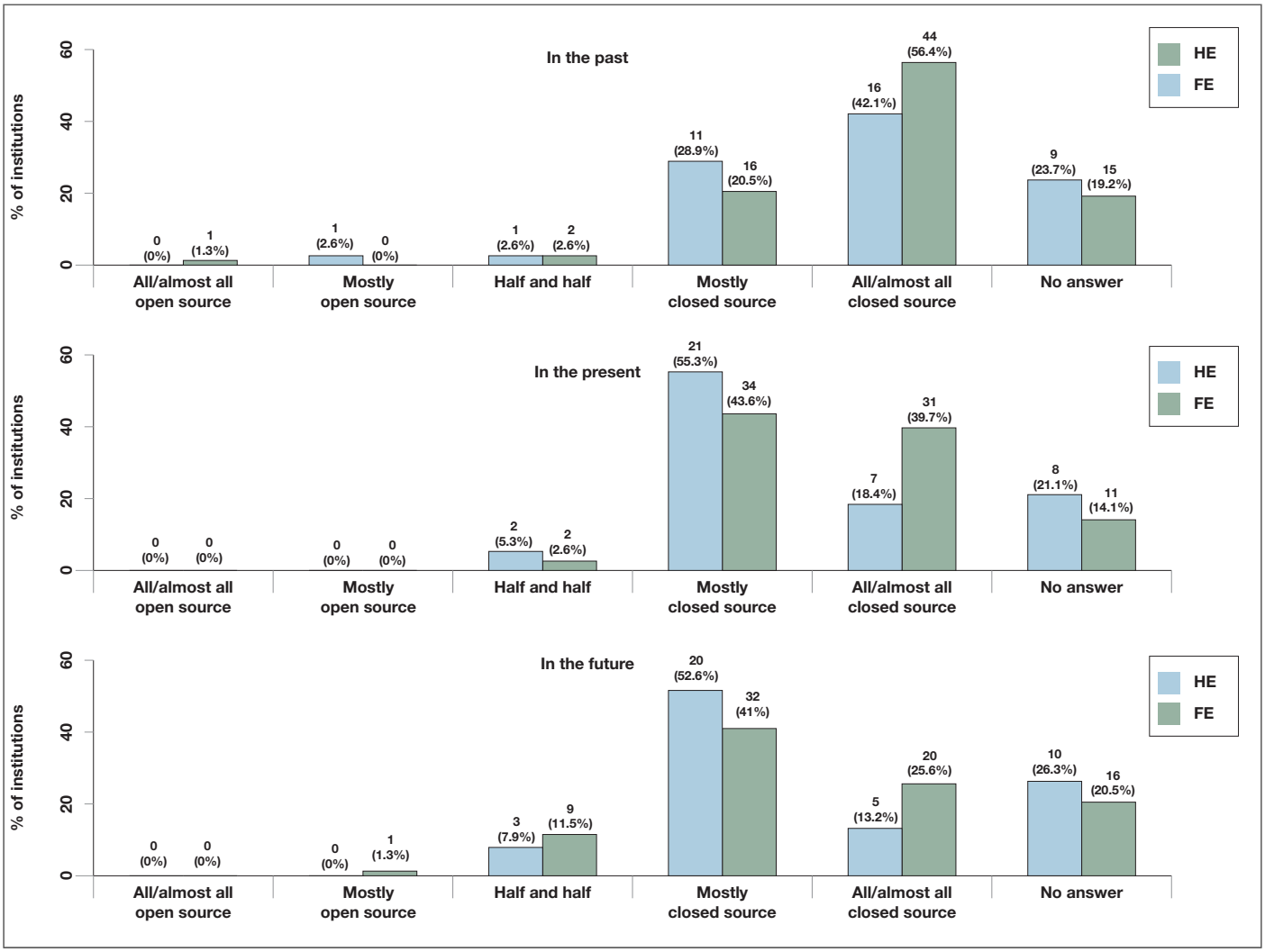

Fig. 11: ● Open source/closed source software ratio on servers

The answers in 2008 that look back at the past suggest that of the roughly 70% of institutions that had deployed *some* open source on their server in 2006, 50% corresponds to marginal deployment in almost completely closed source systems.

In the past, present and future FE institutions show a consistently higher use of closed source than HE. Fig. 11 also suggests that there has been a shift in the order of 20% of FE and HE institutions from using “all/almost all closed source” to “mostly closed source”. The trend for the future continues along the same lines, with an interesting development: The use of “all/almost all closed source” in FE will decrease by approximately 15%, and increase by 9% in “half and half” and less than 3% in “Mostly closed source”.

These figures should be put into context, though. Closed source is still the predominant option, and the number of respondents is relatively low, so caution is required when making predictions.

Server operating systems

The 2008 survey results suggest that Microsoft Windows maintains its ubiquity on FE and HE servers, with a substantial number of institutions running versions that pre-date Windows Server 2003, even though official vendor support has ceased (mainstream support for Windows 2000 Server ended in 2005). Moreover, only a very small percentage have upgraded to Windows Server 2007, the latest version at the time of the survey.

Linux runs on about half of FE and three-quarters of HE institutions, suggesting a substantial increase in HE adoption and a small reduction in FE compared to 2006.

Apple Mac usage increased slightly on FE servers, and roughly doubled on HE servers. Novell NetWare is restricted to around a fifth of FE servers, and Sun Solaris can be found in two-thirds of HE institutions.

To sum up, the results above indicate that while the server operating system is dominated by closed source solutions (Windows, Mac, NetWare and Solaris), the second most popular system – Linux – is open source.

A limitation of our study is that while usage of different operating systems is reported, we are lacking information about how they are used or what for. Or in the case of institutions with different systems, in what proportion they are deployed. Furthermore, we have not considered virtualisation, i.e. operating systems running on top of other operating systems, sometimes several of them on the same physical machine.

Considering that operating systems are critical components of IT infrastructure, it is quite likely that ICT directors are aware of what is running on their servers. However, the caveat from the previous section still applies, especially considering that more than 10% of institutions responding to the survey did not provide an answer to this question.

Q13: Which of the following operating systems are used on your institution's servers?

◗ The 2006 survey found that the most widely used operating systems on servers were Windows Server 2003 (94% in FE, 74% in HE) and Linux (54% in FE, 60% in HE). Solaris was used by 49% of HE, but only 8% of FE. Other systems reported were Mac OS X and Windows NT or earlier, with use equal to or more than 20% (see 2006 survey, section 4.5.1. "Use of OSS for specific applications on servers", Table 13[1]).

This year we provided a more detailed and extensive list of operating systems. The results are displayed in Fig. 12.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.5_div.1*

Server operating systems (continued)

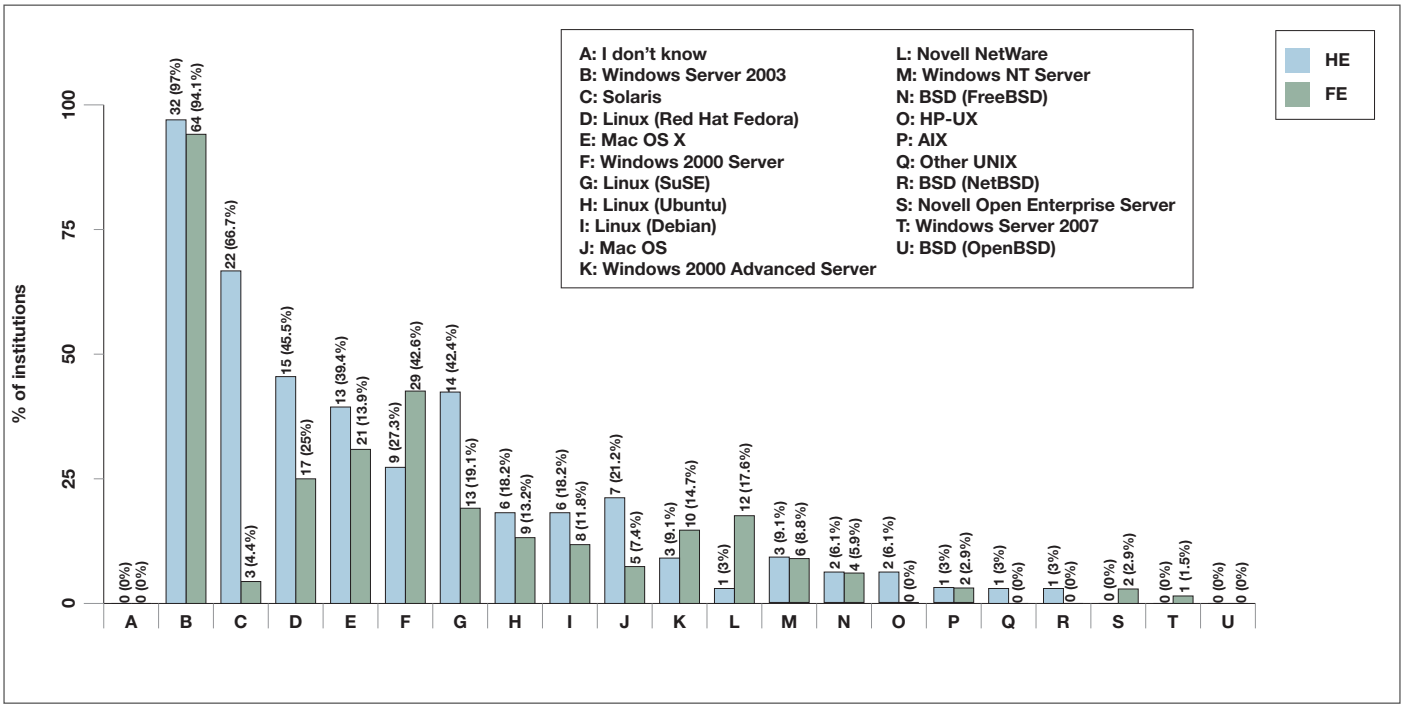

Fig. 12: ◗ Operating systems on servers

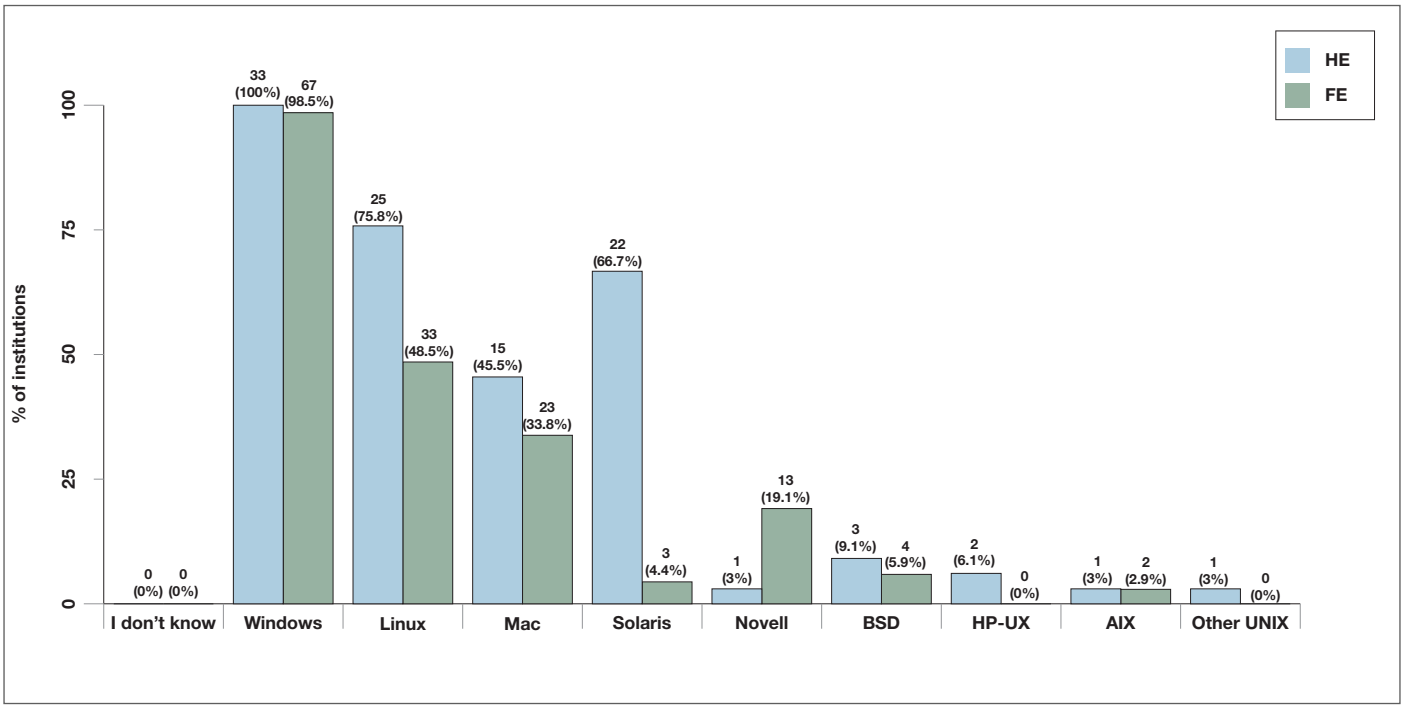

Fig. 13: ◗ Operating systems on servers (by brand)

Server operating systems (continued)

- The results in Fig. 12 & 13 suggest that in these two years Windows maintains its ubiquity on FE and HE servers, with a substantial number of institutions running versions that pre-date Windows Server 2003, and almost none has upgraded to the latest version at the time of the survey (Windows Server 2007 refers to the beta and release candidates for what was recently released as Windows Server 2008).

In 2006 the results for Linux were 54% in FE and 60% in HE. This year Linux runs on 48.5% of FE and 75.8% of HE servers, which suggests a small reduction in FE and a substantial increase in HE. The results for Mac in 2006 were 34% in FE and 32% in HE. This year, Mac runs on 33.8% of FE and 45.5% of HE servers, which suggests a substantial increase in HE. Novell NetWare is basically restricted to approximately 19.1% of FE, and Solaris has a large share of HE servers (66.7%).

It should be noted, though, that Novell NetWare was absent from Table 13 in the 2006 survey. We propagated that omission this year by not including it as a choice in the answer to Q13. Several respondents pointed this out, and typed Novell NetWare in the "Other" field. Even so, it is possible that our omission biased the replies to Q13, and that Novell NetWare has a larger presence in servers than reported by Fig. 12 & 13.

Mail servers

A substantial portion of the online questionnaire both in 2006 and this year was devoted to asking for specific software systems. This is a controversial design decision, as surveys are usually understood to be good tools for finding opinions and intentions but not technical details. In particular, not all ICT directors are aware of every software system running in their institutions, as dealing with them is usually delegated to technicians.

The key reason for using an online survey is that it represents one of the few available options, given our resources. Proper studies would require sending surveyors to many institutions, meeting with ICT staff members and possibly getting access to their systems.

Looking for alternatives, in 2007 OSS Watch conducted the "Automatic survey of inbound mail (MX) servers in academic domains in the UK"[1]. For this study, we collected information from the inbound mail servers of all FE and HE institutions in the UK.

The 2007 study found that the open source system Exim leads in HE, while the closed source system Microsoft Exchange leads in FE. Other systems with significant use are Postfix (open source) and Sendmail (non-open source†).

The 2008 survey, on the other hand, showed Microsoft Exchange to be in use in three-quarters of FE and HE institutions, followed by Novell GroupWise and Exim.

The 2007 study collected much more data, and it should in principle be more reliable. However, the discrepancy between the 2007 and 2008 studies is too significant to be ignored.

Thus, the results of Q14 reflect the doubts expressed earlier about online surveys being appropriate tools for obtaining technical details, and the need to conduct further studies to better assess the actual spread of open and closed source software in FE and HE institutions.

Notes

† Although Sendmail is distributed under a licence that some people recognise as open source, it is not in the list of approved OSI licences. The OSS Watch position on this is that unless software is released under an OSI approved licence, it is not open source. Thus, Sendmail should have not been counted as open source software in the "Automatic survey of inbound mail (MX) servers in academic domains in the UK".

Links

1: *http://www.oss-watch.ac.uk/studies/mta-survey.xml*
2: *http://www.opensource.org/licenses*

Mail servers (continued)

Q14: Which of the following mail servers are used at your institution?

◗ The 2007 automatic study was able to identify the running system in 41.8% of FE and 50.7% of HE institutions. The study found that the open source system Exim led in HE usage, with 65.2% of institutions, while it was used in only 18.5% of FE. The closed source Microsoft Exchange was the other way around: leading in FE with 51.6%, and second in HE with 10.1%. In addition, the open source Postfix was found in 14.8% of FE and 5.8% of HE, and the non-open source Sendmail in 7.4% of FE and 11.6% of HE.

◗ Q14 in this year's survey was intended to be an anchor question, to compare responses provided by ICT directors to those obtained by the 2007 study. The results are displayed in Fig. 14.

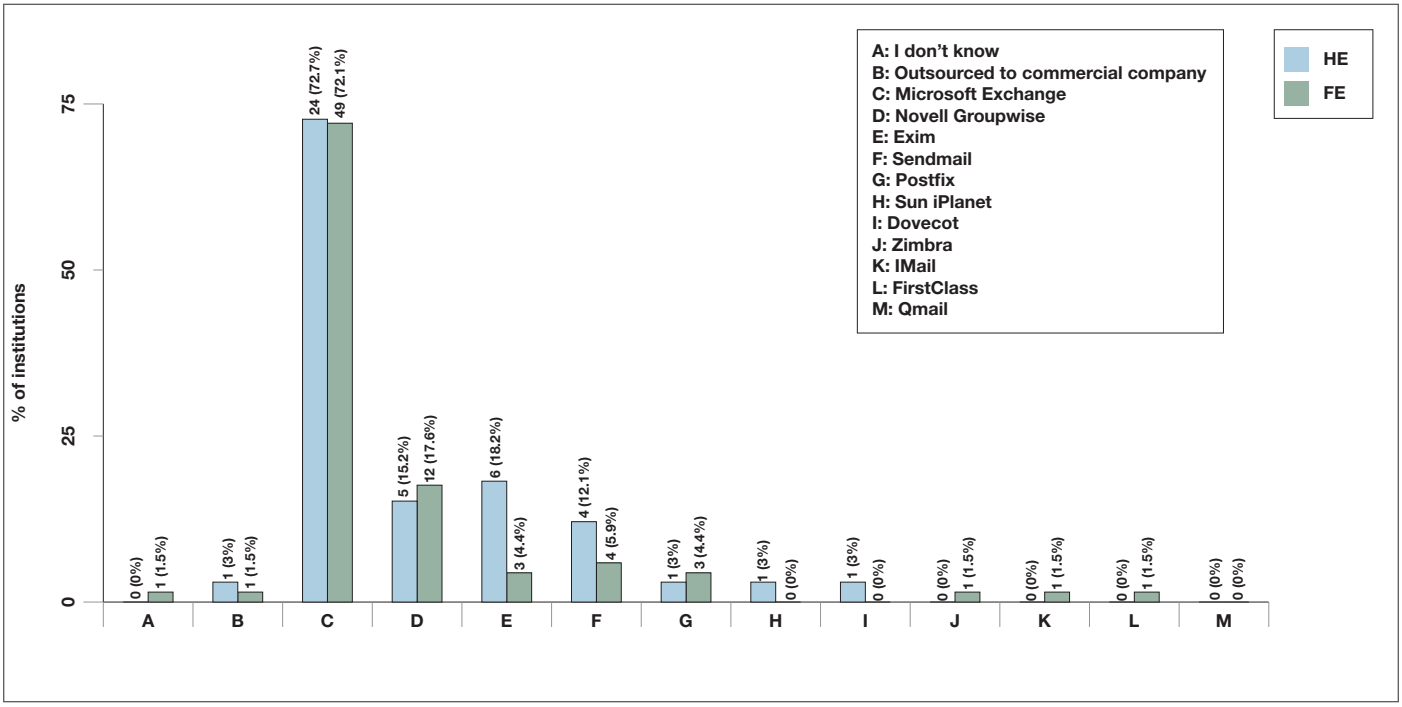

Fig. 14: ◗ Mail servers

◗ Microsoft Exchange leads clearly in the figure above, in 72.1% of FE and 72.7% of HE institutions. Novell GroupWise is the runner up, with 17.6% of FE and 15.2% of HE institutions. Exim is third, with 4.4% in FE and 18.2% in HE.

