Notes from a Meeting on the Use of Web Services Remote Portlet (WSRP) Technology At Yale University, Thursday, May 12, 2005 and Subsequent Meeting in New York City, Friday, May 13, 2005

Purpose

Sakai is developing a version of its learning system that is presented as WSRP portlets. JA-SIG is implementing both WSRP producer and consumer in the forthcoming uPortal 3.0. The OASIS WSRP Technical Committee is completing a revision, version 2.0, of the WSRP specification that includes functionality needed for Sakai and requested by users.[1]

The purpose of this meeting was to ensure the Sakai and JA-SIG WSRP developments were consistent with the specification and intent of the WSRP Technical Committee and the development of the implementing WSRP4J software.

Summary

- The WSRP Technical Committee will be releasing version 2 of the Web Services Remote Portlet specification. A Working Draft is available now and likely will change little through the public comment period and before approval expected late this year.

- Sakai and uPortal are using the Apache Software Foundations WSRP4J code in their implementations and may be able to contribute to the Apache Software Foundations WSRP4J project.

- WSRP Version 2.0 provides for interportlet communication. This capability can be used by both Sakai in its learning, teaching, and research software and uPortal to meet the needs of developers.

- WSRP 2.0 provides a direction for implementing security. This suggests using WS-Security in conjunction with SOAP messaging; likely both Sakai and uPortal will implement WS-Security, will follow industry practices, and encourages others to use the same specifications and follow the same practices.

Background

The meeting was held at Yale University; Chuck Powell made the arrangements, but did not attend.[2] The meeting included IBM Researcher Rich Thompson, Chair of the WSRP

[1] Though never mentioned, OASIS stands for Organization for the Advancement of Structured Information Standards.

[2] Chuck Powell is also a Yale University representative to the Common Solutions Group holding its meeting at the same time.

Technical Committee, IBM Researcher Julie MacNaught, Apache Software Foundation WSRP4J committer, SunGard SCT's (Salt Lake City) Vishal Goenka responsible for the initial WSRP version of Sakai tools, Yale University's Andrew Newman, and Jim Farmer, Sakai Community Liaison. uPortal developer Michael Ivanov was unable to attend, but did attend Friday's supplementary meeting in New York City.[3]

Before the meeting Rich Thompson shared the latest editor's draft of the forthcoming WSRP 2.0 specification.[4] A background paper, "WSRP in Higher Education" was distributed.[5] Michael Ivanov had prepared a list of changes or extensions to WSRP4J that he had made or recommended.[6]

Rich Thompson began the meeting saying IBM Research is contributing to the WSRP specification, providing WSRP technical support to related IBM activities and, infrequently, assistance for IBM customers, and in promoting use of the WSRP technology. IBM has contributed to the WSRP4J project and has developed a conformance testing kit that may be made open source as well.

The WSRP Technology[7]

In response to a question about the relationship to the relationship of WSRP to the JSR 168 specification, Rich Thompson observed several members are contributing to both WSRP and JSR 168. While the OASIS WSRP specification development is open, the JSR 168 specification is not publicly available until a public review draft has been prepared for public review. (A revision of JSR 168 is expected within the next year).

In response to questions about portlets written in languages other that Java, Julie MacNaught said some work at Apache had begun on a Bridges project that would allow JSR 168 portlets to be implemented using a variety of existing web frameworks. Work has been done using Struts, PHP and Perl.[8]

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[3] Andrew Newman was the principal author of Central Authentication Services, better known simply as "CAS." The software is widely installed in higher education and has become a JA-SIG software product.

[4] "Web Services for Remote Portlet Specification [Version 2.0], Editor's Draft, 14 April 2005 available from OASIS and from www.immagic.com/eLibrary/ARCHIVES/SUPRSDED/OASIS/O050414T.pdf. A later version followed the April 27-29, 2005 New Orleans meeting of the Technical Committee. This version is available from OASIS at www.oasis-open.org/committees/documents.php?wg_abbrev=wsrp and from www.immagic.com/eLibrary/ARCHIVES/SUPRSDED/OASIS/O050516T.pdf

[5] Farmer, James, "WSRP in Higher Education," May 9, 2005, available from www.immagic.com/eLibrary/TECH/IMM/I050509F.pdf.

