Notes from the OSS Watch Conferences and Other Meetings
University of Oxford, December 11-12, 2003

Summary

The JISC funded "OSS Watch provides the UK further and higher education community with neutral and authoritative guidance about free and open source software, and about related open standards."[1] The inaugural OSS Watch "Open Source Deployment and Development" Conference was held December 11th at the University of Oxford and OSS Watch released its first report "OSS WATCH Scoping Study."

David Tannenbaum's survey-based Study recommended OSS Watch become a source of data for higher and further education, such as a newsletters and information programs, provide training for colleges and universities implementing open source software that do not yet have the skills, and make available sample open source licenses. He pointed out the different perspectives of subject-area and administrative departments, and colleges and universities.

The Conference presentations included case studies, licensing issues, and vendor (IBM and Microsoft) perspectives. In general:

- The availability of open source software is not widely known where software decisions are made; most departments request a software product by name and have not considered open source software.

- A primary concern about open source software is long-term availability and support.

- The benefits (total cost of operation), risks, and required skills have not yet been adequately identified.

In a separate discussion, the Joint Information Systems Committee is constantly reviewing its programs for benefits and costs. The Committee is interested in software interoperability—that implies architecture—encouraging development and deployment communities for the benefits of scale.

In a separate discussion of uPortal, the University of Oxford is preparing to deploy uPortal, and seeks a strategy to ensure success when there are no mandated applications. Because of the research emphasis of the University, the SAKAI project developments may be useful.[2]

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[1] The OSS Watch Website URL is http://www.oss-watch.ac.uk/.
[2] SAKAI is a joint project of the University of Michigan, Indiana University, MIT, and Stanford University where the universities have agreed to a set of common service standards, a common architecture, and synchronized development of learning tools. See www.SAKAI.org.

The OSS Watch Conference

The Conference opened with David Tannenbaum summarizing the "OSS Watch Scoping Study."[3] The second plenary session was a brief discussion of the options and choices made by JA-SIG for the uPortal project.[4] The Development Track included Jon Maher's Bodington VLE (Learning Management System) project and Ben Lund's Urchin "Open Source Web-based RSS Aggregator and Filter software." Andrew Findlay's OSS Desktop and Brian Kelly's "Open Source? No, Open Standards" focused on deployment. Andrew Charlesworth and Susan Foster briefed developers on licenses. Paul Browning described his Zope content management deployment experience in "Open Sauce? Open Sores? Open Saws? Tales from the Front Lines" and Henrik Omma described the development of the OpenCD—a complete desktop and reference library on a CD-ROM. The conference ended with presentations by IBM and Microsoft. According to Jeremy Wray, some open source projects, such as Linux, benefit IBM and its customers and will be supported. He noted IBM's major contribution to Linux. Microsoft's Nick McGrath discussed Microsoft's commitment to open standards—especially the Web standards for interchanging data.

The presentations were purposely short—and enforced—so there could be lively discussion. Attendance was limited to about 60 people and the room acoustics permitted everyone to be heard. There were several examples where open source was not considered either because the open source products were not known or expressed concerns about long-term support. This most often occurred when subject-matter departments had decided on a specific software product. Because there is no open source "marketing" and no broad "catalogs" of available open source software, the decision not to use open source is also often made because of a lack of information. (This is consistent with David Tannenbaum's "Scoping Study").

Another consistent concern was product support. The Leeds/Manchester/Oxford support for Bodington was not mentioned; it is a practical "consortium" model. Neither was JA-SIG's commercial support model. Most appeared to be looking for a support model that has both proved satisfactory and had a long-term record of success.

> In a break conversation, a representative from Coventry University said they had a two-person firm that had done some work for them; the University was quite satisfied. But a two-person firm does not have the resources to contribute development like Unicon, Inc. or SCT where open source participation is a small part of the business. He suggested that I talk with one of the principals to discuss a possible approach to supporting open source software.

The briefs on licensing where well organized, concise, and clear. This identified two issues: The requirement for a commercial (open-open in SAKAI speak) license if

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[3] Available both at www.oss-watch.ac.uk/studies/scoping/ and www.immagic.com/ELIBRARY/INFOTECH/GENREF/OXFORD/O031204S.pdf.
[4] The presentations are also available at www.oss-watch.ac.uk/events/2003-12-11/ and www.immagic.com/ELIBRARY/INFOTECH/GENREF/OXFORD/O031211C.pdf.

commercial firms were to use the software. This implied that none of the prior work could be GNU or a similar license since this requires developed source code be returned to the "open source community."

> University of Maastricht' Rishab Aiyer Ghosh, author of the FLOSS Report, was participating.[5] In a break conversation he said it was important that commercial firms be required, by the license agreement, to "give back to the community" any development they do. I said JA-SIG had not sought this type of license, but rather "trusted" commercial partners to contribute to the common effort. And so far this has been the case. I observed that litigation is generally not feasible for a small organization or firm. He said the Free Software Foundation has been successful in enforcing these rights on the behalf of firms and organizations.