Results between the 2007 study and the 2008 survey are not directly comparable, as the former dealt only with front-end inbound servers, while the latter includes internal and outbound servers too, but we would expect both to show similar trends.

A possible explanation for the large number of Microsoft Exchange servers could be that Exchange servers often run behind another server acting as a front-end, like Exim. It is also possible to configure mail servers to provide misleading information, and we know that some institutions do, but we would expect the number of institutions following that practice to be low.

Another explanation is that Q14 was not clear enough in making the distinction between mail servers (the system that processes incoming and outbound emails within and between institutions), and email clients (the programs used to read and send emails).

Servers: Webmail, databases, VLEs, CMSs and Directory Service systems

This section presents a similar type of question to the previous one, applied to servers and software other than operating systems running on them. Results from the 2006 survey (see section 4.5.1. "Use of OSS for specific applications on servers", Table 13-14[1]) are provided but note that percentages in this section refer to the number of institutions that responded to each question, and thus cannot be directly compared to the 2006 survey (this included "no response" too).

Questions were presented as a multi-choice list of software systems, plus an "Other" option with a text field that could be used by respondents to contribute new system names. The results in this section (and the rest of this report when pertinent) combine the multi-choice list provided by us with the responses in the "Other" field provided by the survey respondents.

In 2006, two closed source webmail servers were dominant: Microsoft Outlook Web Access and Novell eDirectory. An open source product, IMP/Horde, had significant use in HE institutions, too. In 2008, Web Access has increased its usage to 6 in 10 institutions. The runner-up, Novell NetMail WebMail, is also closed source, while the most popular open source solution is SquirrelMail.

The database server stage seems to have remained largely constant between 2006 and 2008, with products in this segment basically restricted to the closed source Microsoft SQL Server, the open source MySQL and the closed source Oracle.

The 2006 survey found three VLEs in use: The open source Moodle was found in 6 out of 10 FE and a few HE institutions. The closed source Blackboard ran in a fifth of institutions, and another closed source solution – WebCT – had a similar percentage, but only in HE. In 2008, Moodle has grown significantly in HE, overtaking WebCT and it is catching up with Blackboard (it should be noted that Blackboard now owns WebCT, though). The fact that Moodle has spread from FE to HE is interesting, as it is usually assumed that HE institutions have the initiative with IT innovation and open source. But in the VLE domain it appears that FE institutions started to become involved, especially with Moodle, and now HE is following suit. Moodle is arguably a good example that given a clean slate, open source can be as successful, if not more so, than closed source.

Usage of CMSs in the 2006 survey was very fragmented, a trend that continues in 2008. Furthermore, around two-thirds of FE and a third of HE institutions responded that they do not use any CMSs currently.

In 2006, Directory Service systems were essentially limited to closed source software:Microsoft Active Directory and Novell eDirectory. In 2008, Active Directory retains a strong lead, with nearly 9 out of 10 institutions using it. Novell eDirectory has lost ground in FE, and the open source solution OpenLDAP has gained a significant share of nearly 1 in 10 in FE and twice as many in HE.

Q15: Which of the following webmail systems are used in your institution?

Q16: Which of the following database servers are used in your institution?

Q17: Which of the following Virtual Learning Environments (VLEs) are used in your institution?

Q18: Which of the following Content Management Systems (CMSs) are used in your institution?

Q19: Which of the following Directory Service systems are used in your institution?

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.5_div.1*

Servers: Webmail, databases, VLEs, CMSs and Directory Service systems (continued)

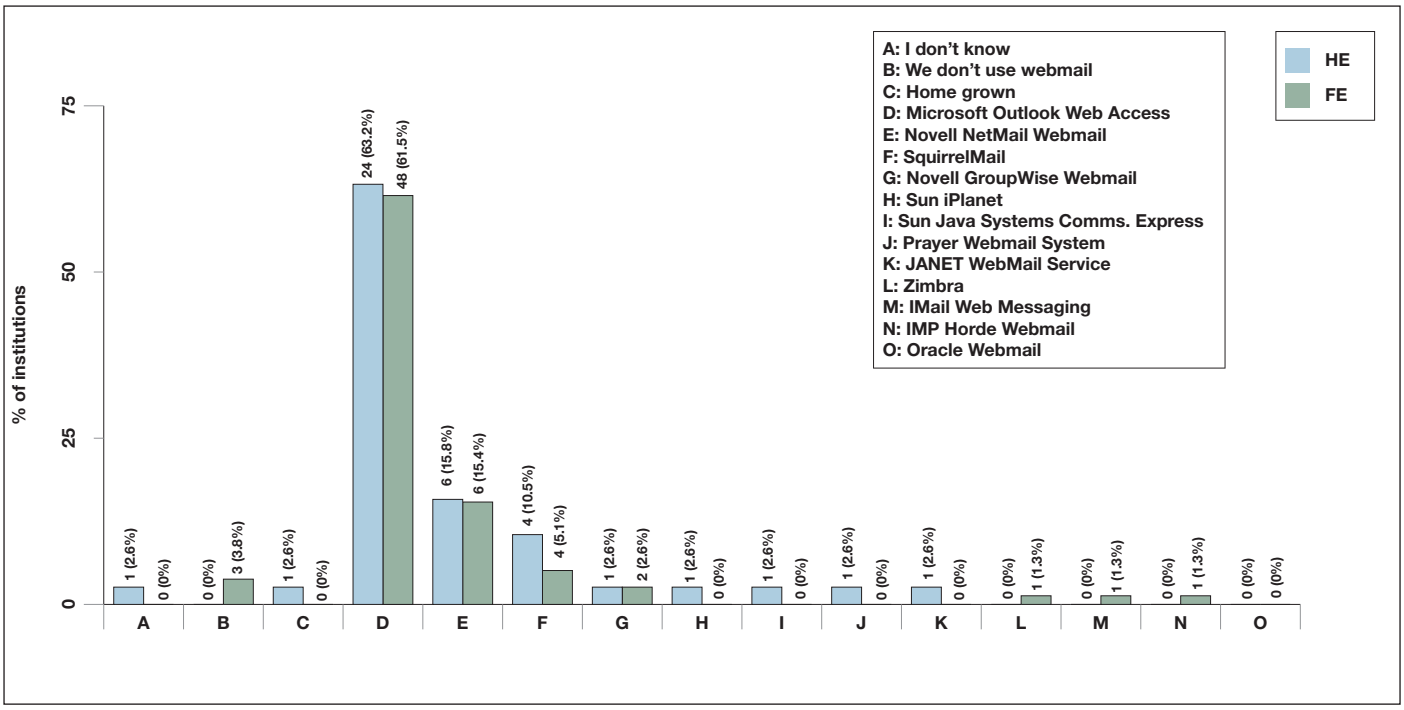

Fig. 15: ◗ Webmail servers

● In 2006, two closed source webmail servers were dominant: Microsoft Outlook Web Access (40% in FE, 31% in HE) and Novell eDirectory (12% in FE, 17% in HE). An open source product, IMP/Horde, was used by 11% of HE institutions.

◗ Fig. 15 shows that this year, more than 60% of institutions use Microsoft Outlook Web Access, followed by about 15.5% that use Novell NetMail WebMail, both closed source solutions. SquirrelMail is the most popular open source solution, with 5.1% in FE and 10.5% in HE.

Servers: Webmail, databases, VLEs, CMSs and Directory Service systems (continued)

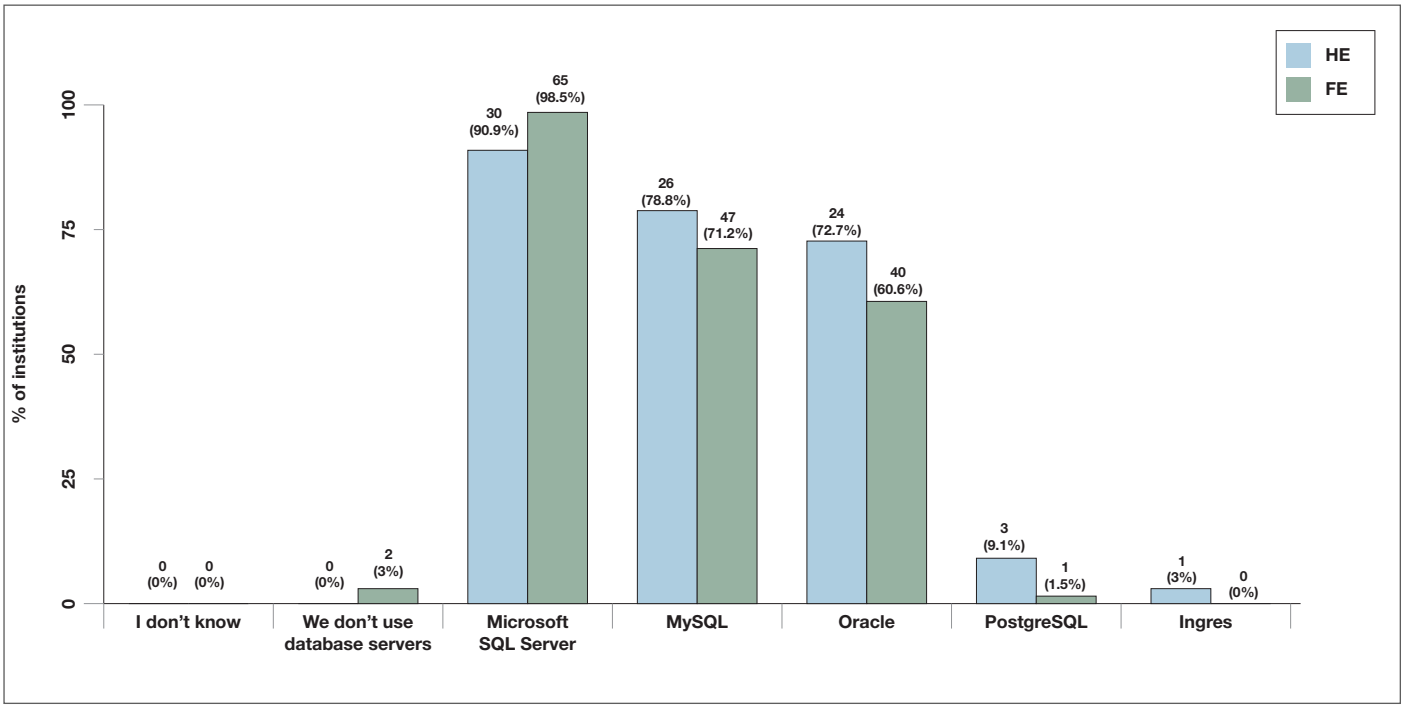

Fig. 16: ◗ Database servers

● The 2006 survey found that the usage of database servers was basically restricted to the closed source Microsoft SQL Server (87% in FE, 66% in HE), the open source MySQL (67% in FE, 49% in HE) and the closed source Oracle (52% in FE, 46% in HE).

◗ While the results for this year's survey, displayed in Fig. 16, cannot be directly compared to the 2006 ones, usage ratios between products have remained constant. The percentages in 2008, computed with respect to institutions that responded to Q16, are: Microsoft SQL Server (98.5% in FE, 90.9% in HE), MySQL (71.2% in FE, 78.8% in HE), and Oracle (60.6% in FE, 72.7% in HE)

Servers: Webmail, databases, VLEs, CMSs and Directory Service systems (continued)

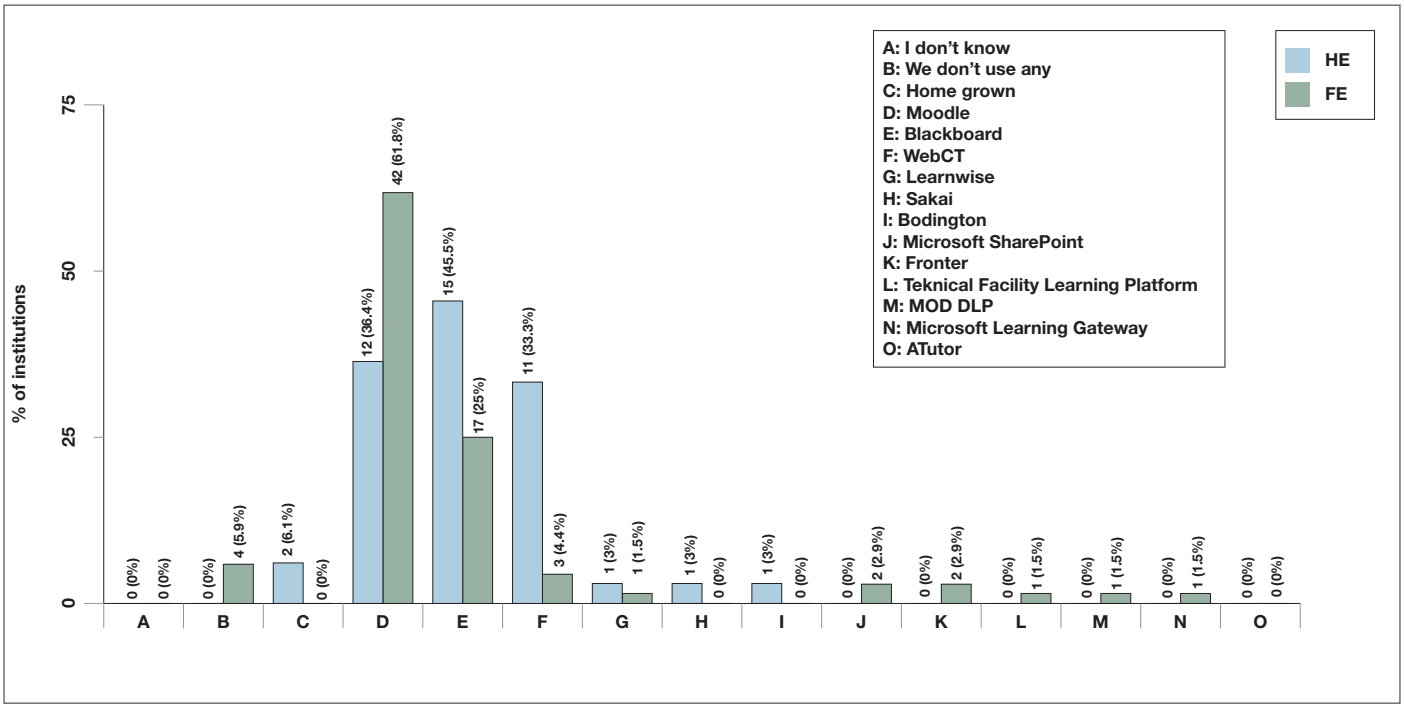

Fig. 17: ◗ Virtual Learning Environments (VLEs)

● The 2006 survey found three VLEs in use: The open source Moodle (56% in FE, 9% in HE), and the closed source Blackboard (21% in FE, 17% in HE) and WebCT (3% in FE, 20% in HE).

◗ Fig. 17 displays the results for this year. While the ratio FE/HE for Moodle in 2006 was 56%/9% = 6.2, in 2008 it is only 61.8%/36.4% = 1.7. We think that the reason for this change is that Moodle has spread in HE faster than it has in FE during the last 2 years.

Another interesting fact is that the ratio Moodle/Blackboard in HE is larger in 2008 (0.8) than in 2006 (0.5). For FE the ratio has decreased a little (from 2.7 to 2.5). But it is also worth noting that since Blackboard now owns WebCT it may be considered to have the market share of WebCT too (33.3% in HE).

Servers: Webmail, databases, VLEs, CMSs and Directory Service systems (continued)

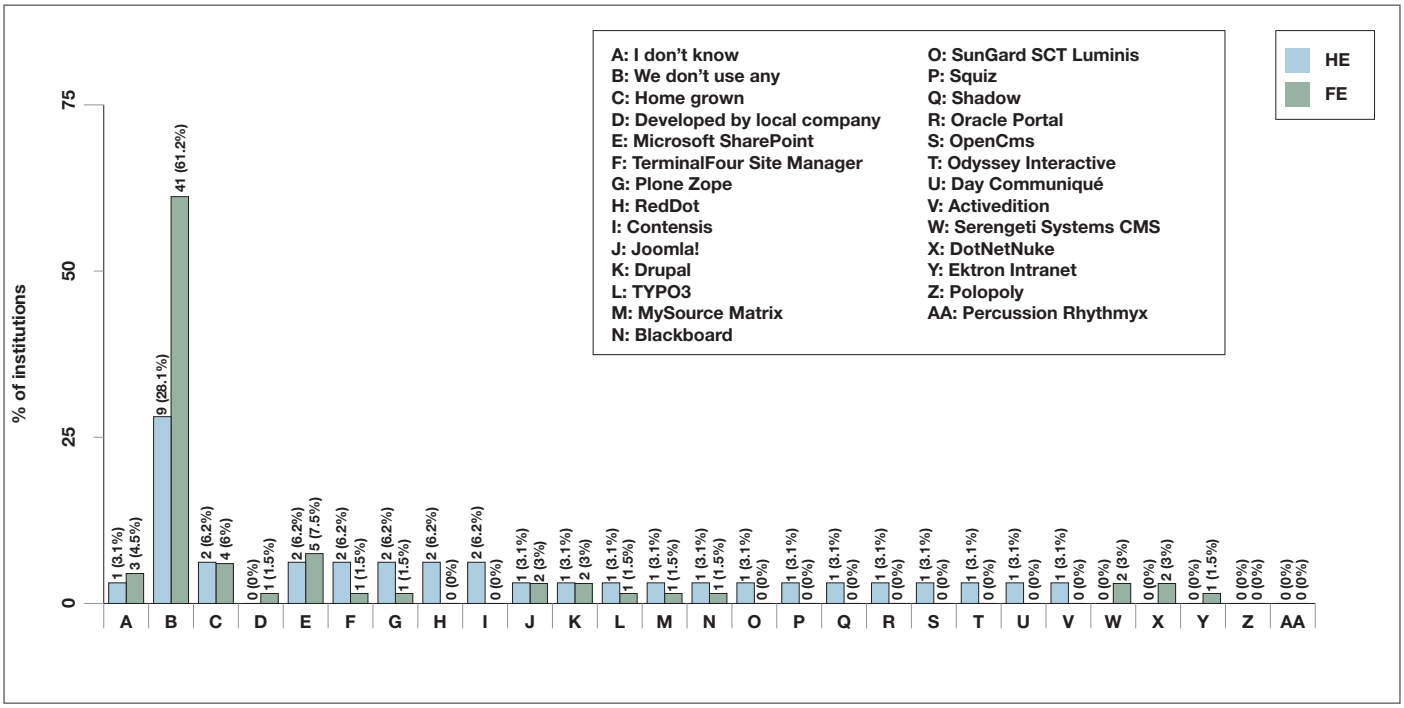

Fig. 18: ◗ Database servers

● Usage of CMSs in the 2006 survey was very fragmented. ◗ The same trend continues in 2008, as displayed in Fig. 18. Furthermore, over 60% of FE and 28% of HE institutions responded that they do not use any CMSs currently.