[6] e-mail message Ivanov to Farmer, "Re: Backgrounder for Thursday Meeting," 11 May 2005 13:55:18 GMT.

[7] The sequence of the discussion has been changed to better organize the presentation.

[8] Apache's JetSpeed 2 project lists Struts Portlet Bridge and JSF Portlet Bridge. See portals.apache.org/jetspeed-2/portlet-bridges.html. Both have demonstration portlets. Links to the sub-project documentation are no longer valid. eXo has implemented technology that permits the eXo portal describes the technology writing: "Technology wrappers portlets. One of the big advantages of the portlet API is the opportunity to use several technologies within the portlets, even if the portal itself is built upon some other technology. Thus, we provide specific portlets such as Velocity, Struts, Cocoon or a Java Server faces portlet. There is also an IFrame portlet that allows the introduction of another web application in the

Rich Thompson said the WSRP Version 2.0 specification should be completed this fall. After the public review draft has been published there is a 60-day comment period followed by at least 45 days before review and approval by OASIS. Asked about implementation, he commented that several companies are building to the version 2.0 specification and are likely to provide WSRP version 2.0 support in the first scheduled release of their products following final approval of the specification. WSRP 2.0 compliant products would likely emerge on the market 3 to 9 months following approval; that is February through August 2006. He said the Technical Committee has been careful to ensure that all WSRP 1.0 portlets would continue to operate without change in WSRP 2.0 consumers. "Everything in 2.0 is optional extensions." There are some minor changes due to changes at the WSDL (Web Services Description Language) level, but these do not affect portlets.

Although the WSRP Technical Committee is open, he commented that there are fewer small companies participating in standards setting activities and fewer representatives from larger companies. Julie MacNaught said this was true for software development as well; fewer available developers for open source projects.

The Apache Software Foundation's WSRP4J Project

Julie MacNaught said WSRP4J was a Java implementation of the WSRP 1.0 specification, but did not include all WSRP functionality.[9] WSRP4J was not intended as a reference implementation but rather code that would motivate use of WSRP.

Reviewing the list of changes and additional programming done by Michael and Vishal, Vishal commented that it would be helpful to further separate producer, consumer, and common code.[10] Julie said this is partially implemented. They also commented about "factoring Pluto away" and integration with Maven. There was some discussion about WSRP4J and Axis Beta and 1.2 RC3. Julie said this upgrade needs to be done (This was further discussion on Friday), and that it would be nice to have a pluggable web services stack. This will be helpful when implementing WSRP Version 2.0. One of the key differences between the current WSRP4J and its implementation in uPortal was the use of a database management system.

Julie commented that the functionality of the suggestions and coding done by uPortal and Sakai was consistent with comments from other WSRP4J users. She said perhaps Vishal and Michael could contribute to the WSRP4J development. In response to their questions about participation, she suggested that they document their suggested changes and extensions on the WSRP4J list to see what consensus emerges. (In addition to the

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portal, making it possible to use PHP, ASP or CGI applications in Java portlets." From www.exoplatform.com/portal/faces/public/exo/home/products/editions.

[9] See "Web Services for Remote Portlet: Status of the WSRP4J Project," an edited collection of pages from the Apache Software Foundation Website, 4 Sep 2004 (www.immagic.com/eLibrary/ARCHIVES/GENERAL/IMM/I040904A.pdf).

[10] Michael Ivanov provided a list of suggestion in his e-mail "Background for Thursday Meeting," 11 May 2005 09:55:18-0400.

WSRP4J list, there are an OASIS WSRP, WSRP-User, WSRP-developer lists. There is also a WSRP group on Yahoo.) Then Julie said she would assist with committing code.

Security

Rich said WSRP users are implementing WS-Security. WS-Security supports exchanges of security tokens and token references. He said the WSRP producer needs to know the consumer's (server) identity (in some circumstances this would be the chain of all intermediaries touching the message) and often the end user's identity.

When I asked about someone who could assist us on security, he said an IBM researcher had been advising and should be able to assist.