Implicit in the discussions, or lack of discussion, were these points:

- The software environment for higher and further education will include both open source and commercial software.

- Higher and further education will have some requirements that commercial software firms will not address either because of the limited market or other priorities. (The requirement for anonymous authentication and authorization for library access is an example).

- With rising enrollments and limited budgets, higher and further education are more cost constrained that the software market as a whole.

- Open standards implies technologies, such as Java and Web services, that may not be available at all colleges and universities; thus a barrier to open source implementations.

Paul Browning, in his session, his questions and comments, and break conversations pointed out that open standards are more important than open source. He is one of the several that have been trying to achieve interoperability through architecture. Underlying his approach is an attempt to achieve economies of scale through cooperation. If code could be shared—"code mobility" in SAKAI speak, if course materials could be shared, and if library materials could be shared, then substantial savings could be achieved.

> There is a subtle difference in JISC's approach, which Paul Browning represents, that may not be understood. JISC began by asking publishers what they could do to reduce distribution costs for the publishers. In turn the publishers offered

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[5] "Free/Libre and Open Source Software: Survey and Study," International Institute of Infonomics University of Maastricht, The Netherlands, October 2002. The results of the study were presented at a plenary session of the eGovOS (open source) conference at George Washington University in Washington, DC. The study found the typical open source contributor is an experienced professional working full-time at a information technology company, not a teenage "hacker." The report and presentations are available at www.infonomics.nl/FLOSS/index.htm and www.immagic.com/ELIBRARY/RESEARCH/III/III.pdf.

reduced rates. Notice that JISC is not trying to achieve lower prices by "market power," but rather by a cooperative effort to reduce the costs borne by suppliers that can, in part, result in lower costs for the universities and colleges. In the long run JISC's approach is likely to be more successful that "purchasing consortia" seeking discounts only because of market power.

IBM's Jeremy Wray described IBM's pursuit of both open source software, especially Linux, and open standards. In a break, I mentioned to him that IBM Emerging e-Business Standards Program Director Steve Holbrook had given an excellent and convincing presentation "Standards in the postWeb World" on this subject at the Postsecondary Electronic Standards Council Annual Conference, May 2003.[6]

> Wray made the unfortunate comment that "you always pay for software, there is no free software." Unfortunate in the sense that the audience included a number of major contributors to W3C, OASIS, and Apache standards and software projects. He could have admitted that there are those in society who contribute without receiving direct personal financial benefit. He could also have said that the FLOSS study shows most open source contributions come from developers who are paid to contribute.

Microsoft's Mick McGrath gave a careful presentation on Microsoft's position on open standards—which Microsoft supports—using Web services examples and commented that Microsoft wanted to be sure that all of its code was either developed internally or was acquired. In view of SCO Group, Inc.'s litigation—which he did not mention—this could be interpreted as a benefit to users.

> After the conference I mentioned that at least two of the slides were marked "Microsoft Confidential." Did this mean that his slides should not be reproduced? He said yes. The Microsoft slides are not included in the OSS Watch materials from the conference.

The OSS Watch Conference did not promote open source and none of the discussions took the form of open source v. commercial software. The discussions were the opening dialog on the benefits and costs of implementing open source products, and the barriers to open source—that are also the barriers to the new technologies in general. The "Scoping Survey" was an excellent perspective on open source software in higher and further education. As Conference chair Sebastian Rahtz commented, "These discussions will now guide our research."

Conversation with Tish Roberts, Joint Information Systems Committee

The conversation began when she asked why JA-SIG's uPortal project had been successful in building a large community. I said there appeared to be three factors. First was timing. When uPortal was developed, there were very few "portal" implementations

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[6] Slides from the conference, including Holbrook's slides, are available at www.immagic.com/ELIBRARY/INFOTECH/GENREF/PESC/PESC0305.pdf.

and the software industry was focused on development for large commercial implementations. Second, in retrospect the correct architectural decisions were made, especially the decision to use XSLT extensively beginning with version 2.0.[7] Third, the JA-SIG Board had chosen a policy of decentralized development and trust in commercial software partners. Potential users learned about uPortal in a series of presentations to professional associations where uPortal could be demonstrated. But none of us know how applicable these three factors would be to another project. Personally I believe the Board's position, especially when Board members meet with developers, has been the key factor.

We discussed the three-level SAKAI organization: The small group of developers, The SAKAI Partners who are early adopters. And the potential user community. In general, the partners have the skill set and available resources to implement early open source software—software that may not have complete documentation and does not have formal support. These same three levels is emerging for the JA-SIG uPortal. The largest number of potential users serving the largest number of students is in the third category. In the U.S. this is the community colleges and small private colleges. The California Community Colleges has reported the difficulties of creating an environment for and installing uPortal (as part of their electronic transcript project) because of the change of technology. This is similar to Further Education in the UK. Both the U.S. community colleges Further Education have limited Java and Web services skills even though all install and operate Web pages.