Servers: Webmail, databases, VLEs, CMSs and Directory Service systems (continued)

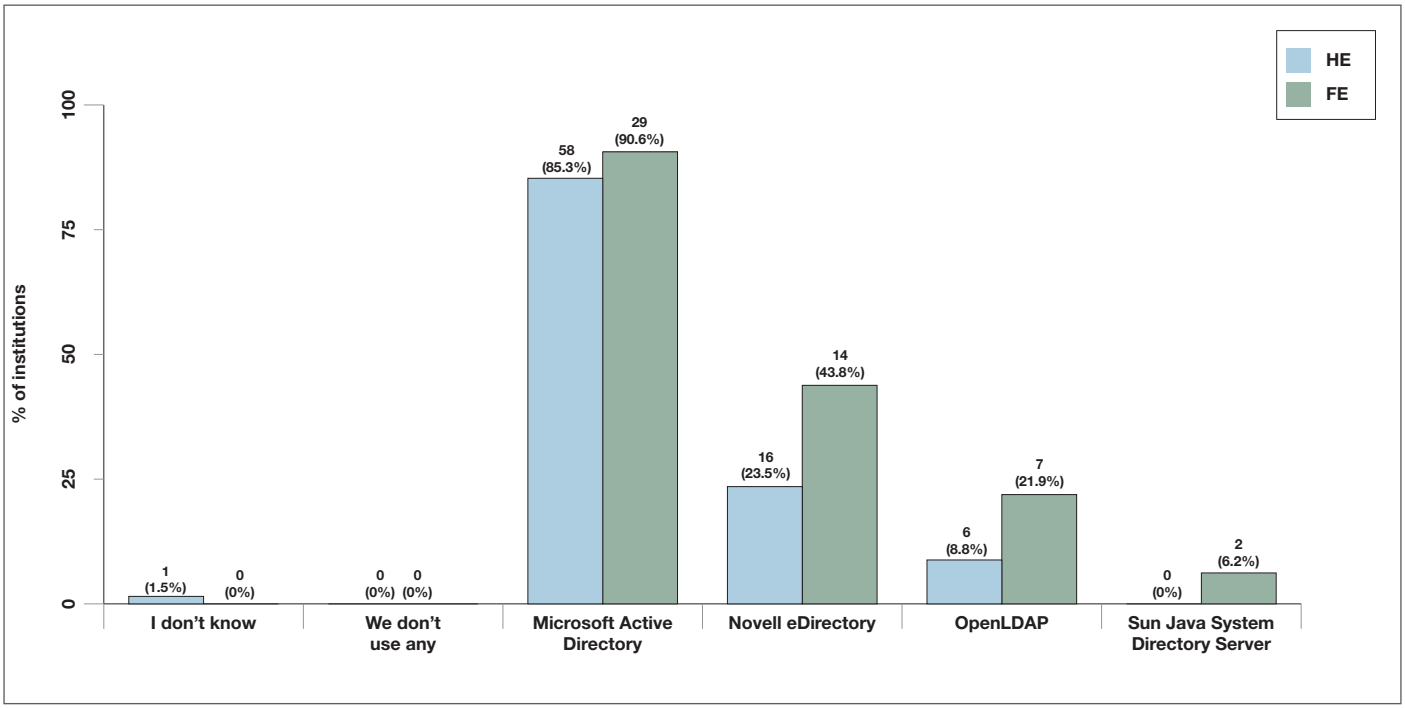

Fig. 19: ◗ Directory Service systems

● In 2006, Directory Service systems were essentially limited to closed source software: Microsoft Active Directory (41% in FE, 47% in HE) and Novell eDirectory (24% in FE, 60% in HE).

◗ The results for this year are displayed in Fig. 19. Usage of Directory Service systems is strongly led by Microsoft Active Directory, with over 85% in FE and HE. Novell eDirectory has lost ground in HE, down to 23.5%. The open source solution OpenLDAP has a significant share of 8.8% in HE and 21.9% in FE.

Servers: Other software systems

Q20 was formulated as a series of free text fields for software categories where the response rate was predicted to be very low: Calendar/diary server, wiki, blog, project-management, social networking, groupware/collaborative software and digital repositories.

It should be noted that the functionality attributed to some systems entered by survey respondents is controversial, but it is still interesting knowing the perception that some ICT directors have of them. For example, Microsoft SharePoint is not a VLE, wiki or blog system, but it appeared in some responses as such.

Calendar/diary servers have been essentially limited to two closed source products from 2006 to 2008, Microsoft Exchange/Outlook followed by Novell GroupWise.

Project-management servers are a new category in the 2008 survey. While the response rates are low, the results strongly suggest that most institutions interested in those systems choose the closed source product Microsoft Project.

Questions about other software systems – wikis, blogs, social networking, groupware and digital repositories – received very low response rates. To avoid cluttering the report unnecessarily, the corresponding results have been moved to Appendix A: "Figures of software systems with very low response rates".

Q20: Which software, if any, does your institution use in the following areas?

Questions in the previous section were formulated with a list of multi-choice items that could be ticked, and an "Other" text field where respondents could add missing items. Q20, on the other hand, was formulated as a series of free text fields. Response rates were in general low, so we have put them in this separate section, and computed percentages from all submitted surveys, instead of responses to each field in Q20.

As before, results from the 2006 survey are provided when possible (see section 4.5.1. "Use of OSS for specific applications on servers", Table 13-14[1]).

Direct comparisons between the 2006 and 2008 surveys are not encouraged. While percentages are computed from all submitted surveys in both cases, changes can be caused by different levels of "no response" rather than different levels of usage.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.5_div.1*

Servers: Other software systems (continued)

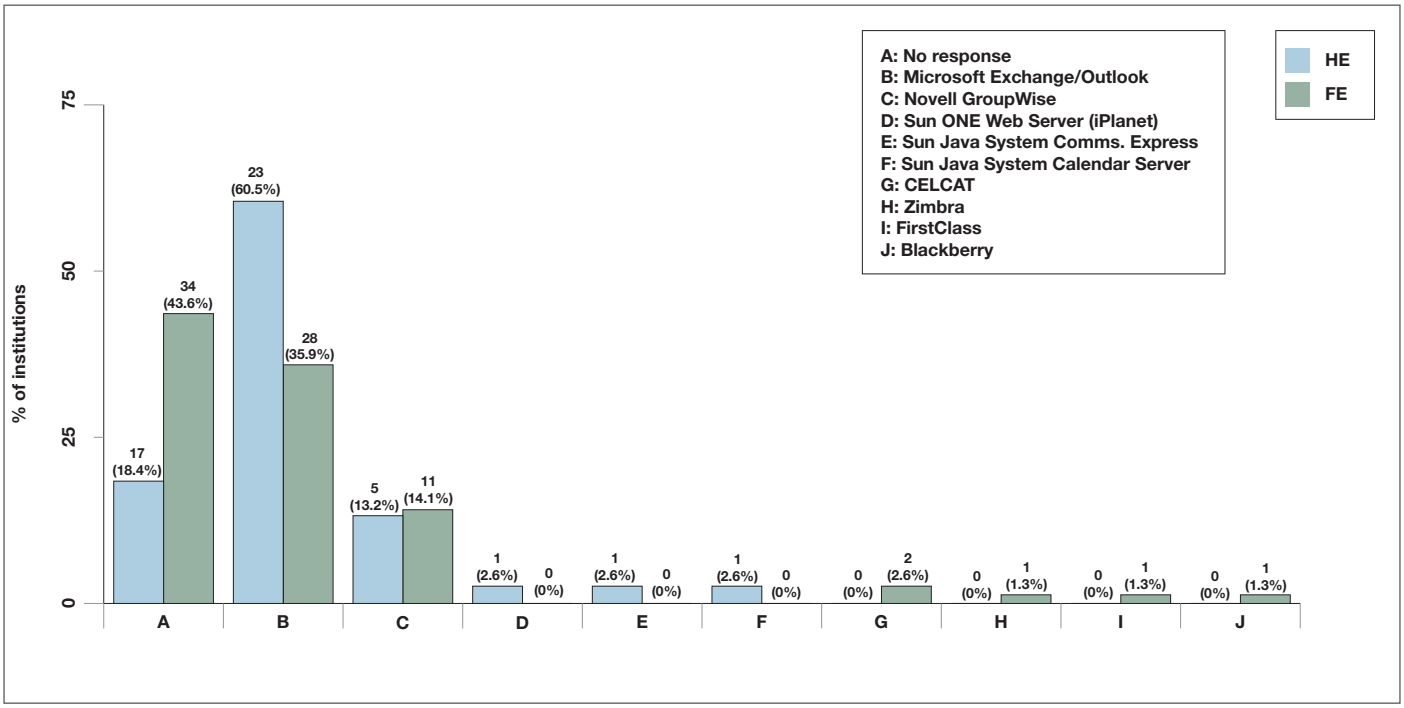

Fig. 20: ● Calendar/diary servers

● Usage of calendar/diary servers in 2006 was essentially limited to 3 closed source solutions: Microsoft Exchange/Outlook (43% in FE, 37% in HE), Novell GroupWise (12% in FE, 9% in HE), and Oracle (0% in FE, 6% in HE).

● Fig. 20 shows the results for this year: Microsoft Exchange/Outlook (35.9% in FE, 60.5% in HE) and Novell GroupWise (14.1% in FE, 13.2% in HE). Oracle has disappeared.

It should be pointed out, though, that around 40% in FE and 20% in HE did not respond to this question, so results should be interpreted conservatively, especially for FE.

Servers: Other software systems (continued)

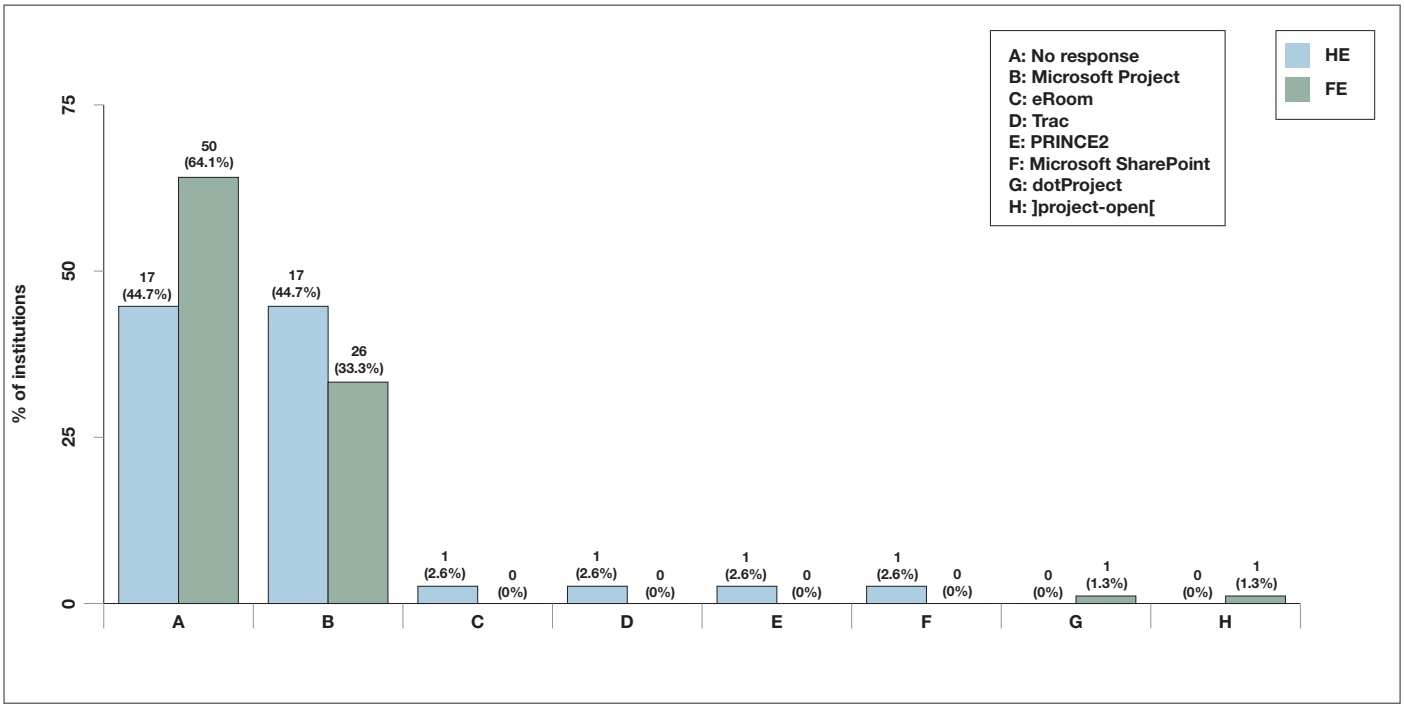

Fig. 21: ● Project-management servers

● Project-management servers are a new category this year. The results are displayed in Fig. 21. While the response rates are low, Microsoft Project seems to be chosen by most institutions that replied.

Criteria when procuring software for servers

In FE institutions, the top priorities when procuring software for servers are performance and interoperability with other products. Our experience with some institutions suggests that interoperability is sometimes understood as buying all software from a single vendor (e.g. Microsoft). However, true interoperability arguably has more to do with open standards and open APIs.

The priorities in HE are somewhat different, with three of them being almost equally important: meeting user expectations, staff preferences and software performance.

For both FE and HE, Total Cost of Ownership (TCO) comes behind the above factors. "Ideological reasons" is not an important criterion at all.

A surprising result is that HE institutions do not consider the likelihood of getting "locked in" as a priority. Considering the relatively high ranking of "interoperability with other products", this adds weight to our previous observation that interoperability can sometimes be interpreted as buying from a single vendor.

Q21: Rank the top 5 criteria that your institution considers important when procuring software for your servers, from most to least important.

Given a ranking scale from 5 for most important to 1 for least important, Fig. 23 displays the mean value for each criterion.

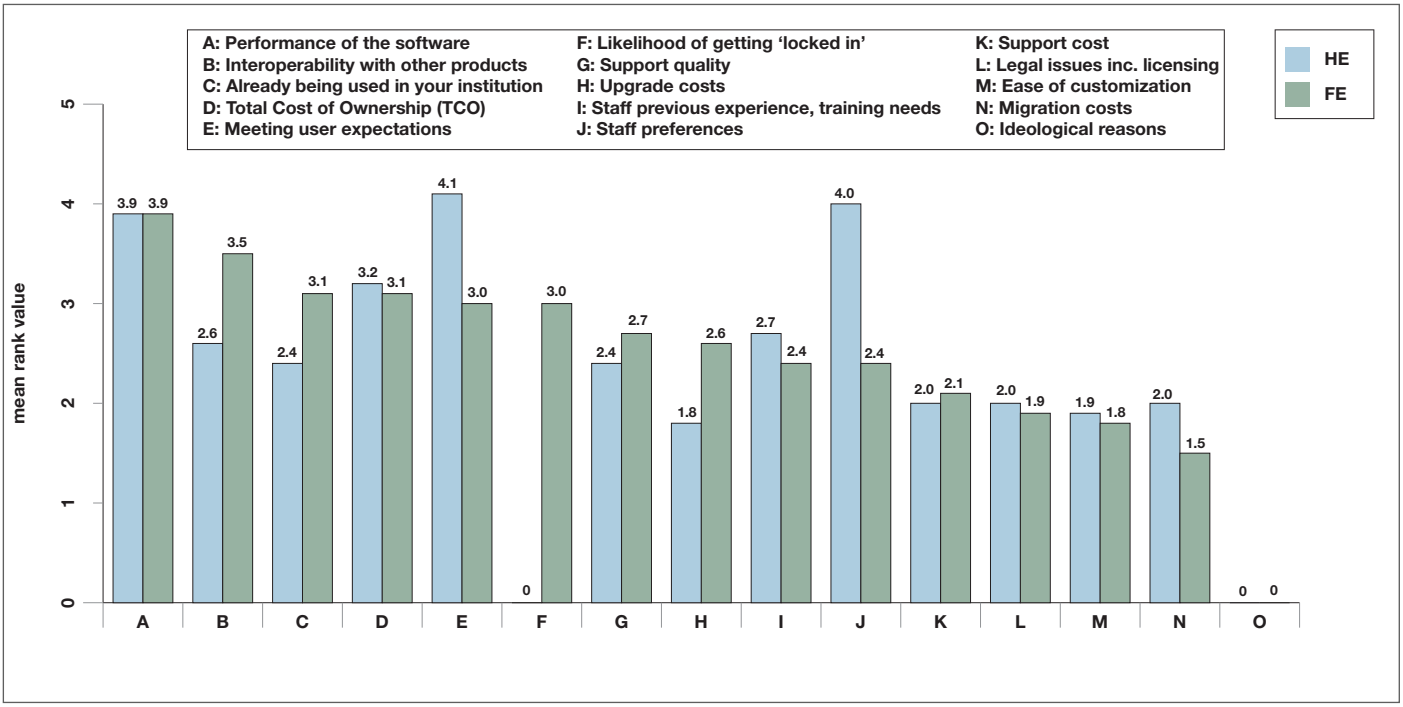

Fig. 22: Software systems being considered for procurement/replacement on servers

In FE institutions, the top priorities when procuring software for servers are performance (3.9) and interoperability with other products (3.5). In HE institutions, on the other hand, the top priorities are meeting user expectations (4.1), staff preferences (4.0) and software performance (3.9).

Total Cost of Ownership (TCO) follows the above factors, with a similar ranking in FE and HE (3.1 and 3.2, respectively).

Ideological reasons are not important at all (0.0) in either FE or HE. In addition, HE institutions do not consider the likelihood of getting "locked in" as a priority (0.0).

Software considered for procurement/replacement on servers

While the previous two sections attempted to provide information about software currently running on FE and HE servers, this section aims to pinpoint areas of interest in the near and middle future.

From the results in this and previous sections, four scenarios emerge. First, operating systems and databases are widely used and under scrutiny for updates and procurement. Closed source systems are more popular, but open source systems have very significant use too, which is growing.

Second, webmail is also widely used, and some institutions consider it for procurement. Two closed source systems dominate the market and there is also an open source alternative used by a small but significant number of institutions. This is a scenario in which the closed source solutions appear to be satisfactory.

Third, CMSs, digital repositories and, to a lesser degree, blogs and wikis, have minority use but at the same time they generate considerable interest in procurement. This suggests a young market that can be expected to grow.

Finally, other systems, like Project-management servers, are not in wide use, and do not seem to attract much interest from institutions either.

Software considered for procurement/replacement on servers (continued)

Q22: Which new server software systems are currently being considered for procurement at your institution? Please also include old systems being considered for replacement.

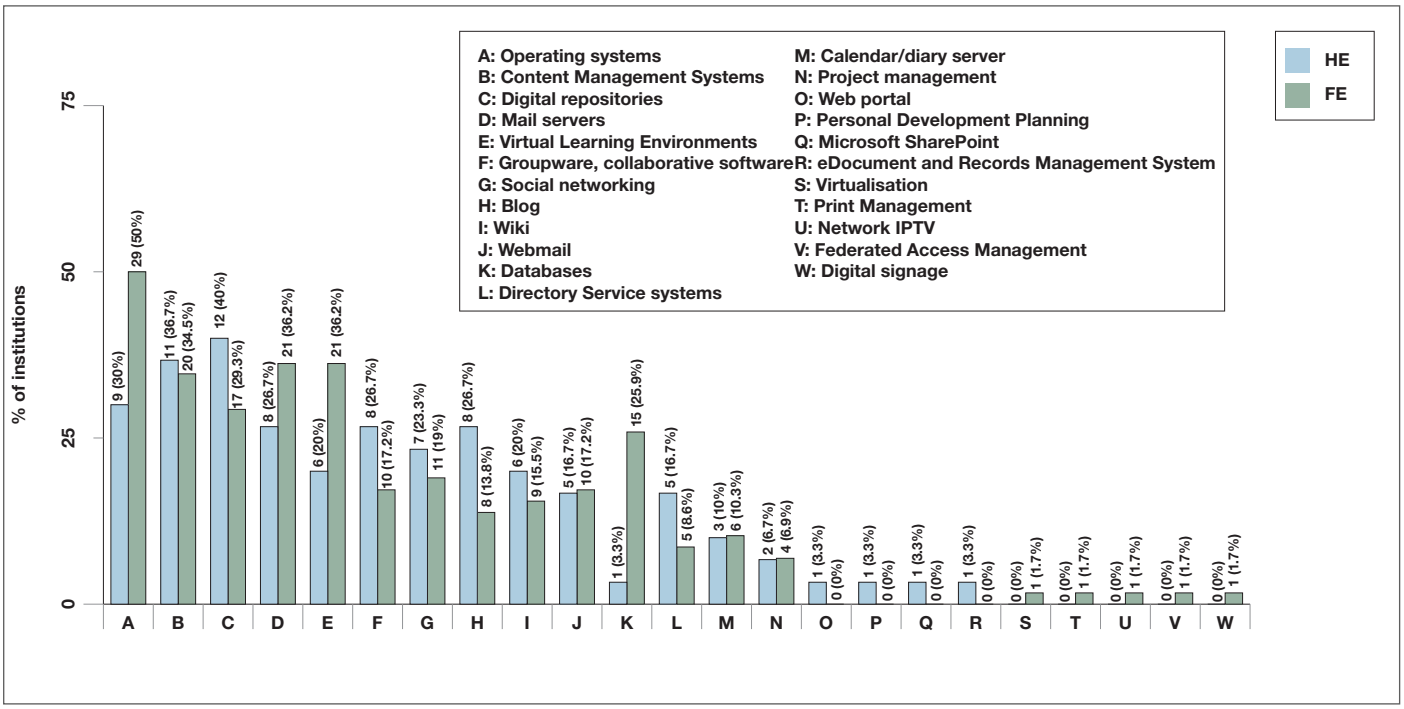

Fig. 23: ◗ Software systems being considered for procurement/replacement on servers

◗ Operating systems are being considered for procurement/replacement by 50% in FE and 30% in HE, as shown in Fig. 22. As server operating systems are critical to the IT infrastructure, it is natural that they are under constant review. On the one hand, many FE and HE institutions may be considering whether to upgrade to the new Windows Server 2008. On the other hand, many HE institutions may be considering using Linux. This idea is supported by the large increase in the usage of Linux in HE servers from 2006 to 2008 that was found in section 5.4.