The key to interoperability will be the SAML attributes. Andy Newman said higher education uses EDUperson, a development from the Internet 2 MACE project. I commented that higher education has not been very careful about attributes in other Web Services applications and there was little commonality, usually from not knowing about other standardization efforts.[11] Ohio State University's Scott Cantor has participated in the Internet 2 security efforts, is a principal author of the SAML 2 specification, and led the Open SAML development. One of the objectives of the OASIS SAML committee was convergence of industry's Liberty Alliance federation scheme, Internet 2's Shibboleth, and the legacy implementations of SAML, especially U.S. federal implementations. (The U.S. General Services Administration (GSA) does interoperability testing of SAML-compliant security software. GSA approval is required before security software can be purchased by federal departments and agencies. At least that is the policy; in practice there are numerous exceptions).

The group discussed who could, if together briefly, develop a WSRP implementation profile for higher education.

Interportlet Comunications

WSRP version 2 supports interportlet communications. It appears the available options are sufficient to meet uPortal and Sakai needs. After further discussions with Sakai and uPortal, any development would focus on extending WSRP4J rather than develop organization-specific code.

Further Actions

Because Micheal Ivanov had been unable to attend, a meeting with Vishal was scheduled for New York City the following day before Vishal's evening flight. (Notes from this meeting follow).

[11] Although invited, higher education has not worked with or attempted to implement established industry standards efforts such as the financial community's IFX, human resources HR-XML, computer-based training AICC, and K-12's SIF.

Sakai and uPortal will continue to follow the WSRP version 2 specifications with the intent to deploy consistent with the specification. Sakai and uPortal will also continue communication with the WSRP Technical Committee or suggested advisors.

Michael and subsequently Vishal will contact Julie about contributions to WSRP4J.

WSRP Meeting, Part 2

Because Michael Ivanov was unable to attend the WSRP meeting Thursday at Yale University, he joined Vishal Goenka and Jim Farmer in New York City to discuss WSRP in uPortal and Sakai.

Summary

- Michael and Vishal believe it would be useful to be able to commit their changes of WSRP4J code to the Apache CVS repository as suggested by WSRP4J committer Julie MacNaught.

- The current Sakai work (Vishal) is limited to integrating WSRP producer into Sakai; the current uPortal 3.0 work (Michael) includes implementation of WSRP consumer and producer for uPortal 3.0. Both are nearing completion.

- There may be some uncertainty about the best layout for Sakai in a portal; all are currently proceeding assuming the appearance and navigation currently in CHEF would be replicated in the portal.

Work on WSRP Producer

Michael had developed WSRP consumer and producer based on the Apache Sofware Foundations WSRP4J code for use in uPortal version 3.0. Vishal had developed WSRP producer from the same WSRP4J code for use in Sakai. Both had similar experience with the code, especially the changes in the Axis-generated client stubs that occurred between Axis 1.2beta and Axis 1.2 RC3. In the discussions they agreed to a common approach subject to further discussions with WSRP4J committer Julie MacNaught. Vishal has enabled WSRP producer functionality for every one of the Sakai "tools" (without actually modifying the individual tools themselves) although some tools, specially some legacy CHEF tools will need some modifications to be supported correctly over WSRP.

Vishal demonstrated Sakai tools running in uPortal on his laptop. He demonstrated a single tool and then two and finally three tools running in a single column on a single tab. These tools can be added in different columns or tabs similar to the way any uPortal channel can be. He pointed out that his first task was to implement WSRP producer in Sakai to enable Sakai Tools to be used from a WSRP consumer; navigation was a subsequent step. He provided a copy of his code to Michael to test with uPortal 3.0 WSRP consumer.

Contribution to Apache Software Foundation's WSRP4J Project

Both said they thought it would be useful if the code they developed was contributed to the WSRP4J project as Julie MacNaught had suggested. This would be a two-step process; First, through a message to the list ask others about the value of each of the contributions. Julie said discussions suggest that others are making the same changes and

extensions to WSRP4J as Michael and Vishal had made, and would appreciate the changes being submitted. Second, pass the changes and extensions to a WSRP4J committer to be included in the code base.