JISC has several studies and presentations on architecture. This emerging architecture is consistent with and leading the architecture being adopted by JA-SIG developers and will be refined by SAKAI. Both are service-oriented architectures using Web services. JISC uses an extension of the IMS enterprise specification data definitions for exchange of student data. There have been two data exchanges developed for uPortal using Apache SOAP—U.S. student financial aid and U.S. higher education transcripts. So far there has been no widescale implementation of Web services either for exchanging data between institutions or for integration between systems (such as those described by JISC's Scott Wilson).[8]

There are three actions that may make the efforts of both JISC and SAKAI more productive:

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[7] On a historical note, this decision to use XSLT extensively was confirmed and implemented following Justin Tilton's participation in the XSLT Conference at the University of Oxford hosted by Sebastian Rahtz. That invitation-only conference included many of the W3C committee members, the primary authors of XSLT articles texts, and those implementing the technology in forthcoming software products. Following this conference, Justin relayed his judgment that XSLT would be successful as a standard and useful as a technology to uPortal Architect Peter Kharchenko and Project Manager Ken Weiner. Subsequently the three of them implemented the technology in uPortal 2.0. Justin and Ken met with the Epicentric (now Vignette) product managers and learned they had reviewed the XSLT technology and planned to implement it in subsequent versions if they could confirm performance. As a result, the Vignette and uPortal designs now share many common features.

[8] SCT Corporation may consider their joint OpenEAI project with the University of Illinois as a Web services design. Java Messaging Service is used to exchange data with the SCT Banner system. SCT architect Alan Hansen points out that JMS also supports SOAP messaging.

- Use a common architecture to increase the scope of interoperability. This implies further development of architecture by both JISC and SAKAI. Currently these efforts have complementary non-duplicative scope.

- Communication and coordination in project selection and definition to ensure complementarity.

- Continue to increase communications between SAKAI and JA-SIG and JISC and its projects.[9]

  How to facilitate technology transfer to community colleges and small private colleges or further education will be difficult. It took about two-person months of a California Community College staff members time to learn about Linux/Apache/Tomcat/uPortal and the e-Transcript application sufficient to install and support I, During this time, technical support was available. Ms. Roberts confirmed that Further Education deployment is very important JISC.

Ms. Roberts has already received a number of informal enquires from universities requested funding to participate in SAKAI. I said it would be useful to have one or two universities participate as partners. I also suggested that SAKAI and JISC may want to consider a memorandum of understanding that would outline how the two organizations can facilitate each others work. Some joint planning may be useful, especially on activities that would lead to wide-scale deployment.

Meeting with Oxford University Computing Services Staff

This informal meeting was set up to exchange information about the status of uPortal and the issues of implementing uPortal, or any portal, in a complex research university. I opened the discussion listing the expected features in the forthcoming release 2.2 (and those that may be expected that will not be included) and in the SAKAI versions 2.3 and 3.0. I outlined the proposed SAKAI developments and the SAKAI Partners Program. I mentioned that SAKAI was dependent upon Mellon Foundation support. A decision could be expected mid to late December. The SAKAI Partners Program was dependent upon Hewlett Foundation support. A decision could be expected mid to late January 2004.

There were several comments about uPortal's default layout. One of the questions was whether the default layout could be changed for all users. As it turns out, there was simultaneous discussion of this issue on the uPortal Developers list. Project manager Ken Weiner suggested the default layout be limited to the minimum. Then the content should be included as a "pushed fragment" that would automatically be added to each layout. By changing the content of the fragment, the layout for the user would change the next time they logged on to the portal.

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[9] JISC's Centre for Educational Technology Interoperability Standards provides a news feed that is widely referenced in the U.S. and Canada.

Another "feature" was mentioned that represents Oxford's approach to content. The question was whether a channel was aware of the "role" of the user so the content could be rendered based on that role. In the example given, the content would have different headings and layout depending upon whether the user had a specific role. This is different from the role-based layout Justin Tilton had developed for administrative systems. He used separate style sheets for different roles. Here the content is generated. This discussion highlighted the need to relate roles to groups and to give channels the capability of knowing whether the user was a member of a specific group, not for authorization, but for content generation.[10]

Sebastian Rahtz raised a significant deployment issue. "What is the best way to ensure success of a portal implementation at [a complex research university], where there will be no central directive." I commented that you need a high-demand application. They may want to review the University of Michigan's CHEF project since it focused on support of research collaboration.

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[10] The OSS Watch Website itself may be an example. Content in this case is rendered or made available for download depending upon the user's selection of format. This is not a selection of different files of the different formats of same content, but rather different generations from the XML content. For example, presentations are available as Simple text | Single file | Normal | PDF | XML depending upon the user selection.