The fact that between 30% and 40% of institutions are considering procurement of CMSs and digital repositories is very exciting, because, as we saw above, not many institutions have them, and there is no dominant system for those who do. It could be beneficial for FE and HE to develop a community where issues of common interest could be discussed.

In FE, 25.9% institutions show an interest in database servers. We saw above that this is a field with significant use of both open and closed source systems, and it would be informative for us to learn from those institutions about the reasons behind their choices. In FE, 17.2% institutions and 16.7% in HE are considering webmail for procurement.

Blogs and wikis are systems used by very few institutions, but 20% or more of HE institutions are considering them for procurement. A follow up study could show what those systems will be used for, as well as which particular systems will be used.

Other systems, like Project-management servers, are not in wide use, and do not seem to attract much interest from institutions either.

Reasons to decide against using open source on servers

While the previous section tried to ascertain the criteria for choosing a certain system for a server, this one studies the reasons that are most likely to cause an open source product to be rejected.

As in 2006, the most likely reason for both FE and HE institutions to decide against using open source on servers is "lack of staff expertise, training needs". This is a serious issue, because it implies that there is a lack of trained professionals who are open source-savvy in the UK. We will elaborate on this problem below, in the section "Comments by survey respondents".

The second reason for FE is lack of support. We believe that this is in fact a common misconception, as the commercial exploitation of open source software is often built around the idea of charging a fee for a service, typically including support, rather than for a traditional commercial licence.

The third reason, poor quality software, raises interesting questions about what software FE institutions are considering. The Internet is largely built on open source software, and large corporations like Google use open source extensively. Some open source web servers, database servers or network tools, for example, are considered state-of-the-art and arguably outperform closed source alternatives.

In HE, lack of staff expertise is followed by a cornucopia of almost equally likely secondary causes to decide against open source: time costs of identifying relevant software, not what users want, interoperability and migration problems, poor quality software, lack of support and no open source solution for their needs. In fact, there are so many reasons that it is not clear how to outline a strategy to tackle them.

Reasons to decide against using open source on servers (continued)

Q23: If your institution decides against using an open source software system on its servers, what are the top 5 most likely reasons? Please rank the following reasons from most to least likely.

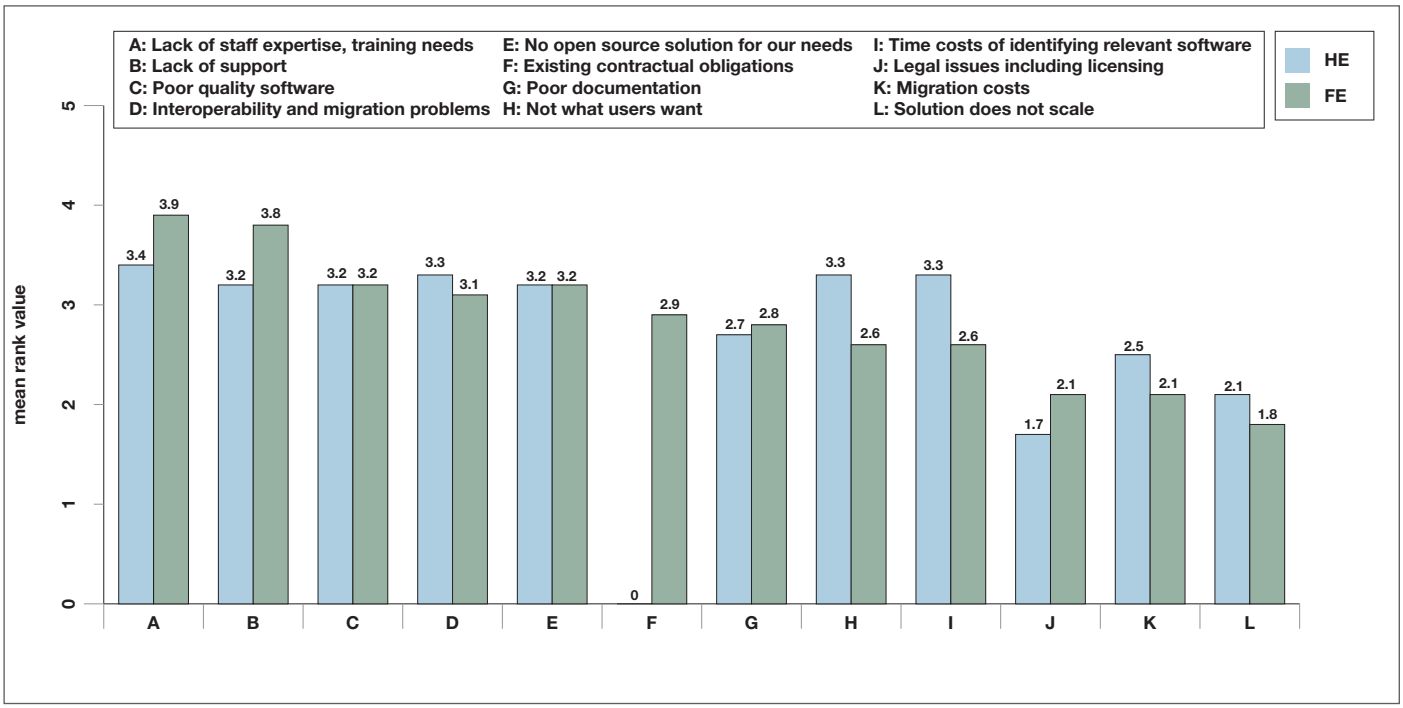

Fig. 24: Top reasons to decide against using open source on servers

Fig. 24 shows that for both FE and HE the most likely reason is "lack of staff expertise, training needs" (3.9 and 3.4, respectively), a reason already present in 2006 (see Table 20, "How important were the following issues in these decisions to exclude OSS?"[1]).

In FE, lack of staff expertise is closely followed by lack of support (3.8). The ranking continues with poor quality software (3.2) and interoperability and migration problems (3.1).

In HE, the top six reasons are within 3.4 and 3.2 values: time costs of identifying relevant software, not what users want, interoperability and migration problems, poor quality software, lack of support and no open source solution for their needs.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.5_div.2*

Software support for desktops

Software support for desktops has moved from being more casual in 2006 to being in the job description of staff in 2008. In general, there seems to be less knowledge about how open source software is supported compared to closed source.

Support for servers and desktops is mostly in the hands of some staff in FE and HE. The exception to this trend is support for desktops in FE, where it is mostly the responsibility of all staff.

Q24: What best describes the support for software running on your institution's desktops?

The 2006 survey asked whether users could install software on desktops, or if it had to be performed by the ICT department (see Table 23. "Which one of the following statements is most appropriate for managed desktops?"[1]). This question was removed from this year's survey, and replaced by Q24.

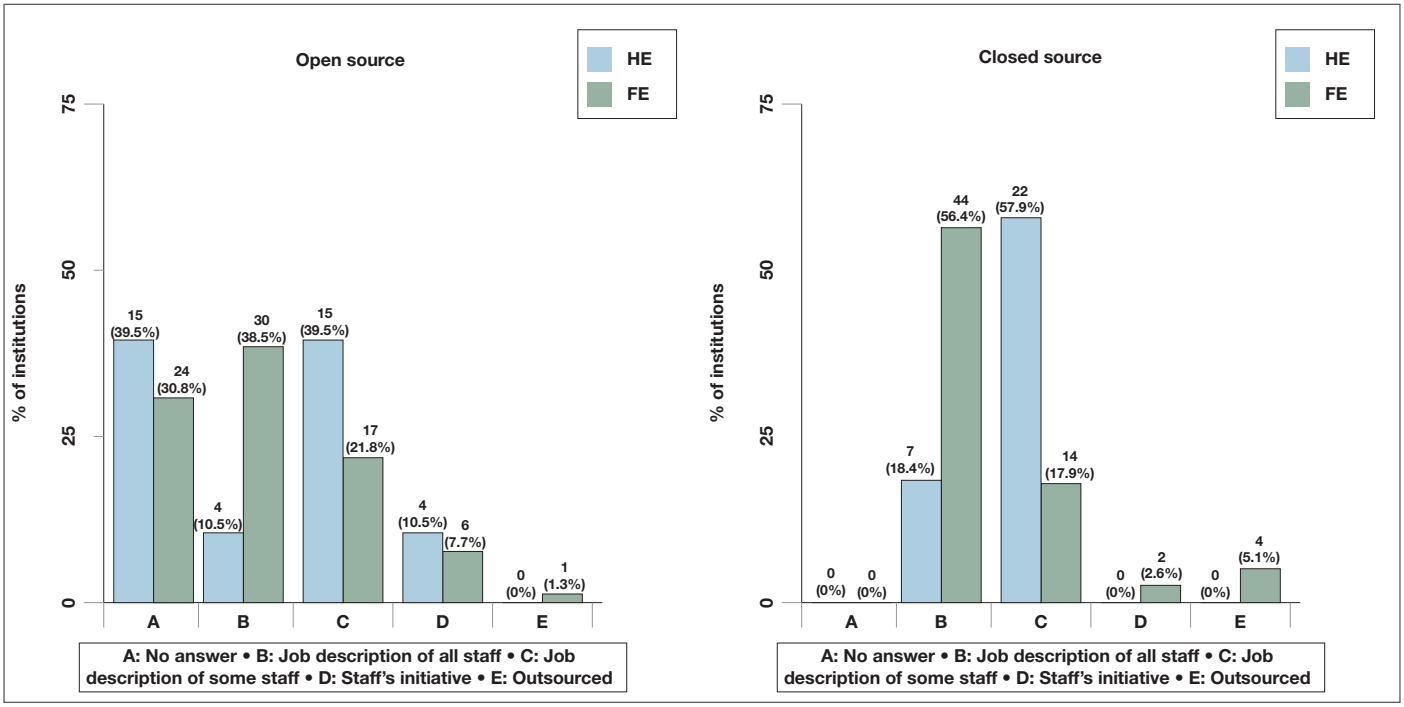

Fig. 25: Support for software running on desktops [Q24]. "Staff's initiative" corresponds to the answer "It is done by some ICT staff, but it is not part of their job description"

Comparing the results in Fig. 25 to those for Q11, which is a similar question about servers instead of desktops, we observe that percentages are inverted in FE, i.e. most institutions rely on *all* staff to support open source software on desktops (38.5%), with a smaller number of institutions (21.8%) relying on only *some* staff. For closed source, the difference is more marked between those that rely only on some staff (17.9%) and those that rely on all staff (56.4%).

In HE this inversion of percentages does not take place, although part of the server support that is in the job description of some staff, appears as staff's own initiative for desktops (10.5%).

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.6*

Ratio of open and closed source software deployed on desktops

In the foreseeable future, some 10% of all institutions will stop using closed source only, for desktops, and a similar number will use open and closed source on equal terms.

HE institutions have traditionally led in the usage of open source, but FE institutions appear to be moving more rapidly towards adoption of open source on desktops. This is similar to the trend observed for servers, although closed source is and will be the favoured option, even more so on desktops than on servers.

Q25: What is the approximate ratio of open and closed source software deployed on your institution's desktop computers?

- The 2006 survey found that cases where "the institution has deployed and will deploy some OSS on its desktops[1]" were around 33.5% lower than for servers (33% in FE and 40% in HE, see Table 24). The rates for institutions that used only closed source software in the past but would use open source too in the future were around 20% lower for desktops than servers (16% in FE, 17% in HE).

- The results for this year (Fig. 26) suggest that in the order of 20% of FE and 10% of HE institutions moved from using all/almost all closed source in the past to using mostly closed source software in the present. The prospect for the future seems to be that approximately 10% of FE institutions will stop using all/almost all closed source in the present, and another 10% (not necessarily the same) will start using half closed source and half open source. In HE, while approximately 10% of institutions will stop using all/almost all closed source in the present too, the increase of institutions using half and half is only 5.3%, which could indicate uncertainty in some institutions.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.6*

Ratio of open and closed source software deployed on desktops (continued)

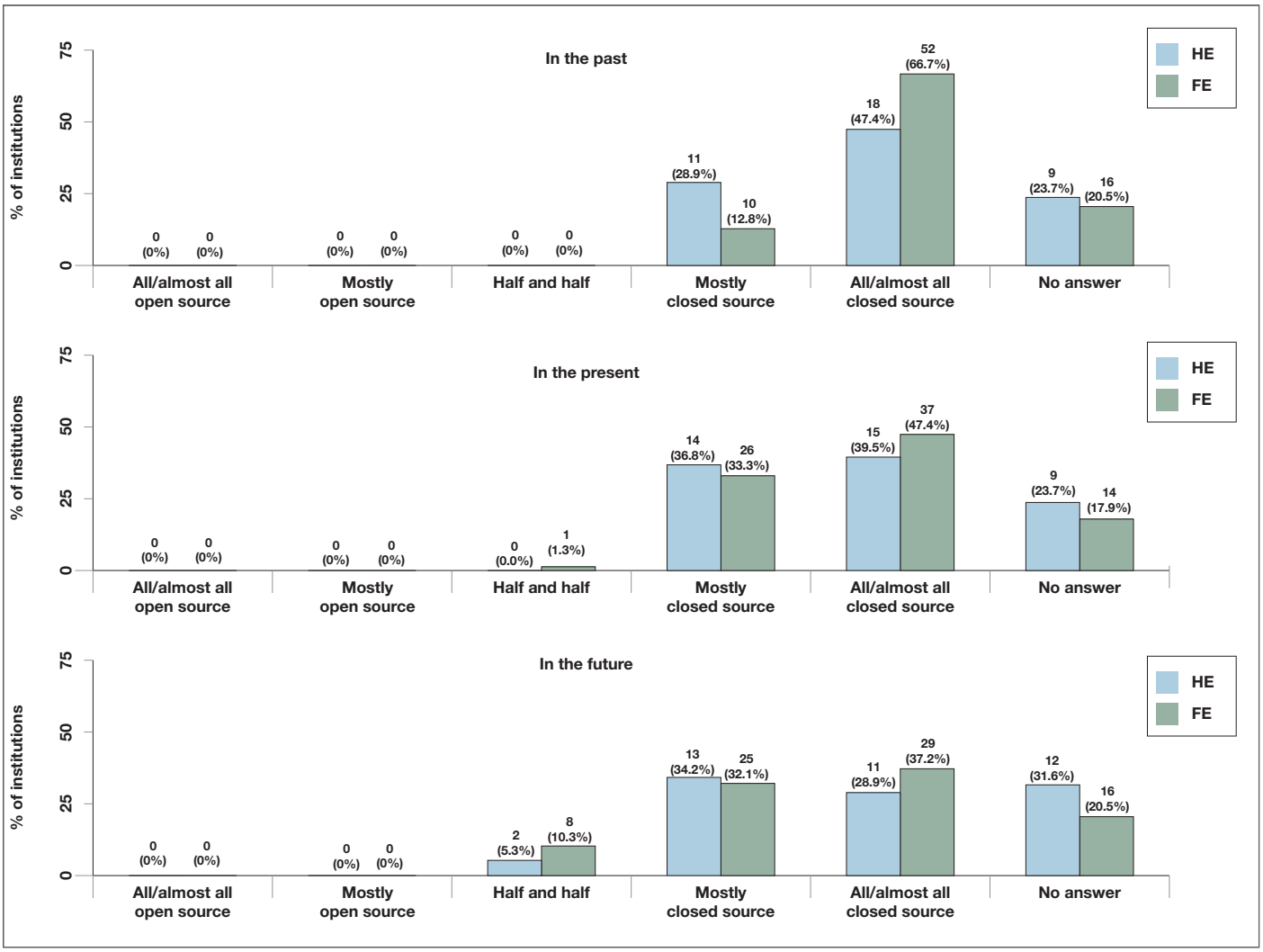

Fig. 26: ● Open source/closed source software ratio on desktops

Operating systems on desktops

Operating systems on desktops are predominantly closed source, with almost all institutions running Microsoft Windows XP, and half of FE and three-quarters of HE running either Mac OS or Mac OS X. Solaris runs in a significant number of HE institutions too.

The only open source system in use is Linux, running in a third of HE and a few FE institutions.

While in the case of servers we were concerned about the survey not providing information about what the operating systems are used for, for desktops the information we are lacking is how many machines run each system and whether they are dual boot machines.

With that caveat, we observe that the actual competitor of Windows on FE and HE desktops is Mac. Furthermore, if the figures from 2006 are adjusted assuming nearly 50% of no responses, then the share for each system has remained roughly constant.

Q26: Which of the following operating systems are used on your institution's desktop computers?

● The 2006 survey found that the most widely used operating systems on desktops were Windows XP (65% in FE, 54% in HE) and Mac OS X (37% in FE, 34%), followed by Mac OS (17% in FE and HE) and Linux (8% in FE, 11% in HE). Solaris was in use in HE only (11%). (See section 4.6.1. "Use of OSS for specific applications on desktops", Table 25[1]).

These results are misleading, in the sense that they do not provide a picture of the ubiquity of Windows in FE and HE. The reason is that percentages are computed from all submitted surveys, so they include the "no response" rates.

◗ Fig. 27-28, with percentages referred to responses to Q26, show Windows' ubiquity on FE and HE servers in 2008. Almost all institutions run Windows XP.

The second most popular operating system is another closed source one, Mac (52.2% in FE, 73.3% in HE). Most institutions have the Mac OS X version, but there is still a substantial number of institutions running Mac OS too.

The only open source operating system in Fig. 28 is Linux (14.9% in FE, 30.0% in HE). Finally, Solaris, another closed source system, is present in 16.7% of HE institutions.