Michael said participating in the Apache project would ensure the WSRP4J product was closer to the code used for Sakai and uPortal and would therefore reduce future maintenance effort. The comments Thursday by Julie suggest this would be the case and shows the potential value of Sakai participating in the WSRP4J development effort.

Conceptual Approach to Sakai Layout

When Vishal demonstrated two portlets on a tab in uPortal 2.4.2, the portlets were as wide as the layout (single column) and stacked from top to bottom, although he said they could just as easily be configured in multiple columns.

I said I thought there would be only one tool in the layout with the navigation and tool layout appearing like the current CTools. I expected choosing a tool would change the content in the tool area. With interportlet communication (WSRP version 2.09) as discussed on Thursday, this could be done with two portlets, one for navigation and one for tool presentation. Note the assumption on my part that Sakai would replicate its CTools layout exactly in the portal.

Michael pointed out that aggregated layout could be used for combinations. There is no reason why you couldn't have more than one tool being displayed in the layout at the same time. He also mentioned that portlets can be "detached" providing a full screen layout of the one portlet.

> Comment: The detached layout would not be satisfactory to Indiana University. It is imperative that navigation appear in the detached portlet as well.

Vishal said he didn't have a strong preference on how the Sakai layout should appear in the portlet; that was a subsequent step. He has some ideas, but requires further discussions.

Context, in the Sakai sense, would be related to the "tab" with a "tab" being equivalent to a Sakai "worksite." Again this is an assumption and there may be other alternatives as well.

The SunGard SCT Commitment

Vishal observed that he has completed SunGard SCT's commitment to Sakai—integrating WSRP producer with Sakai tools. This work was to be completed by the end of June, but because of Vishal's pending move to the U.S. late May, the work would extend until mid-July. Vishal does not foresee any issues with his participation in this effort until mid-July to complete this work. He is uncertain whether he could continue the

work beyond that timeframe to resolve pending issues such as navigation, site-specific context and inter-portlet communication.

From: Michael Ivanov <mivanov@unicon.net>
To: Jim Farmer <jxf@immagic.com>
Subject: Re: Backgrounder for Thursday Meeting
Date: Wed, 11 May 2005 09:55:18 -0400

[Excerpt]

On Wednesday 11 May 2005 09:38, you wrote:
> I would like to discuss two topics with you: What would be the topic of
> your meeting with WSRP4J lead Julie MacNaught if that were to be set up?

I would talk about WSRP4J architecture - I am really concerned about the future releases. There are some technical issues that I need to talk with her about, for an example:

1) The possible use of IoC components - will bring a lot of flexibility into the system
2) Flexible persistence layer - should be abstract and configurable enough to switch between different DB implementations and JDBC vendors.
3) Flexible logging - the use of Apache Common logging would be very useful
4) Configurable error handling
5) Configurable properties location
6) Latest Axis releases support - the current WSRP4J consumer does not work with Axis 1.2 RC3 since the client stubs have been generated for Axis 1.2beta. I have modified these stubs myself and now the WSRP consumer and producer work with Axis 1.2 RC3 in uPortal 3.

Also I would suggest to her that I can contribute to future releases of WSRP4J, particularly when the WSRP 2.0 spec comes out.