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.6_div.1*

Operating systems on desktops (continued)

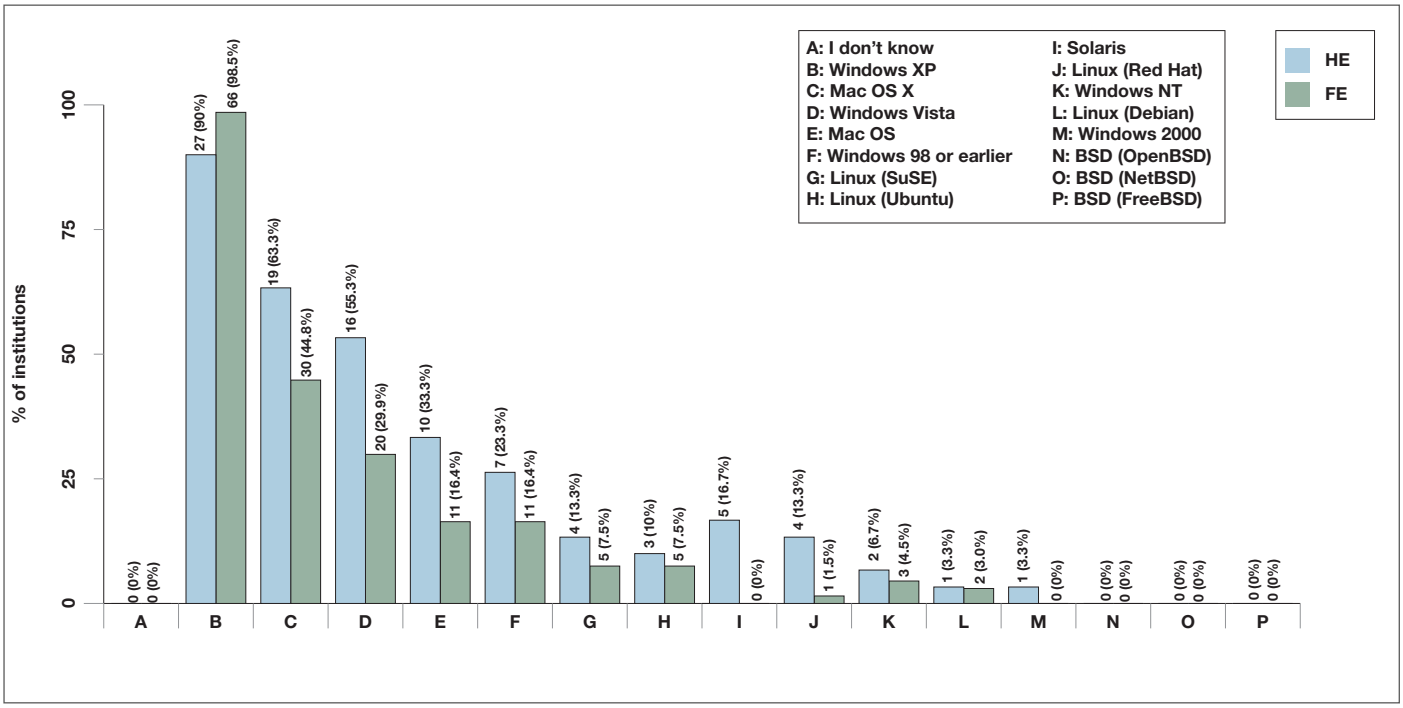

Fig. 27: ◗ Operating systems on desktops

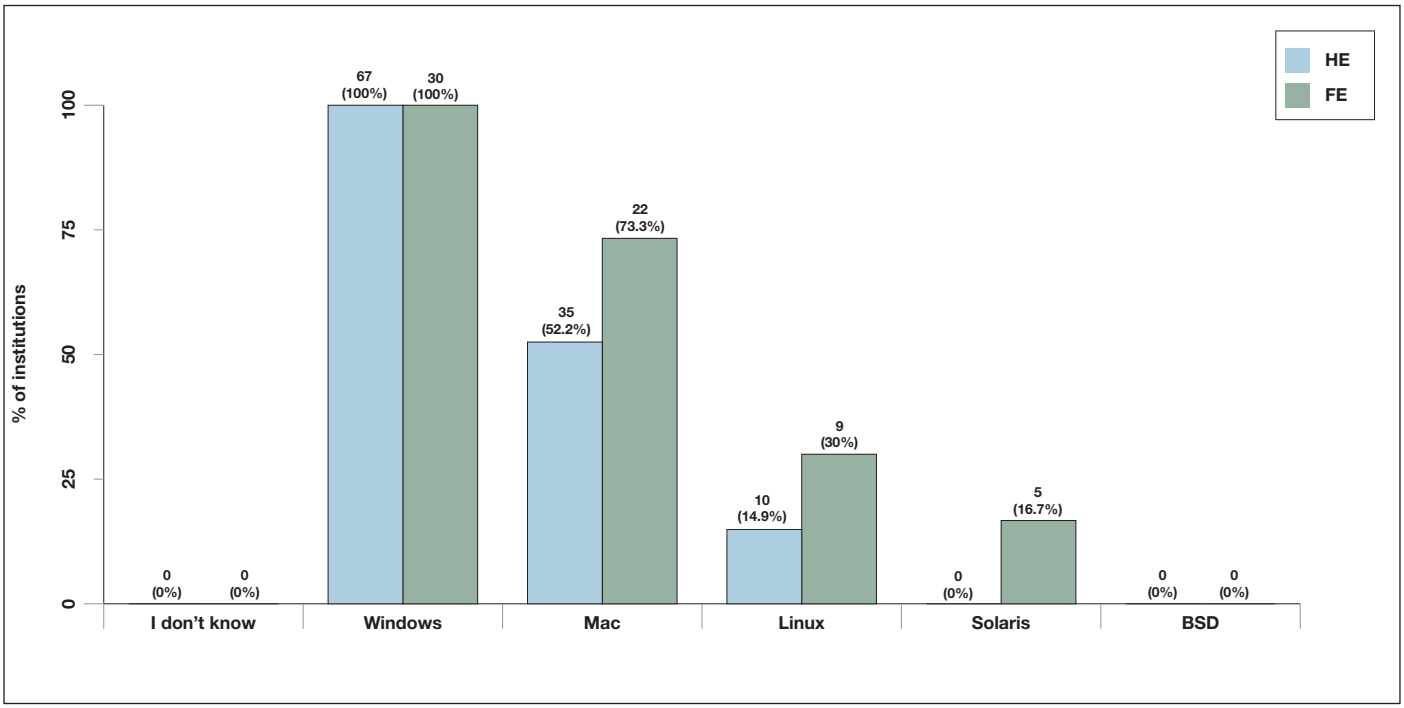

Fig. 28: ◗ Operating systems on desktops (by brand)

Software applications on desktops

Software applications on desktops of FE and HE institutions are basically limited to office suites, Internet browsing and email.

Microsoft Office dominates the office suite segment and, as in 2006, it is available in all institutions. Meanwhile, OpenOffice had a small increase in FE, and it is installed in a third of FE and a fifth of HE institutions.

The web browser Microsoft Internet Explorer had a significant decrease in HE, but it is still more widely available than the Mozilla Application Suite browser and Mozilla Firefox. Considering that Internet Explorer is installed by default as part of Windows, and that all institutions run Windows, it is quite significant that so many HE institutions have taken the steps to actually uninstall/disable it. The closed source web browser for Mac, Safari, is present in an unexpectedly small number of institutions, considering the spread of Mac and that Safari is installed by default. In fact, all Mac applications have low percentages, an unlikely situation considering the figures for Mac OS and Mac OS X in previous sections. This could be explained by a lack of familiarity of ICT directors with Macs.

In terms of mail clients, both Microsoft Outlook/Outlook Express and Mozilla Thunderbird have become less popular, especially the latter in FE. It would be interesting to study further whether this has something to do with the increasing popularity of webmail.

An increase in the usage of Voice over IP (VoIP) can arguably be expected. Quite a significant number of FE and especially HE institutions have already made the closed source Skype available on desktops. No institution seems to provide an open source solution such as Ekiga or WengoPhone. The future of open source in this segment is uncertain.

Q27: ◗ Which of the following software applications are used on your institution's desktop computers?

● The 2006 survey also asked about particular applications for desktop computers (see section 4.6.1. "Use of OSS for specific applications on desktops", Table 26[1]).

Links

1: *http://www.oss-watch.ac.uk/studies/survey2006/survey2006report.xml#body.1_div.4_div.6_div.1*

Software applications on desktops (continued)

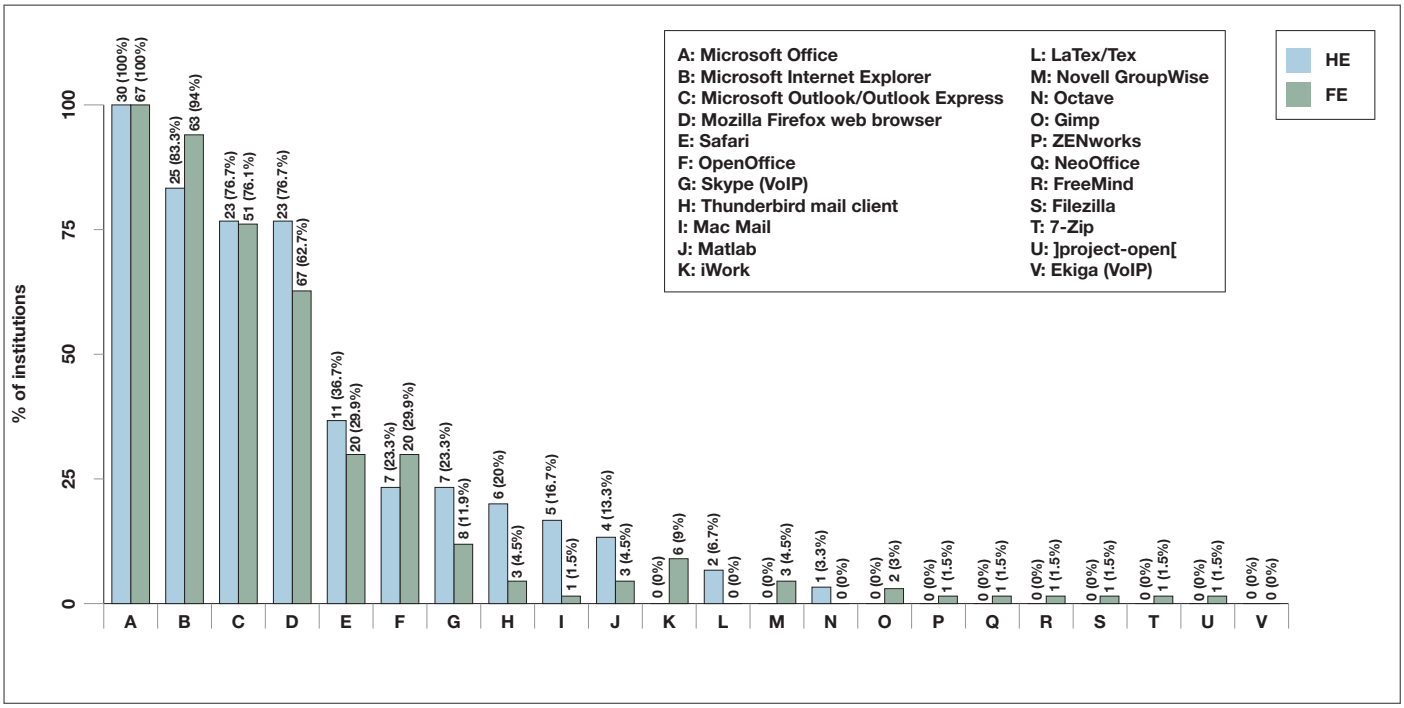

Fig. 29: ◗ Software applications on desktops

◗ Results for this year are presented in Fig. 29. Microsoft Office is still available in all institutions, while OpenOffice (23.3% in HE, 29.9% in FE) had a small increase in FE.

The web browser Microsoft Internet Explorer (94.0% in FE, 83.3% in HE) had a significant decrease in the order of 20% in HE, but it is still more widely available than the Mozilla Application Suite browser and Mozilla Firefox (62.7% in FE, 76.7% in HE).

Safari, the closed source web browser for Mac, on the other hand, is only present in 29.9% of FE and 36.7% of HE institutions, an unexpectedly low result considering the spread of Mac.

In terms of mail clients, both Microsoft Outlook/Outlook Express (76.1% in FE, 76.7% in HE) and Mozilla Thunderbird (4.5% in FE, 20.0% in HE) have become less popular, especially the latter in FE.

Another result worth commenting on is that the closed source Voice over IP (VoIP) application Skype can be found in 11.9% of FE and 23.3% of HE institutions. An open source equivalent, Ekiga, was not present in any of the institutions surveyed.

Criteria when procuring software for desktops

In FE, the main criterion when procuring software for desktops is performance of the software, the same result as for servers. However, while interoperability was the second most important for servers, for desktops that place is taken by likelihood of getting "'locked in'" to a vendor.

There is a disconnect between this criterion and the fact that so much closed source software is used in FE institutions. On the other hand, we have observed above that FE institutions seem to be shifting to open source software in some areas, and the concern about lock-ins could be a catalyst to the migration.

In HE, the main criterion is meeting user expectations, followed by performance of the software. Because desktops are mostly for end users, staff preference is not such an important criterion as it is for servers.

Q28: Rank the top 5 criteria that your institution considers important when procuring software for your desktop computers, from most to least important.

Similar to Q21 for servers, Q28 aims to figure out what are the principal criteria for procurement of software for desktops.

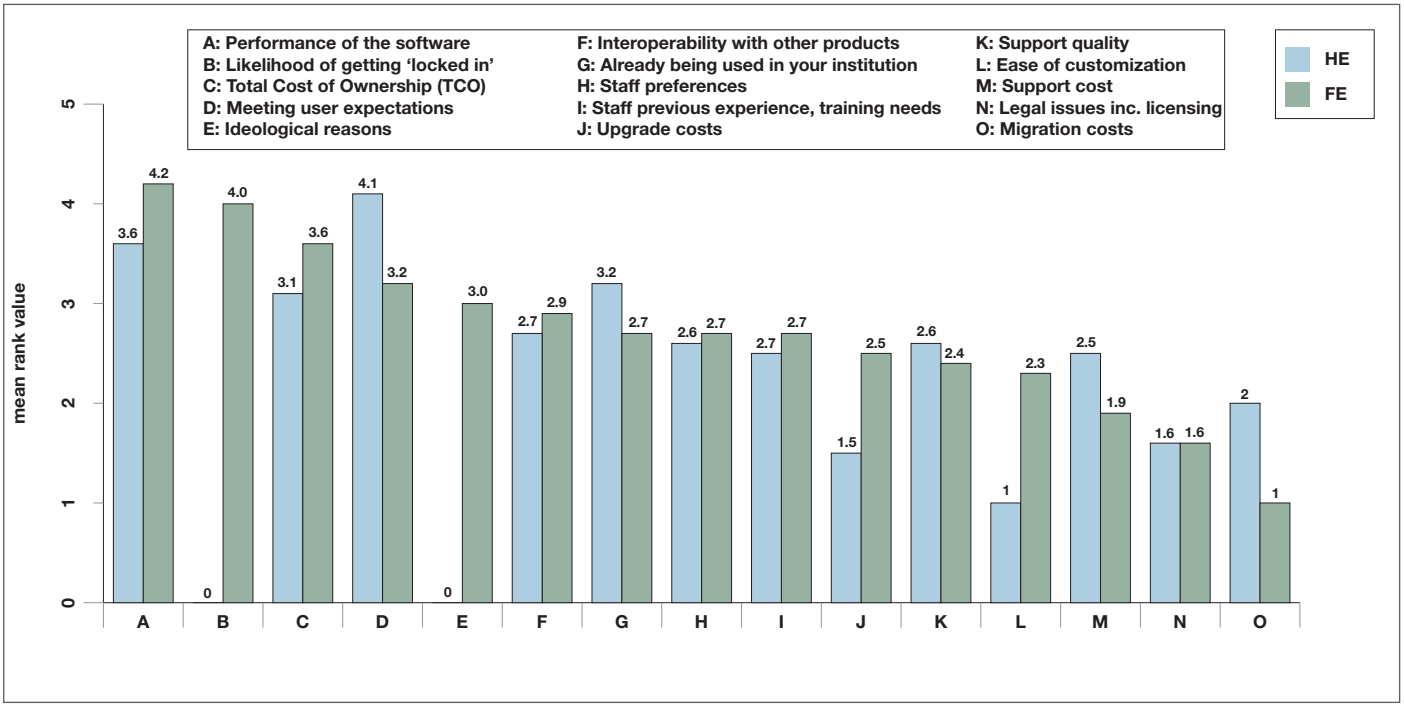

Fig. 30: Top criteria when procuring software for desktops

Fig. 30 indicates that in FE the main criterion is performance of the software (4.2), followed by likelihood of getting 'locked in' to a vendor (4.0).

In HE, the main criterion is meeting user expectations (4.1), followed by performance of the software (3.6).

Software considered for procurement/replacement on desktops

Similarly to servers, operating systems on desktops are a top concern of ICT departments in terms of procurement. But for HE institutions, procurement of VoIP clients is of even more interest. It will be interesting to see whether the closed source Skype continues as a monopoly, or whether open source solutions like WengoPhone and Ekiga get a share of the market too.

Almost half of FE institutions are considering office suites for replacement/procurement. This could be due to upgrades of current versions or comparison of different options, e.g. Microsoft Office vs. OpenOffice.

Few institutions are considering web browsers and mail clients. As those are basic applications in widespread use, it could be assumed that most institutions are happy with their current systems.

Q29: Which new desktop software systems are currently being considered for procurement at your institution? Please also include old systems being considered for replacement.

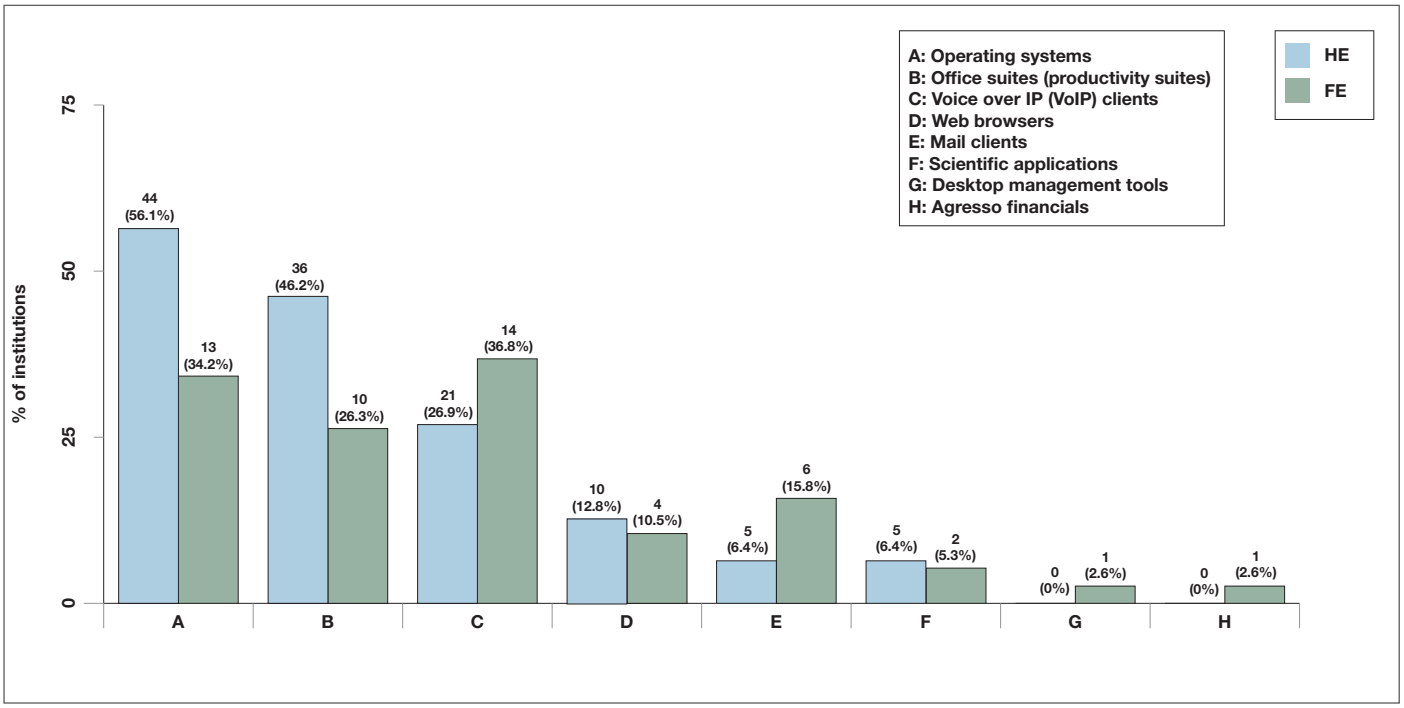

Fig. 31: ● Software considered for procurement/replacement on desktops

● The results are displayed in Fig. 31. As above, operating systems are a top concern of ICT departments, although less in FE (34.2%) than in HE (56.1%).

We would like to draw attention to two results. First, 46.2% of FE institutions are considering procurement/replacement of office application suites. Also 26.3% of HE institutions are considering this.

Second, 26.9% of HE and 36.8% of FE are interested in VoIP software. Given that only the closed source system Skype seems to be in use, we would like to know whether institutions have considered open source alternatives like Ekiga or WengoPhone.

Reasons to decide against using open source on desktops

In FE, the most likely reason to decide against open source software on desktops is that it is not what users want. In particular, some institutions described this as a matter of students wanting to use Windows, Office and other Microsoft products because they are used to them and do not want to learn something new.

Further reasons for FE are lack of staff expertise, training needs and a lack of open source solutions for their needs.

The latter is the most likely reason in HE. Further research would show whether the lack of open source solutions is real, or it is staff who do not know about them (given the lack of staff expertise mentioned above).

Other likely reasons are existing contractual obligations and time costs of identifying relevant software. Contractual obligations could mean, for example, years long contracts signed with closed source companies for on-campus licences.

Q30: If your institution decides against using an open source software system in its desktop computers, what are the top 5 most likely reasons? Please rank the following reasons from most to least likely.

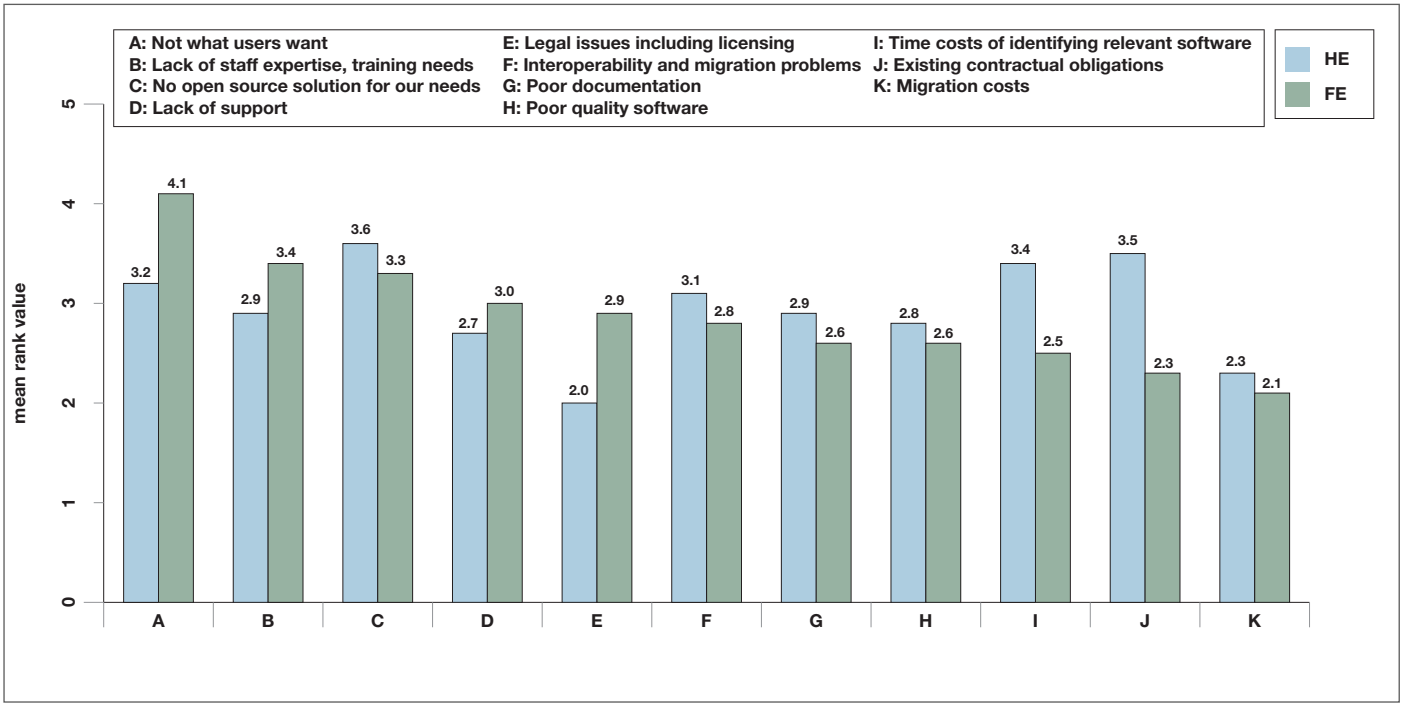

Fig. 32: Top reasons to decide against using open source on desktops

Fig. 32 shows marked differences with Q23. In FE, the most likely reason to decide against open source software on desktops is that it is "not what users want" (4.1).

The second and third reasons for FE are "lack of staff expertise, training needs" (3.4), and "no open source solution for our needs" (3.3).

In HE, the most likely reason is "no open source solution for our needs" (3.6). Other likely reasons are "existing contractual obligations" (3.5) and "time costs of identifying relevant software" (3.4).

Comments by survey respondents

Q31: Is there anything you would like to add to the information that you gave in this survey, and that you have not been able to express?

The last question of the survey allowed survey respondents to contribute their own thoughts , in addition to the answers elicited by our questions. The answers have been edited to correct typos, make the format more readable, and preserve the anonymity of the respondents. Some answers have been split into separate items.

Problems finding people who know about open source software

"We do use open source software where appropriate – but find that it is hard to support and relies upon IT 'gurus' – who then present a staffing replacement problem. If these people move on it is very hard for someone to come in and pick up where they left off. With commercial software, you have the option of training and additional support should an individual move on."

"Open source does cost more to support. You need people who are more difficult to find." [Duplicate of part of an answer in another item below.]

"It would cost more to move to open source and train on it, than to stay on Microsoft campus licensing, because of the number of staff we would have to train in for example, OpenOffice." [Duplicate of part of an answer in another item below.]

"We don't have the staff to be able to support a lot of open source options."

No demand for people who know about open source software

"We need to make our undergraduate users very familiar with the systems they will encounter in the real world. This is usually Microsoft products. For internal developments it's "horses for courses" and we sometimes do things based on commercial products and sometimes based upon open source. To do otherwise is just being doctrinaire."

"As an Educational institution we have a duty to provide a base that is indicative of the install base outside education. This is especially true in the desktop environment which is still primarily Microsoft Windows and Office. As this changes we will adapt policies accordingly."

"We do consider open source software where we can, but we are largely driven by external factors, e.g. software that local employers want our students to have a working knowledge of – Microsoft Office and Autodesk products for example."

"Until I can persuade teaching staff of the benefits of teaching open source software applications we are unlikely to change."

"Yes, we could save lots of money by going the open source route and that is tempting, but I see part of our duty is to prepare our students for the world of work and University. Currently the majority of workplace software is Microsoft and whilst that dominance is in place it seems sensible to give our students the skills to be able to use this software and where possible the latest version of this software, to try and give them an edge in the market place. And yes I do worry about this dominance but..."

Staff preferences and procurement policy

"Whilst there is an impressive array of open source software out in the wild, Senior Managers seem most reluctant to consider it. Academic staff are much more open to their adoption and are often the first to locate and recommend."

"In the ICT department, I am the only individual running a Linux desktop in daily use. [...] The belief that "Windows is best" is completely ingrained in our staff and the culture of the [edited] that open source software is rarely considered an option even when such software would exist and meet the requirements of the users. Even a simple change from Windows to KDE would likely confuse many of them and require extensive re-training. [...] Unfortunately, and much against my wishes, I do not see a means to even move to a partial Open-Source solution here at the [edited]."

"The use of software in the college is often driven by the expectation of the teaching staff and the awarding bodies."

"We choose software based on what it does, not whether it is open or closed. We do use open source in some areas, and have no 'ideological' preference for Microsoft."

"Our strategy is to select best of breed solutions taking into account interoperability with existing solutions. We do not have a strong preference for/against open source (for example we are very pleased with Moodle), but would in practice find it harder to select due to our procurement rules."

"The policy is to be open minded and, where possible, to use open standards. [...] Where there are good references in the HE sector for a software product whether it is open source or proprietary, the users can see that it meets their current and future expectations for functionality, it is interoperable with existing systems, it is well supported and it has a realistic TCO this is the software that is selected."

"The decision to use open source versus closed source applications is really based on suitability for task which didn't necessarily come out as an option during the survey." [Duplicate of part of another item below.]

User preferences

"We have sometimes found that users expectations of open source software have been unrealistic, i.e. that it is capable of infinite customisation, and that they find it easier to accept limitations of closed source."

"We are driven by our customers. For example, if the majority are using Windows XP and Office 2003 at home and in the workplace, this is what we aim for here."

"Training is the other primary problem. When learning, for example word processing, people are taught on Microsoft Word, they then loathe to change to anything different. Even radical interface changes pose a problem, e.g. Word 2007. So going to open source and getting buy-in from others is difficult when people do not want to see alternatives to what they've learnt on."

"Most students want to learn Microsoft, it would be a brave IT manager who chucked it all out and went with open source software."

"Students, when asked, have always preferred Microsoft Windows and Office, or Mac OS X rather than Linux. Lecturers do not want new types of operating systems or applications in classrooms that students may be unfamiliar in, as this becomes a barrier to teaching the subject that the ICT is being used to support."

Software compatibility problems

"The Novell NetWare client does not work on Ubuntu and I run a Windows PC in parallel to connect to our eDirectory system. [...] Specialist software such as the training software packages we use and a number of other programs would also require replacing or dedicated Windows machines to run."

"Experience of open source (MySQL) when used with Moodle was difficult to link via ODBC."

"Whilst I would like to use more open source software within the College, my hands are tied by the use of the online examination software which require the use of Microsoft software, such as the City & Guilds Promissor."

"We need Microsoft to support our Management Information Systems anyway, because they don't run on anything else, and we have to buy government approved software."

Software examples in procurement and deployment

"This college is currently in a program to replace its 33 old Windows servers with VMware's virtual server, and remove from its network RM Smart Tools 3 management system by replacing it with Windows Active Directory. It is also in the process of reviewing open source applications for use by the students."

"The University is predominantly a 'Microsoft' site. There are no plans to move away from this strategy. Therefore, in the short-term future developments will be based around Microsoft Vista, Office 2007 and SharePoint."

"Our use of Moodle VLE has raised the profile of Open Source software."

"On the server side I am likely to replace our current NetWare installations with SUSE Linux within the next 5 to 10 years."

"The best use of open source has been with our Virtual Learning Environment, as it is seen as one of best of breed i.e. Moodle running on Linux (in this case Ubuntu)."

"Microsoft Office 2007 has caused much discussion within the college and it is the first time that an alternative, OpenOffice has been proffered as a solution!"

"We are seriously considering ditching Microsoft Office in favour of OpenOffice. We already dual-boot some machines with Linux and we envisage increasing this number. We don't envisage ditching Windows as a desktop operating system in the near future, but I would like to have the option. But we could happily ditch Microsoft Office tomorrow!"

"We have made a commitment to Microsoft desktop and server software to maintain ease of use products which interact with one another. We have not judged Microsoft products to be any more effective than others but on adding up all costs, including support, licences and staff training and considering the size of our institution, it is perhaps the best way forward at the moment. We are keeping this under review."

Reasons why open source is used

"For budgetary reasons we are beginning to look at open source."

"Open Source is a good use of finances where appropriate."

"Yes, we could save lots of money by going the open source route and that is tempting." [Duplicate of part of an answer in another item above.]

Reasons why open source is not used

"We do not develop software in-house, therefore have little need/use of open source software."

"One of the main issues related to the choice of proprietary over open source for certain products is the consistency of product. Often a single product exists from a single source rather than a myriad of variants and add-ons written by various suppliers that attempt to form a single product."

"The impact of licensing for collaborative work is becoming increasingly important to us, particularly for survey applications. Licensing proprietary software for cross-institution (and particularly cross-sector) use is complex and expensive, so these are the areas that we are particularly looking at [in] open source."

"I inherited a primarily Microsoft driven organisation and whilst I use open source extensively at home and find it generally extremely good, the organisation is used to Microsoft products and it would be expensive to change. If I were starting over, open source would be high on the list."

"FE Colleges do not have the in-house support for complex open source systems."

"In the criteria for choices, no button around security issues – open source software is often perceived as being more 'open' and also less secure – an important consideration especially for enterprise systems."

"Enterprise systems dictate e.g. what you need at the client end."

"Other possible issues with open source software:
- lack of guaranteed investment for further development, bug fixes and support
- FE colleges don't compare well with universities when it comes to staffing skills, IT expertise and more liberal attitudes

That's why open source software is not very popular in FE sector and schools."

"This institution, while looking seriously at open source software uses across College, have only limited need for its benefits, as the current Microsoft licensing costs are very competitive in an educational establishment such as ours."

"Whilst there are undoubted benefits from open source, the vendor lock with Microsoft products, especially in the realm of third party business applications sometimes makes it difficult to support. If vendors would qualify that their products are also supported by OpenOffice or Firefox, for example, it would make their introduction a lot easier."

"Open source does cost more to support. You need people who are more difficult to find, they have to learn each application quite separately, and because Microsoft basically gives FE colleges its operating system and applications away for free, they are cheaper to support."

"The issue with open source software is that it sometimes difficult to get a clear presentation and understanding of the competitive positioning of the software under consideration. A relatively small institution with limited staffing also requires outside support for its software systems as a fall back."

"We have no fundamental objection to open source but it is often difficult to know what is available, and how well it will work. I am sure that there are directories available but I am not aware of them."

"For an institution that has around 1500 desktops, the educational cost of Microsoft products, and their ubiquitous use, means that it would cost more to move to open source and train on it, than to stay on Microsoft campus licensing, because of the number of staff we would have to train in for example, OpenOffice."

"Our college is largely using Microsoft software. This means that we have few compatibility problems, are running industry standard software which students like and because the Microsoft Campus offering is good value for money – does not cost an excessive amount."

Comments about the survey

"Some of the responses requested overlap. Total Cost of Ownership would include – Staff and User Training, Support and Migration costs etc."

"I didn't find this a very easy survey to complete. I'm not sure altogether what ICT staff means. And number of students is a tricky one too (we have [edited] full time and a similar number of very part time adult learners)."

"We do not actually provide FE, we enable it between our students and other institutions."

"Your questions about outsourcing are unclear. I have answered that we use in-house staff, but we do of course also have support contracts to fall back on."

"Surprised (very surprised) that NetWare was not identified as a network operating system. Some questions seemed very simplistic – responses may be a gut feeling."

"We are probably like other institutions in that there is sometimes a distinction made between provision for students and provision for staff but the survey will not pick this up. Perhaps this is a wasted opportunity to gain a more refined understanding of what universities see as issues in relation to ICT provision and support and software choices."

"OK, now I am not against OSS. In fact, I have a lot of experience working with such software, and have contributed some software of my own. However, I don't think your questionnaire is doing much to further the ends of open source software. Some of your questions were leading. Clearly your organisation is trying to promote open source. You are therefore biased, and this is reflected in your questions. E.g.: I have to select 5 answers for why we don't use open source, and I don't really agree with the last two, I select them because I think they apply the least. Therefore when you say 89% of respondents say they don't use open source because X, you may find that your results are inaccurate."

"We have a very mixed economy in terms of IT provision and support throughout the institution. IT staff number answers relate to central and library IT only, as do answers about how and what we procure centrally."

"Q24 – I can't answer because it is not clear what you mean by "support" of the software. Is this user support in its use or software/programming support for dealing with bugs or lack of functionality? Also the question about ICT staff is not answered. Is this asking about support staff/systems development staff or staff who teach about ICT on our programmes? Not clear so not answered."

"The decision to use open source versus closed source applications is really based on suitability for task which didn't necessarily come out as an option during the survey."

Appendix A: Figures of software systems with very low response rates

The intention of this survey is not only to study systems already popular within FE and HE, but also to find new trends and set baseline usage rates for future studies. For example, if blogs become a generalised tool in 2010, it will be useful to know that they were not in use in 2008.

Some of the questions about software systems got very low response rates. Their corresponding figures are presented in this appendix, to avoid cluttering the rest of the report unnecessarily.

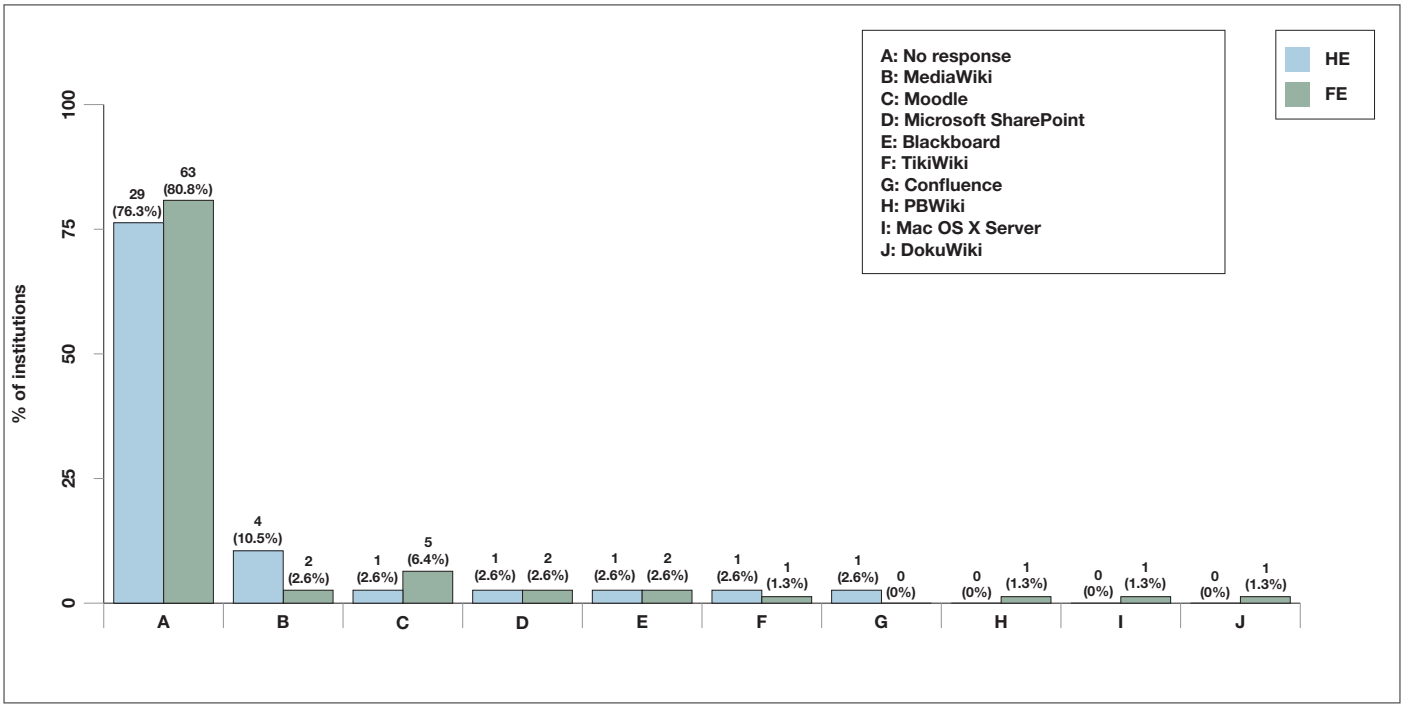

Fig. A.1: ● *Wikis*

● In 2006 only 6% in FE and HE responded that they were using MediaWiki, and 3% in HE were using DocuWiki, both open source wiki systems.

● Fig. A.1 shows that in 2008 the apparent lack of interest in wiki systems continues. Response rates to this question are so low that we cannot determine whether percentages of different systems show any significant trend.