Michael

```
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X-UIDL: <200505110955.18035.mivanov@unicon.net>
X-Mozilla-Status: 0013
X-Mozilla-Status2: 00000000
Return-Path: <mivanov@unicon.net>
Received: from [66.171.229.134] ([141.156.110.206])
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          (InterMail vM.5.01.06.05 201-253-122-130-105-20030824) with ESMTP
          id <20050511135539.UHGK1605.mm-mp4.bizmailsrvcs.net@[66.171.229.134]>
          for <jxf@immagic.com>; Wed, 11 May 2005 08:55:39 -0500

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Content-Disposition: inline
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```

Date: Thu, 12 May 2005 08:01:40 -0400
From: Elliot Metsger <emetsger@jhu.edu>
Subject: Re: Library systems and uPortal and WSRP
In-reply-to: <4280F7C8.30304@immagic.com>
To: Jim Farmer <jxf@immagic.com>

Publisher's Note: His comments refer to the 14 March 2005 Editor's Draft rather than the 16 May 2005 Working Draft prepared after the WSRP Technical Committee's Face-to-face meeting 27-29 April 2005 in New Orleans. The paragraph references have changed.

Hi Jim,

Sorry re the delay. Some bulleted concerns:

* no implementation (that I could see) of user profile support (WSRP.6.1.17,WSRP6.1.18,WSRP.5.1.11) in wsrp4j - we were looking at working on this
* security - I'd like to see this area formalized to use WS-S. More generally have a framework to authenticate attribute and authn assertions. Somthing SAML-based I suppose. Might be a slippery slope, how much security stuff do you put in a spec that is for content presentation? I'd like to see the WSRP4J be more "saml friendly" I guess, so i can use WSS4J.
* more robust implementation to store preferences besides serialized castor objects. Currently WSRP4J's implementation stores serialized preference data on the disk of the webserver, making it difficult to put producers behind loadbalancers.
* lack of committer/development activity in the WSRP4J project. I know that there are people like me who want to help, but I think we need some direction, prioritizing things that need to get done and divvying up the work.

Right now I guess most of my issues are specific to the WSRP4J impl not so much the spec, with the exception of security.

Thanks Jim - Hopefully this will make it to your inbox on time.

I will take a closer look at the editor draft of 2.0 and provide some more coherent comments.

Thanks,
Elliot

Jim Farmer wrote:
> Let me suggest an alternative.
>
> If you could summarize--say bullet points--in a e-mail message by
> Wednesday night, I would pass them to Julie MacNaught on Thursday. Then
> put your thoughts in writing whenever it is convenient and I will
> arrange to get them to her whenever you complete them.
>
> jim farmer
>
> Elliot Metsger wrote:
>
>> Hi Jim,

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>> Jim Farmer wrote:
>>
>>> I have arranged for two meetings on WSRP. Thursday the uPortal,
>>> Sakai, and likely Blackboard representatives will be meeting with
>>> OASIS WSRP Technical Committee Chair Rich Thompson and IBM Researcher
>>> and WSRP4J committer Julie MacNaught at Yale University to discuss
>>> implementation of WSRP and the opportunities in using the WSRP
>>> version 2.0
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>>
>>> specification for interportlet communication and, in conjunction with
>>> the SAML committee, security.
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>>
>> Excellent. Security and ipc were some of my concerns. I've never
>> formalized them in written form so I'll take the time to do so.
>>
>>> (If you want to see an editor's version of the specification go to
>>> www.immagic.com, click on the eLibrary tab, look at the RSS feed
>>> right column, and clock on the May 9th reference). One of the
>>> discussions will be contribution to the WSRP4J. A brief note of what
>>> changes you would like to see in WSRP4J would help. Although the
>>> message may be addressed to me, remember that I will be discussing it
>>> with Mr Thompson and Ms. MacNaught.
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>>
>> Of course. Thanks for the opportunity to comment. When would you
>> need comments by? I'm planning on being out of the office from
>> Thursday May 12 through Sunday May 22. Would that pose a problem if I
>> didn't get back to you until after May 22? (I may send them earlier
>> but I don't want to jeopordize my life -- my wife may not let me work
>> on work during vacation :)
>>
>>> The second meeting will be a WSRP implementation strategy meeting
>>> Saturday Jun 11 that should include CREE, Sakai, Moodle, and Blackboard.
>>
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>>
>> Are these meetings open or just to members of the project (just curious).
>>
>>> Because of your interest, I will send you some of the WSRP document
>>> as they become available.
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>>
>> Excellent, I would be very interested in reading / commenting.
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>>>
>>> Would appreciate your comments on WSRP4J.