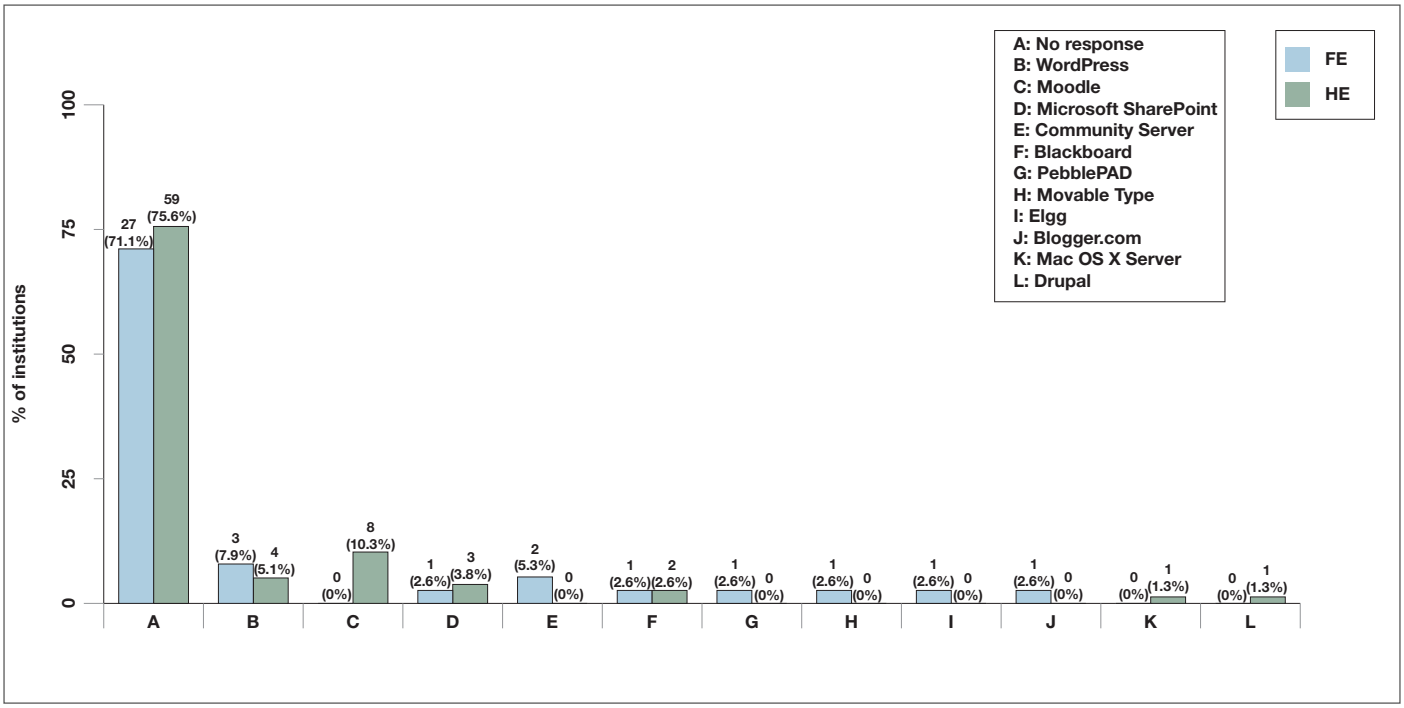

Fig. A.2: ● *Blogs*

● In 2006 response rates for the blog category were even lower than for wikis. Results in Fig. A.2 could suggest that usage is timidly increasing, with two open source solutions, WordPress and Moodle, claiming around 5% to 10% usage. In the case of Moodle's 10.3% in FE, this can be explained by existing installations of the VLE.

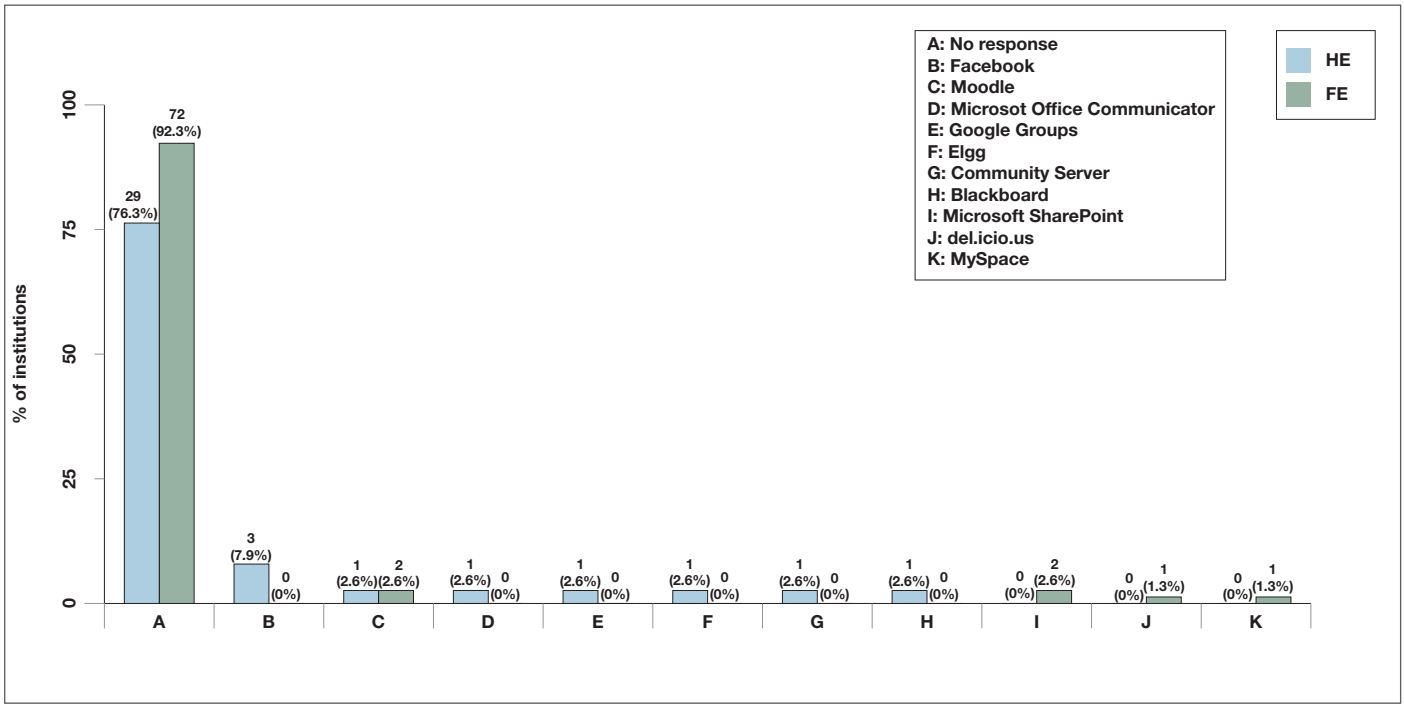

Fig. A.3: ● *Social networking*

● Another new category this year, social networking does not show any trend in Fig. A.3. While it is common knowledge that students in FE and HE are keen users of those systems, they tend to access external services like Facebook or MySpace.

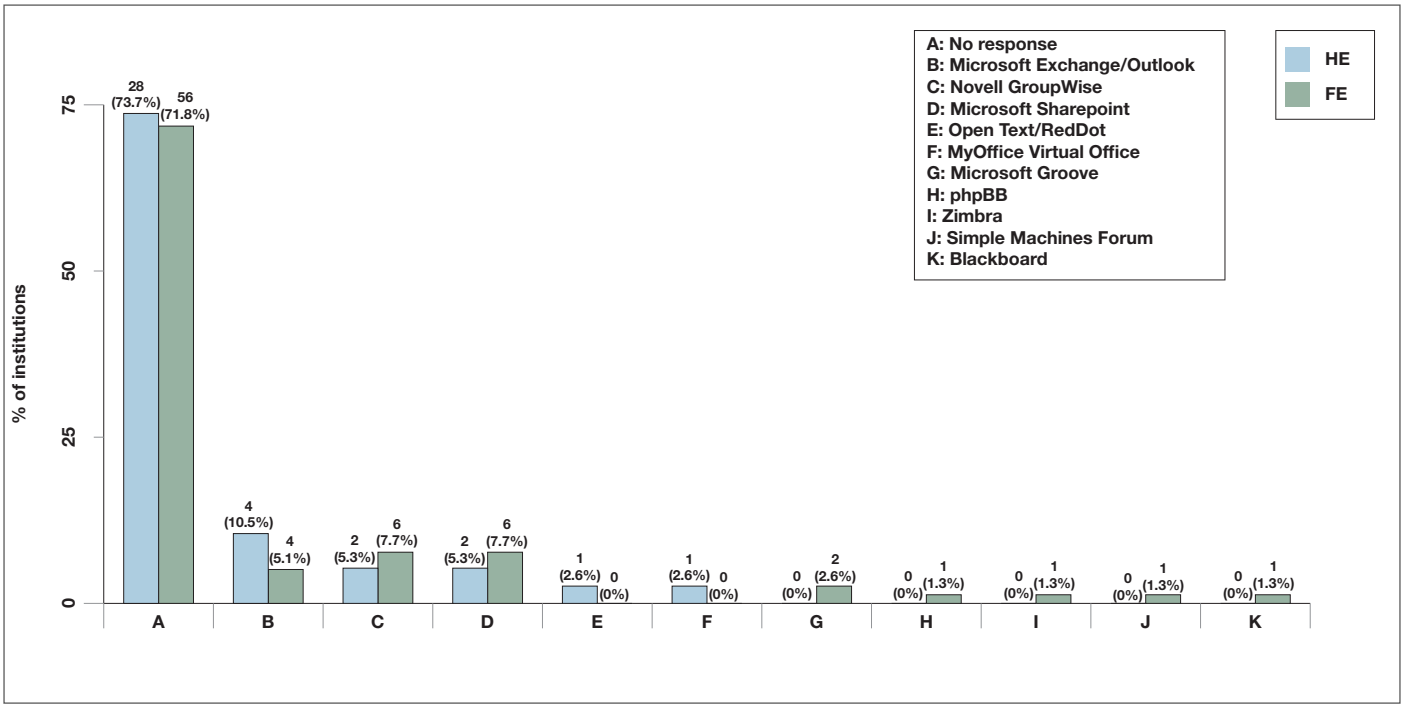

Fig. A.4: ● Groupware/collaborative software servers

● Rather than a new category, groupware/collaborative software is usually a combination of email, calendar, diary, wiki, blog, etc. The interest of this question lies in checking whether institutions understand that those systems can be procured as a bundled suite or as separate components. Low response rates in Fig. A.4, suggest that they understand that they can be procured as separate components.

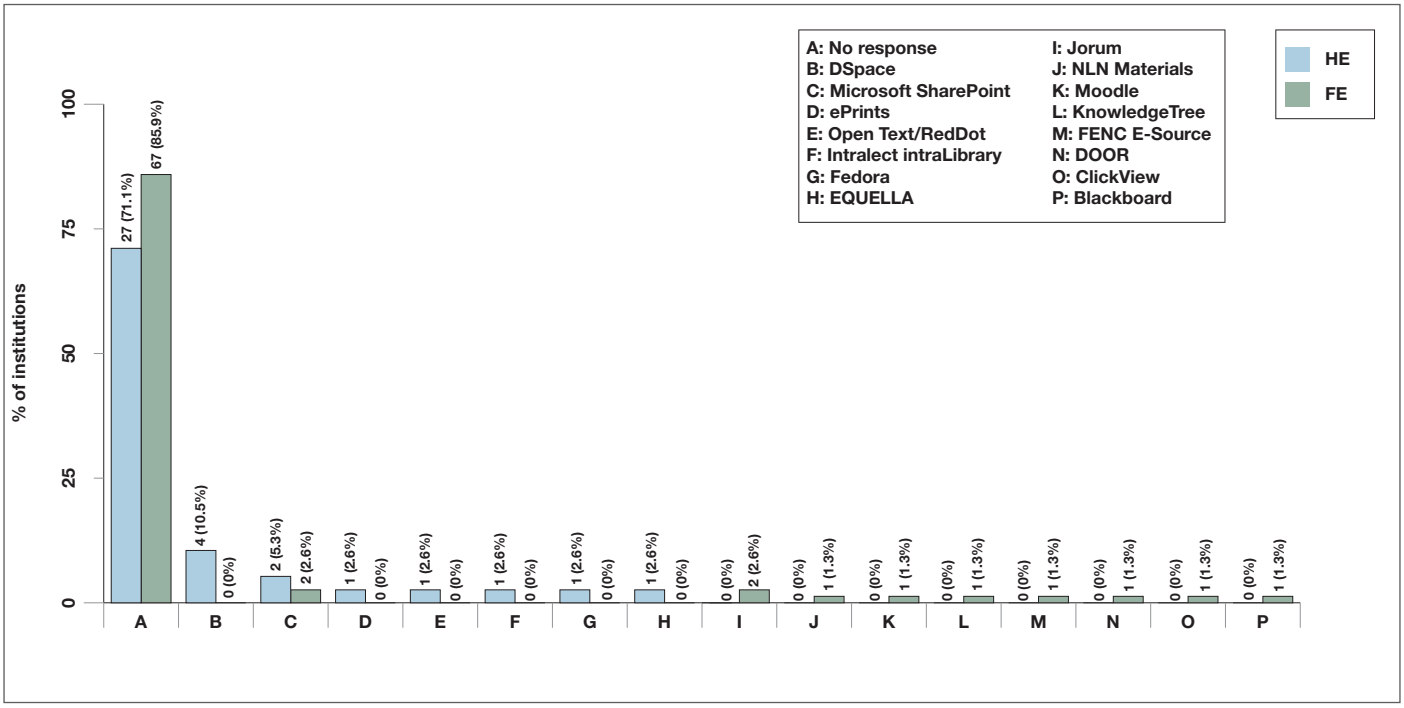

Fig. A.5: ● Digital repositories

● Another relatively new type of system that is of interest to FE and HE is digital repositories. But again response rates in Fig. A.5 are so low and dispersed that no conclusions can be drawn.

Appendix B: Online questionnaire

For the implementation of the OSS Watch National Software Survey 2008 questionnaire we chose LimeSurvey[1], released under the GNU Public License (GPL).

LimeSurvey is a program that enables the creation of online surveys using a web browser. Apart from allowing the types of questions and technical features that we required (e.g. branching), there were three good reasons to choose it:

- Questionnaires do not include advertisements and the layout can be easily changed using CSS, so it was possible to use our website design and logos.
- It follows an open development model with a responsive community, which translates into good support. This also helped us to collaborate with the Oxford Internet Institute[2] , who decided to install LimeSurvey too for some of their surveys and now offers it as a service.
- The responses can be exported to a spreadsheet or CSV file, amongst other formats.

Links

1: *http://www.limesurvey.org/*

2: *http://www.oii.ox.ac.uk/*

OSS Watch National Software Survey 2008

This survey aims to evaluate the state of software policies and usage in Further Education (FE) and Higher Education (HE) across the UK.

OSS Watch is the open source national advisory service funded by the Joint Information Systems Committee (JISC) for all FE and HE institutions and projects in the UK. We are a non-advocacy service.

OSS Watch is hosted by the University of Oxford as part of its Research Technologies Service. For further information about OSS Watch please visit *http://www.oss-watch.ac.uk/* or contact OSS Watch at *info@oss-watch.ac.uk.*

General questions about your institution

This group of questions evaluates the size of your institution, in terms of students and staff.

This survey will be most useful if you can respond for your whole institution (college, university, etc.) rather than just your IT, ICT or networks department, even if you need to make rough estimates.

We understand that in some institutions with decentralised ICT services, it can be difficult to answer some of the questions in this survey. For example, each department may be using different email servers.

In those cases, we ask you to consider only those systems and services provided centrally by your institution.

Q1: If you are unable to make estimates for your whole institution, please leave a comment in the box below explaining why, and what department you are going to respond for.

Please write your answer here:

*** Q2: What type is your institution?**

* This question is mandatory

Please choose *only one* of the following:

[ ] Further Education (FE)

[ ] Higher Education (HE)

[ ] Other

[Only answer this question if you answered 'Higher Education (HE)' to question 'Q2']

Q3b1: What is the approximate number of undergraduate students at your institution?

Please write your answer here:

[Only answer this question if you answered 'Higher Education (HE)' to question 'Q2']

Q3b2: What is the approximate number of graduate students at your institution?

Please write your answer here:

[Only answer this question if you answered 'Further Education (FE)' to question 'Q2']

Q3a: What is the approximate number of students at your institution?

Please write your answer here:

Q4: What is the approximate number of academic staff at your institution?

By academic staff we mean teachers, lecturers, tutors, professors, etc.

Please write your answer here:

Q5: What is the approximate number of ICT staff at your institution?

Please write your answer here:

ICT-related policies at your institution

This group of questions evaluates the processes followed by FE and HE institutions when procuring software, and possibly contributing software to external projects.

We have classified software as either open source or closed source.

Open source software (OSS) is software released under one of the licences approved by the Open Source Initiative (OSI). Some examples of these licences are the General Public License (GPL), Apache License, Modified BSD License, Mozilla Public License, etc. You may also know of OSS as free software or libre software (loosely speaking). More information about open source software can be found on our website.

*** Q6: What best describes your institution in terms of ICT-related policies?**

* This question is mandatory

Please choose *only one* of the following:

[ ] My institution has an official ICT policy
[ ] Policies about ICT are spread across other policies,
e.g. administration, management, procurement...
[ ] My institution has no policies regarding ICT
[ ] I don't know whether my institution has any policies regarding ICT

[Only answer this question if you answered 'My institution has an official ICT policy' or 'Policies about ICT are spread across other policies, e.g. administration, management, procurement...' to question 'Q6']

Q7: What best describes your institution's policies about open and closed source software?

Please select one option from each column.

Please choose the appropriate response for each item:

	Open source	Closed source
Not mentioned	[ ]	[ ]
Mentioned	[ ]	[ ]
Prohibited	[ ]	[ ]
To be considered as an option	[ ]	[ ]
The preferred option	[ ]	[ ]

Q8: In practice, what software is considered for procurement/deployment in your institution?

Please choose *only one* of the following:

[ ] Only open source software
[ ] Mostly open source software, with some closed source software
[ ] Open and closed source software equally
[ ] Mostly closed source software, with some open source software
[ ] Only closed source software
[ ] I don't know
[ ] Other

Q9: What is your institution's policy regarding staff contributing to software projects?

Please select one option from each column.

Please choose the appropriate response for each item:

	Open source	Closed source
It is specified in individual employment contracts that they are allowed to do this	[ ]	[ ]
It is part of the institutional or departmental policies that staff can contribute	[ ]	[ ]
It is not regulated, but it is the working practice	[ ]	[ ]
Staff can do this in their own time, under their own responsibility	[ ]	[ ]
Staff are not allowed to contribute	[ ]	[ ]
I don't know	[ ]	[ ]

Q10: In practice, how often do ICT staff contribute to software projects?

Please select one option from each column.

Contributions to software projects include being an active member of a mailing list, submitting patches, writing documentation or code, etc.

Please choose the appropriate response for each item:

	Open source	Closed source
Always	[ ]	[ ]
Often	[ ]	[ ]
Sometimes	[ ]	[ ]
Seldom	[ ]	[ ]
Never	[ ]	[ ]
I don't know	[ ]	[ ]

Software on servers

The questions in this group refer to the server machines in your institution and the software running on them.

Q11: What best describes the support for software running on your institution's servers?

Please select one option from each column.

Please choose the appropriate response for each item:

	Open source	Closed source
It is outsourced	[ ]	[ ]
It is done by some ICT staff, but it is not part of their job description	[ ]	[ ]
It is in the job description of some ICT staff	[ ]	[ ]
It is in the job description of all ICT staff	[ ]	[ ]
I don't know	[ ]	[ ]

Q12: What is the approximate ratio of open and closed source software deployed on your servers?

Please select one option from each column.

"Software" refers to both operating systems and applications.

Please choose the appropriate response for each item:

	In the past	Currently	Planned for the future
All or almost all deployed software is open source	[ ]	[ ]	[ ]
Mostly open source, but also some proprietary	[ ]	[ ]	[ ]
Roughly half open source, half proprietary	[ ]	[ ]	[ ]
Mostly proprietary, but also some open source	[ ]	[ ]	[ ]
All or almost all deployed software is proprietary	[ ]	[ ]	[ ]
I don't know	[ ]	[ ]	[ ]

Q13: Which of the following operating systems are used on your institution's servers?

Please choose *all* that apply:

[ ] AIX
[ ] BSD (FreeBSD)
[ ] BSD (NetBSD)
[ ] BSD (OpenBSD)
[ ] Linux (Ubuntu)
[ ] Linux (Debian)
[ ] Linux (Red Hat)
[ ] Linux (SuSE)
[ ] Mac OS
[ ] Mac OS X
[ ] Solaris
[ ] Windows 2000 Advanced Server
[ ] Windows 2000 Server
[ ] Windows NT Server
[ ] Windows Server 2003
[ ] I don't know
[ ] Other: [ ]

Q14: Which of the following mail servers are used at your institution?

Please choose *all* that apply:

[ ] We outsource our email to a commercial company
[ ] Exim
[ ] MS Exchange
[ ] Postfix
[ ] Sendmail
[ ] Qmail
[ ] I don't know
[ ] Other: [ ]

Q15: Which of the following webmail systems are used in your institution?

Please choose *all* that apply:

[ ] We don't use webmail
[ ] Microsoft Outlook Web Access
[ ] Novell NetMail WebAccess and Webmail
[ ] IMP/Horde Webmail
[ ] SquirrelMail
[ ] Oracle Webmail
[ ] JANET Web Mail Service
[ ] I don't know
[ ] Other: [ ]

Q16: Which of the following database servers are used in your institution?