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>>
>> Will do, just let me know about the timeline.

>>
>> Regards,
>> Elliot
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>>> jim farmer
>>>
>>>
>>> Elliot Metsger wrote:
>>>
>>>> Jim Farmer wrote:
>>>>
>>>>> Rather than release "yet another commercial" portal as Elliott
>>>>> suggests Dynix is doing, the CREE Project at the University of Hull
>>>>> is creating a series of WSRP standard portlets that will support
>>>>> different search services. (uPortal, Oracle--including PeopleSoft,
>>>>> IBM, Sun, Vignette, Plumtree and Microsoft's Sharepoint portals all
>>>>> now support WSRP consumer).
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>>>> I definitly recommend going the WSRP route, though we have had some
>>>> issues with the WSRP4J project. We've had success integrating using
>>>> WSRP (uPortal as the consumer), and are looking forward to utilizing
>>>> uPortal's WSRP producer capabilites.
>>>>
>>>>
>>>>> Rice University has become a Sakai partner. Likely someone from
>>>>> Rice will be attending the SEPP Conference in Baltimore. If so,
>>>>> then suggest they meet with Chris Awre of the CREE project and any
>>>>> of the Johns Hopkins team who are working in libraries such as Jim
>>>>> Martino or Sayeed Choudhury. They are well informed and very good.
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>>>> Yes I can attest to that. We will all be there (the JHU folks) for
>>>> SEPP, and we'll also have some sort of representation at the uPortal
>>>> conference as well. Hopefully we can meet and put faces to names!
>>>>
>>>> Elliot
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>>>>>
>>>>>
>>>>> jim farmer
>>>>> Sakai Community Liaison
>>>>> Omer Piperdi wrote:
>>>>>
>>>>>> Is there any list of schools that have their library systems
>>>>>> integrated to uPortal? What are these library systems?
>>>>>>
>>>>>> Thanks,
>>>>>> Omer
>>>>>> ********** To JOIN or LEAVE this list, click on

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>>>>>> the link below:
>>>>>> http://list.unm.edu/cgi-bin/wa?SUBED1=jasig-portal&A=1 Or send a
>>>>>> blank email message to one of the following addresses: JOIN:
>>>>>> jasig-portal-subscribe-request@unm.edu LEAVE:
>>>>>> jasig-portal-signoff-request@unm.edu To change your list
>>>>>> PREFERENCES click the link below:
>>>>>> http://list.unm.edu/cgi-bin/wa?SUBED1=jasig-portal
>>>>>>
>>>>>> JASIG uPortal Home Page: http://www.udel.edu/uPortal
>>>>>> ****************************
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 <4280D8F8.6000908@immagic.com> <4280E339.6020800@jhu.edu>
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WSRP In Higher Education

Publisher's Note

This background paper was prepared for OASIS WSRP Technical Committee Chair Rich Thompson and IBM Researcher and Apache Software Foundation WSRP4J committer Julie MacNaught.

Representatives from the Sakai Project, JA-SIG's uPortal Project, Yale University, and possibly Blackboard, Inc. will be meeting with Mr. Thompson and Ms. MacNaught[1] Thursday May 12th at Yale University. The objective of the meeting is to develop communication so the implementation of WSRP and ensure the further development of WSRP4J by these projects is consistent with the vision and interpretation of the WSRP specifications of the Web Services Remote Portlet Technical Committee.

Some WSRP Implementation Projects in Higher Education

The Sakai Project

The Sakai software is a Collaborative Learning Environment available as open source for colleges and universities. This development has been done by the University of Michigan, Indiana University, Stanford University and Massachusetts Institute of Technology. Version 1.0 and 1.5 of the software was used by the University of Michigan for production beginning August 2004 and for a large-scale—8,000 students—pilot at Indiana University beginning January 2005. In addition to the four universities, 22 members of the Sakai Educational Partners Program have confirmed they will be implementing the product Fall 2005. An unknown number of others have or will also begin implementation.

The software is written in Java and generally follows open standards.

Sakai Version 2.0 will be released in June; version 2.1 late summer/early fall. Version 2.1 will include WSRP producer based on WSRP4J and will be tested in several portals supporting WSRP consumer. (A release with WSRP will be available earlier, but not a formal software distribution). [Joseph Hardin, University of Michigan is the principal investigator for work done under a grant from the Andrew W. Mellon Foundation and funding from the Sakai Educational Partners Program. Charles Severance, University of Michigan is Chief Architect. SunGard SCT staff member Vishal Goenka has done the development of the WSRP version].

Stanford University, in conjunction with MIT and Indiana University, has developed an assessment tool available in Sakai 2.0.

[1] Yale University is a Blackboard user. An invitation, affirmed by Yale University, was extended to Blackboard because of their interest in a WSRP version similar to the Sakai software.

The University of California, Berkeley, with assistance from MIT and the Sakai Tools Team, has developed a grade book that will be available as tool in Sakai 2.0.

Foothill College, a Silicon-Valley California community college, has developed a course authoring tool called Melete available for Sakai Version 1.5.1 and course presentation in their Etudes NG (Next Generation) for Fall 2005 production. This implementation has comparable features to commercial and other open source learning management systems.

JA-SIG's uPortal

The Java Architecture Special Interest Group developed a university-specific portal called uPortal that first became available late 2000. WSRP consumer was available beginning with Version 1.4.2 available January 2005.

Although JA-SIG cites more than 100 registered users of uPortal, uPortal code is a significant part of two commercial portals—SunGard SCT's Luminus product and Unicon, Inc., Academus portal. There are 400 users [licensees] of these two products; total use of uPortal is estimated be 500 to 600 colleges and universities, about one-third outside the U.S.

Version 3.0 of uPortal is being developed in conjunction with the Sakai Project with a series of releases during the summer with a final release scheduled for early November. [uPortal was developed under a grant from the Andrew W. Mellon Foundation. Carl Jacobson, University of Delaware was the principal investigator. Unicon's Peter Kharchenko has been the Chief Architect beginning with version 2.0 Michael Ivanov has been the lead in WSRP implementation, first with instructional media + magic, inc. and recently with Unicon, Inc. Yale University and Rutgers University are major contributors]. WSRP producer and consumer, based on WSRP4J and Pluto, is scheduled to be available late May for use by Sakai developers. The WSRP producer registry will be added in the Alpha release of uPortal 3.0 late August.

uPortal supports Central Authentication Service (CAS) developed by Yale University and now supported by JA-SIG. More than half of the uPortal installations use CAS. CAS appears to be used in at least 200 colleges and universities not implementing uPortal.

Blackboard, Inc.

At an April 22d meeting David Yaskin, Vice President of Product Strategy, indicated an interest in WSRP. Using the same approach as Sakai, the WSRP version of Blackboard would include a WSRP producer. The purpose is to support Blackboard in an enterprise portal. If incorporated in a product, Blackboard would continue to support the Blackboard Community Portal.[2]

[2] Blackboard's policy and federal regulations prohibit discussion whether or when a development may appear in a product until the product's formal release. Mr. Yaskin did not comment on the status of Blackboard's research or development, but rather an interest in the alternative.

In a telephone call May 9th, Mr. Yaskin commented the security road map was Blackboard's special interest in the Version 2.0 specification. He said it would be useful if all WSRP portlets requiring security were to use the same architecture and same attributes. He is aware of the CREE portlets and other portlets that Blackboard users may want to have access.

U.K. Joint Information Systems Committee (JISC) CREE Project

The Joint Information Systems Committee has funded several integration projects and several research projects that have been developed using WSRP or SOAP. The CREE (Contextual Resource Evaluation Environment) Project developed several WSRP portlets are part of their research project into the use of search. The project is part of the JISC Portals Programme.

The CREE portlets have been tested using uPortal and should be ready for deployment late summer.[3] [Ian Dolphin, University of Hull, is the principal investigator; Chris Awre is the project manager. University of Edinburgh, York, and Oxford contributed to the project. Michael Ivanov did the Google portlet and established the template].

Moodle Learning Management System

In August 2004 Moodle partner remoteLearn.net said that Moodle clients would like to have a version that worked in uPortal. Moodle is written in PHP; uPortal was written in Java and had an iChannel interface for channels. [Martin Dougiamus of the Moodle Foundation heads development; Bryan Willians is head of remoteLearn.net, a principal implementer of Moodle in the U.S. and for the U.S. Agency for International Development].

remoteLearn.net now would like to have a WSRP version of Moodle and has begun early investigation of WSRP from a PHP application. [A similar question came from JISC asking about WSRP from a Perl application].

The Meteor and ELM Applications

In 2001 a demonstration application using Soap and uPortal's iChannel interface was developed that sought and aggregated U.S. student loan data for students. The application, called Meteor, was subsequently developed for financial aid professionals and presented as an application at the Websites of lenders. The system has been in production about five years with high volumes on the 22 information-providing Websites.