Please choose *all* that apply:

[ ] We don't use database servers
[ ] Microsoft SQL Server
[ ] MySQL
[ ] Oracle
[ ] PostgreSQL
[ ] I don't know
[ ] Other: [ ]

Q17: Which of the following Virtual Learning Environments (VLEs) are used in your institution?

Please choose *all* that apply:

[ ] We don't use any VLEs
[ ] ATutor
[ ] Blackboard
[ ] Bodington
[ ] Moodle
[ ] Sakai
[ ] WebCT
[ ] I don't know
[ ] Other: [ ]

Q18: Which of the following Content Management Systems (CMSs) are used in your institution?

Please choose *all* that apply:

[ ] We don't use any CMSs
[ ] Drupal
[ ] TerminalFour Site Manager
[ ] Plone/Zope
[ ] RedDot
[ ] Percussion Rhythmyx
[ ] Polopoly
[ ] I don't know
[ ] Other: [ ]

Q19: Which of the following Directory Service systems are used in your institution?

Directory Services deliver information, e.g. an online telephone directory. Typically, they implement the Lightweight Directory Access Protocol (LDAP), and are often used by other systems for authentication and/or authorisation.

Please choose *all* that apply:

[ ] We don't use any Directory Service systems
[ ] Novell eDirectory
[ ] Microsoft Active Directory
[ ] Sun Java System Directory Server
[ ] OpenLDAP
[ ] I don't know
[ ] Other: [ ]

Q20: Which software, if any, does your institution use in the following areas?

Please only consider centrally-supported services rather than applications deployed for purely local use (e.g. department, research group or individuals).

If you are using different solutions for the same function, please separate them with commas.

Please write your answer(s) here:

Calendar/diary server: [ ]
Wiki: [ ]
Blog: [ ]
Project-management: [ ]
Social networking: [ ]
Groupware, collaborative software: [ ]
Digital repositories: [ ]

Q21: Rank the top 5 criteria that your institution considers important when procuring software for your servers, from most to least important.

Please number each box in order of preference from 1 to 15

[ ] Performance of the software
[ ] Support quality (bug fixes, help desk, etc.)
[ ] Total Cost of Ownership (TCO)
[ ] Likelihood of getting "locked in"
[ ] Staff preferences
[ ] Interoperability with other products
[ ] Software already being used in your institution
[ ] Upgrade costs
[ ] Ease of customization
[ ] Ideological reasons
[ ] Meeting user expectations
[ ] Migration costs
[ ] Legal issues including licensing
[ ] Staff previous expertise, need for training
[ ] Support cost

Q22: Which new server software systems are currently being considered for procurement at your institution? Please also include old systems being considered for replacement.

This could be, for example, because your institution does not have some systems, but would like to procure them, or because your current systems do not meet your needs.

Please choose *all* that apply:

[ ] Operating systems
[ ] Mail servers
[ ] Webmail
[ ] Databases
[ ] Virtual Learning Environments (VLEs)
[ ] Content Management Systems (CMSs)
[ ] Directory Service systems (e.g. LDAP)
[ ] Calendar/diary server
[ ] Wiki
[ ] Blog
[ ] Project-management
[ ] Social networking
[ ] Groupware, collaborative software
[ ] Digital repositories
[ ] Other: _____

Q23: If your institution decides against using an open source software system on its servers, what are the top 5 most likely reasons? Please rank the following reasons from most to least likely.

Please note that you will have the chance to add comments at the end of the survey.

Please number each box in order of preference from 1 to 12

[ ] There is no open source solution for our needs
[ ] Legal issues including licensing
[ ] Poor quality software
[ ] Existing contractual obligations
[ ] Interoperability and migration problems
[ ] Migration costs
[ ] Time costs of identifying relevant software
[ ] Lack of support
[ ] Lack of staff expertise, training needs
[ ] Not what users want
[ ] Poor documentation
[ ] Solution does not scale

Software on desktops

The questions in this group refer to the desktop computers of your institution and the software running on them.

Q24: What best describes the support for software running on your institution's desktops?

Please select one option from each column.

Please choose the appropriate response for each item:

	Open source	Closed source
It is outsourced	[ ]	[ ]
It is done by some ICT staff, but it is not part of their job description	[ ]	[ ]
It is in the job description of some ICT staff	[ ]	[ ]
It is in the job description of all ICT staff	[ ]	[ ]
I don't know	[ ]	[ ]

Q25: What is the approximate ratio of open and closed source software deployed on your institution's desktop computers?

Please select one option from each column.

"Software" refers to both operating systems and applications.

Please choose the appropriate response for each item:

	In the past	Currently	Planned for the future
All or almost all deployed software is open source	[ ]	[ ]	[ ]
Mostly open source, but also some proprietary	[ ]	[ ]	[ ]
Roughly half open source, half proprietary	[ ]	[ ]	[ ]
Mostly proprietary, but also some open source	[ ]	[ ]	[ ]
All or almost all deployed software is proprietary	[ ]	[ ]	[ ]
I don't know	[ ]	[ ]	[ ]

Q26: Which of the following operating systems are used on your institution's desktop computers?

Please choose *all* that apply:

[ ] BSD (FreeBSD)
[ ] BSD (NetBSD)
[ ] BSD (OpenBSD)
[ ] Linux (Ubuntu)
[ ] Linux (Debian)
[ ] Linux (Red Hat)
[ ] Linux (SuSE)
[ ] Mac OS
[ ] Mac OS X
[ ] Solaris
[ ] Windows 98 or earlier
[ ] Windows 2000
[ ] Windows NT
[ ] Windows XP
[ ] Windows Vista
[ ] I don't know
[ ] Other: [ ]

Q27: Which of the following software applications are used on your institution's desktop computers?

Please choose *all* that apply:

[ ] OpenOffice
[ ] NeoOffice
[ ] Microsoft Office
[ ] iWork
[ ] Mozilla/Firefox web browser
[ ] Safari
[ ] Microsoft Internet Explorer
[ ] Thunderbird mail client
[ ] Mac Mail
[ ] Microsoft Outlook/Outlook Express
[ ] Matlab
[ ] Octave
[ ] LaTeX/TeX
[ ] Skype (VoIP)
[ ] Ekiga (VoIP)§
[ ] Other: [ ]

Q28: Rank the top 5 criteria that your institution considers important when procuring software for your desktop computers, from most to least important.

Please number each box in order of preference from 1 to 15

[ ] Performance of the software
[ ] Support quality (bug fixes, help desk, etc.)
[ ] Total Cost of Ownership (TCO)
[ ] Likelihood of getting "locked in"
[ ] Staff preferences
[ ] Interoperability with other products
[ ] Software already being used in your institution
[ ] Upgrade costs
[ ] Ease of customization
[ ] Ideological reasons
[ ] Meeting user expectations
[ ] Migration costs
[ ] Legal issues including licensing
[ ] Staff previous expertise, need for training
[ ] Support cost

Q29: Which new desktop software systems are currently being considered for procurement at your institution? Please also include old systems being considered for replacement.

This could be, for example, because your institution does not have some systems, but would like to procure them, or because your current systems do not meet your needs.

Please choose *all* that apply:

[ ] Operating systems
[ ] Office application suites, productivity suites
[ ] Web browsers
[ ] Mail clients
[ ] Scientific applications
[ ] Voice over IP (VoIP) clients
[ ] Other: [ ]

Q30: If your institution decides against using an open source software system in its desktop computers, what are the top 5 most likely reasons? Please rank the following reasons from most to least likely.

Please note that you will have the chance to add comments at the end of the survey.

Please number each box in order of preference from 1 to 11

[ ] No open source specialized software to satisfy our needs
[ ] Legal issues including licensing
[ ] Poor quality software
[ ] Existing contractual obligations
[ ] Interoperability and migration problems
[ ] Migration costs
[ ] Time costs of identifying relevant software
[ ] Lack of support
[ ] Lack of staff expertise, training needs
[ ] Not what users want
[ ] Poor documentation

Software on desktops

The questions in this group refer to the desktop computers of your institution and the software running on them.

Q31: Is there anything you would like to add to the information that you gave in this survey, and that you have not been able to express?

Please write your answer here:

Thank you for completing this survey.

Appendix C: Glossary of licences

The following table lists all software products mentioned in the survey, with their corresponding type of licence.

Software product	Type	Licence	Link
7-Zip	File archiver	LGPL and closed	http://www.7-zip.org/
Activedition	CMS	Closed	http://www.activedition.com/
Apple .Mac Mail	Service	N/A	http://en.wikipedia.org/wiki/.Mac
Apple iWork	Office suite	Closed	http://www.apple.com/iwork/
Apple Mac OS	OS	Closed	http://en.wikipedia.org/wiki/Mac_OS
Apple Mac OS X	OS	Closed	http://www.apple.com/macosx/
Apple Safari	Internet browser	Closed	http://www.apple.com/safari/
Atlassian Confluence	Wiki	Closed	http://www.atlassian.com/software/confluence/
ATutor	VLE	GPL	http://www.atutor.ca/
BlackBerry Enterprise Server	Calendar server	Closed	http://na.blackberry.com/eng/services/server/
Blackboard	VLE	Closed	http://www.blackboard.com/
Bodington	VLE	Apache	http://www.bodington.org/
CELCAT Timetabler	Calendar server	Closed	http://www.celcat.com/products/timetabler/timetabler.html
ClickView	Video management	Closed	http://www.clickview.co.uk/home.php
Contensis	CMS	Closed	http://www.contensis.co.uk/
Day Communiqué	CMS	Closed	http://day.com/
Debian	Linux distribution	Various open source	http://www.debian.org/
del.icio.us	Social bookmark service	N/A	http://del.icio.us/
DokuWiki	Wiki	GPL	http://wiki.splitbrain.org/wiki:dokuwiki
DOOR	Digital Repository	GPL	http://door.sourceforge.net/
DotNetNuke	CMS	BSD	http://www.dotnetnuke.com/
dotProject	Project-management	GPL	http://www.dotproject.net/
Dovecot	Mail server	MIT + LGPL	http://www.dovecot.org/
Drupal	CMS	GPL	http://drupal.org/
DSpace	Digital Repository	BSD	http://www.dspace.org/
Ekiga	VoIP client	GPL	http://ekiga.org/
Ektron	Intranet	Closed	http://www.ektron.com/cms400-web-cms.aspx?id=5748
Elgg	Social platform	GPL	http://elgg.org/
EPrints	Digital Repository	GPL	http://www.eprints.org/
Equella	Digital Repository	Closed	http://www.equella.com/
eRoom	Project-management	Closed	http://www.emc.com/products/family/eroom-family.htm
Exim	Mail server	GPL	http://www.exim.org/
Facebook	Social platform service	N/A	http://www.facebook.com/
Fedora Commons	Digital Repository	ECL	http://www.fedora-commons.org/
FENC E-Source	Digital Repository service	N/A	http://www.e-source-wm.org/home/hosts/esource/about.aspx
FileZilla	FTP	GPL	http://filezilla-project.org/
FirstClass	Mail server	Closed	http://www.firstclass.com/
FreeBSD	OS	BSD	http://www.freebsd.org/
FreeMind	Mind-mapping	GPL	http://freemind.sourceforge.net/wiki/index.php/Main_Page
Fronter	VLE	Closed	http://fronter.info/com/

Gimp	Image editing	GPL	http://www.gimp.org/
Google Blogger	Blog service	N/A	https://www.blogger.com/
Google Groups	Mailing list service	N/A	http://groups.google.com/
HP-UX	OS	Closed	http://www.hp.com/products1/unix/
IBM AIX	OS	Closed	http://www.ibm.com/aix
iMail	Mail server	Closed	http://www.imailserver.com/
IMP Horde Webmail	Webmail server	GPL	http://www.horde.org/imp
Ingres Database	Database	Closed (enterprise) or GPL (community)	http://www.ingres.com/
Intrallect Intralibrary	Digital Repository	Closed	http://www.intrallect.com/index.php/intrallect/products
JANET Web Mail Service	Service	N/A	http://www.ja.net/services/web-services/janet-web-mail-service.html
Joomla!	CMS	GPL	http://www.joomla.org/
Jorum	Digital Repository service	N/A	http://www.jorum.ac.uk/
KnowledgeTree	Document management	GPL	http://www.knowledgetree.com/
LaTeX	Document preparation system	Not open, not closed	http://www.latex-project.org/
Learnwise	VLE	Closed	http://www.s-cheshire.ac.uk/new_scc/courses/learnwise/learn.asp
Linux	OS	GPL	http://www.kernel.org/
MathWorks Matlab	Scientific computation environment	Closed	http://www.mathworks.com/products/matlab/
MediaWiki	Wiki	GPL	http://www.mediawiki.org/wiki/MediaWiki
Microsoft Active Directory	Directory Service	Closed	http://www.microsoft.com/windowsserver2003/technologies/directory/activedirectory/
Microsoft Exchange	Mail server	Closed	http://www.microsoft.com/EXCHANGE/
Microsoft Groove	Document management	Closed	http://office.microsoft.com/en-us/groove/
Microsoft Internet Explorer	Internet browser	Closed	http://www.microsoft.com/windows/products/winfamily/ie/
Microsoft Learning Gateway	VLE	Closed	http://www.microsoft.com/education/LearningGateway.mspx
Microsoft Office	Office suite	Closed	http://office.microsoft.com/
Microsoft Office Communicator	IM	Closed	http://office.microsoft.com/en-us/communicator/
Microsoft Outlook	Groupware	Closed	http://office.microsoft.com/en-us/outlook/default.aspx
Microsoft Outlook Express	Email client	Closed	http://en.wikipedia.org/wiki/Outlook_Express
Microsoft Outlook Web Access	Webmail server	Closed	http://office.microsoft.com/en-us/outlook/HA010860351033.aspx
Microsoft Project	Project-management	Closed	http://office.microsoft.com/en-us/project
Microsoft SharePoint	Document management	Closed	http://www.microsoft.com/Sharepoint/
Microsoft SQL Server	Database	Closed	http://www.microsoft.com/sqlserver/
Microsoft Windows 98	OS	Closed	http://support.microsoft.com/ph/1139
Microsoft Windows 2000 Server	OS	Closed	http://technet.microsoft.com/en-us/windowsserver/2000/default.aspx
Microsoft Windows NT	OS	Closed	http://en.wikipedia.org/wiki/Windows_NT

Microsoft Windows NT Server	OS	Closed	http://www.microsoft.com/technet/archive/winntas/default.mspx
Microsoft Windows Server 2003	OS	Closed	http://www.microsoft.com/windowsserver2003/default.mspx
Microsoft Windows Server 2007 (RC of 2008)	OS	Closed	http://www.microsoft.com/windowsserver2008/en/us/default.aspx
Microsoft Windows Vista	OS	Closed	http://www.microsoft.com/windows/windows-vista/
Microsoft Windows XP	OS	Closed	http://www.microsoft.com/windows/windows-xp/
Ministery of Defence Learning Portal (DLP)	VLE	Closed	http://www.dlp.mod.uk
Moodle	VLE	GPL	http://moodle.org/
Movable Type	Blog	GPL	http://www.movabletype.org/
Mozilla Firefox	Internet browser	MPL, GPL, LGPL	http://www.mozilla.com/firefox/
Mozilla Thunderbird	Email client	MPL, GPL, LGPL	http://www.mozilla.com/en-US/thunderbird/
MyOffice	Groupware service	N/A	http://www.myoffice.net/
MySpace	Social platform service	N/A	http://www.myspace.com/
MySQL	Database	GPL or closed	http://www.mysql.com/
NeoOffice	Office suite	GPL	http://www.neooffice.org
NetBSD	OS	BSD	http://www.netbsd.org/
NLN Materials	Digital Repository service	N/A	http://www.nln.ac.uk/
Novell eDirectory	Directory Service	Closed	http://www.novell.com/products/edirectory/
Novell GroupWise	Groupware	Closed	http://www.novell.com/products/groupwise/
Novell GroupWise Webmail	Webmail server	Closed	http://www.novell.com/products/groupwise/
Novell NetMail Webmail	Webmail server	Closed	http://www.novell.com/coolsolutions/feature/9084.html
Novell NetWare	OS	Closed	http://www.novell.com/products/netware/
Novell Open Enterprise Server	OS	Closed	http://www.novell.com/products/openenterpriseserver/
Novell SUSE	Linux distribution	Various, mostly open source	http://www.novell.com/linux
Novell ZENWorks	Computer systems management	Closed	http://www.novell.com/products/zenworks/
Octave	Scientific computation environment	GPL	http://www.gnu.org/software/octave/
OpenBSD	OS	BSD	http://www.openbsd.org/
OpenCms	CMS	LGPL	http://www.opencms.org/
OpenLDAP	Directory Service	Closed (claims open source)	http://www.openldap.org/
OpenOffice	Office suite	LGPL	http://www.openoffice.org/
Oracle Database	Database	Closed	http://www.oracle.com/database/index.html
Oracle Portal	CMS	Closed	http://www.oracle.com/technology/products/ias/portal/
Oracle Webmail	Webmail server	Closed	http://www.oracle.com/technology/products/oemail/
PBWiki	Wiki service	N/A	http://pbwiki.com/
PebblePAD	ePortfolio service	N/A	http://www.pebblepad.co.uk/
Percussion Rhythmyx	CMS	Closed	http://www.percussion.com/
phpBB	Forum	GPL	http://www.phpbb.com/

Plone Zope	CMS	GPL	http://www.plone.org/
Polopoly	CMS	Closed	http://www.polopoly.com/
Postfix	Mail server	IBM Public License	http://www.postfix.org/
PostgreSQL	Database	BSD	http://www.postgresql.org/
Prayer Webmail System	Webmail server	GPL	http://www-uxsup.csx.cam.ac.uk/~dpc22/prayer/
PRINCE2	Project-management method	N/A (not software)	http://www.prince2.com/
]project-open[	Project-management	GPL + closed	http://www.project-open.com/
Qmail	Mail server	Not open, not closed	http://www.qmail.org/
RedDot	CMS	Closed	http://www.reddot.com/
Red Hat	Linux distribution	Various, mostly open source	http://www.redhat.com/
Sakai	VLE	ECL	http://sakaiproject.org/
Sendmail	Mail server	Not open, not closed	http://www.sendmail.org/
Serengeti Systems CMS	CMS	Closed	http://www.serengeti-systems.com/
Shadow CMS	CMS	Closed	http://www.shadow-cms.de/
Simple Machines Forum	Forum	Closed	http://www.simplemachines.org/
Skype	VoIP client	Closed	http://www.skype.com/
SquirrelMail	Webmail server	GPL	http://www.squirrelmail.org/
Squiz MySource Matrix	CMS	GPL, but crucial extra modules closed	http://matrix.squiz.net
Sun iPlanet	Misc	Closed	http://en.wikipedia.org/wiki/IPlanet
Sun Java System Calendar Server	Calendar server	Closed	http://www.sun.com/software/products/calendar_srvr/
Sun Java System Communications Express	Groupware	Closed	http://www.sun.com/software/products/calendar_srvr/comms_express/
Sun Java System Directory Server	Directory service	Closed	http://www.sun.com/software/products/directory_srvr_ee/dir_srvr/index.xml
Sun Solaris	OS	Closed	http://www.sun.com/software/solaris/
SunGard SCT Luminis	CMS	Closed	http://www.sct.com/Education/p_l_prod_family.html
Teknical Facility Learning Platform	VLE	Closed	http://www.sercolearning.com/
Telligent Community Server	Social platform	Closed	http://communityserver.com/
TerminalFour Site Manager	CMS	Closed	http://www.terminalfour.com/
TikiWiki	Groupware/CMS	LGPL	http://info.tikiwiki.org/tiki-index.php
Trac	Project-management	BSD	http://trac.edgewall.org/
TYPO3	CMS	GPL	http://typo3.com/
Ubuntu	Linux distribution	Various, mostly open source	http://www.ubuntu.com/
WebCT	VLE	Closed	http://en.wikipedia.org/wiki/WebCT
WengoPhone	VoIP client	GPL	http://www.openwengo.org/
WordPress	Blog	GPL	http://wordpress.org/
Zimbra	Groupware	Closed (claims open source)	http://www.zimbra.com/