The original concept was to have a channel that would be available in college and university portals. The channel would use the authentication and authorization of the portal—called "transitive trust"—rather than have the student register separately for this service. Now that WSRP portals are available on campus, discussions are beginning with both the Meteor Advisory Committee, that sponsors Meteor development and provides

[3] Although a research project, the portlets have been developed for production use.

implementation support, and ELM Resources about moving to open standards by using WSRP and WS-Security and SAML, UDDI, and continue to use SOAP messaging.

ELM Resources support a similar system based on earlier technology. ELM likely would be able to complete development by January 2006.

Discussions with the Meteor Project and ELM Resources abut the implementation of open standards in their software products and supporting systems begin late this month.

WSRP Implementation Strategy

The colleges and universities would benefit from the interoperability that strict adherence to the WSRP specification would provide. There is an emerging implementation strategy that would make broad implementation possible. Although the strategy will be discussed at future meetings, these steps seem reasonable.

1. CREE Library Portlets

The University of Hull's research shows students and faculty are frequent and sophisticated users of search. The current CREE portlets do not require the user be authenticated or authorized; compliance with WSRP 1.0 is sufficient. Some capabilities under development—federated search and management of sets of bibliographic entries—would exceed the capabilities of current Website access and require WSRP 2.0 capabilities. Because of the installed base of WSRP-compliant portals, there should be rapid adoption of the CREE portlets. This, in turn, serves as an incentive for the installation of portals, such as uPortal, with WSRP consumer support.

2. Learning Management Systems

A WSRP version of Sakai should be available late summer/early fall and will have been developed using uPortal. Interoperability testing with other portals should follow for fall availability.[4]

A WSRP version of Moodle is likely late fall.[5]

If it appears Blackboard is interested in a WSRP version, then other learning management systems will follow. Because of its release cycle, Blackboard and other commercial systems could release a WSRP version as early as the first or second quarter of calendar 2006.

[4] There are discussions about an Interoperability Lab where developers would have access to various portals and learning management systems to test interoperability. This Lab is likely to be operational at a university by August.

[5] The schedule depends upon funding. Two consortia of U.S. colleges and universities are considering this option.

Learning management systems will require some integration (via Sakai APIs and Blackboard's Building Blocks) to pass authentication and authorization from the portal to the WSRP portlet and the use of WS-Security to pass this information between the consumer and producer.

3. Meteor and ELM Resources

Because Meteor and ELM Resources does exchange federally protected data and may have transactions that require logging, some additional development of security and logging will be required. Current applications require prior registration of the user at any one of several Websites.

The second and third wave of implementation follows software development to support security. The schedule could implement security before the WSRP Technical Committee will have issued final specifications (Section 13). The Editor's Draft of the WSRP 2.0 specification suggests security will follow other web services specifications now under development; the schedule for security appears influenced, but not determined, by the WSRP Technical Committee.

One of the emerging requirements for search portlets is the aggregation of bibliographic entries from different portlets (shared persistence of data). JISC may be willing to extend its research and development program to include this feature, but would need guidance on the preferred way of accomplishing data shared among portlets. A similar exchange of data between search portlets and the learning management system would follow. An early application and Sakai "tool," Twins Peaks from Indiana University, is an example of functionality, but not the WSRP technology.

uPortal has maintained liaison with Internet 2/Shibboleth via Steven Carmody, Brown University, and with the SAML Technical Committee via Scott Cantor, Ohio State University (and author of Open SAML). Discussions between a representative of the WSRP Technical Committee and SAML TC member Scott Cantor may provide the methods of security consistent with the WSRP and SAML direction.

WSRP4J is the basis for most of the WSRP work in higher education. Contributions to WSRP4J consistent with the new specification and WSRP4J direction may be the most appropriate and productive approach to long-term interoperability and low cost of maintenance. Higher education is prepared to make this contribution.