
Next steps: developing federated access management to grow your institution's e-business

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The UK Access Management Federation (the UK federation), jointly funded by JISC and Becta, has produced a range of case studies to support schools, colleges and universities in their implementation of federated access management, to manage access to resources and services. The case studies include examples of institutions that were enthusiastic early adopters and those that adopted after launch of the federation in November 2006.

The case studies demonstrate that each of the institutions that joined the UK federation had a strong business case for doing so. For example, the new technology may already have been compliant with an institution's information architecture because it used the same open standards; streamlining and simplifying access to third-party resources would potentially increase their use and therefore represents better value for money. Using open source technology with community support can also be more cost-effective in the long term than subscribing to a commercial product.

Most institutions have taken a phased approach to implementing the new technology, starting with ensuring that students and staff could access all the external subscription-based resources provided through the library, using only their institutional username and password. With the vast majority of UK further and higher education institutions having joined the UK federation, colleges and universities are now beginning to think about next steps in embedding federated access

across the institution, to maximise on their initial investment. Rhys Smith, engineering consultant, identity and access management, at Cardiff University said:

'Now Shibboleth [federated access management technology] is here people are thinking of exploiting other possibilities like VLEs, portals, cross-institution collaboration and wikis.'

Kingston University is one such institution that is looking to the future. Its healthcare faculty is run jointly with St George's, University of London, so students who are members of both institutions have to be provided with access to both sets of resources. Identity management between partner organisations therefore needs to be carefully managed, since previously students would have been given two or more sets of usernames and passwords.

Kingston University has also recently become a member of the South West London Academic Network (SWAN) – a partnership between Kingston, Royal Holloway and St George's, University of London. Elizabeth Malone, head of content development at Kingston, said:

'Students are enrolled at three organisations and have three different identities registered on three different systems. Simply dealing within your own organisation is complex enough; it becomes even more so when each organisation is doing its own identity work and has its own system for identity management.'

Kingston's longer-term aspiration is to create a 'meta-university' portal where resources exist for users without their appearing to be linked to any one institution, making the user experience even more seamless.

Other institutions, such as Loughborough College and West Nottinghamshire College, are already providing federated access to their virtual learning environment (VLE) and are seeing a marked increase in the use of resources. Lynne Spicer, learning resources team leader, Loughborough College, said:

'From on the ground in the learning resources centre, it is clear to see that the resources are being used more by the students and they are being used in a better way.'

One of the difficulties encountered by users is the inconsistent way in which different publishers present their user login page, otherwise described as 'the discovery problem'. For example, pub-

lishers often use different terminology that can potentially be confusing for users – such as 'Enter authentication credentials through Shibboleth', 'Login by UK federation' and 'Login via your Institution' – and different branding and logos. As institutions move towards becoming service providers in the federation, this issue will also apply to them. The recent JISC service provider interface study explored these issues and has made some very practical recommendations for service providers regarding the user interface, recommendations that will almost certainly improve the user experience. These include creating a brand for educational federated access and a set of guidelines on how to implement a WAYF (Where Are You From) service, which will increase login consistency and reduce the number of steps a user needs to take in order to log in. The new brand and guidelines will need to be agreed and adopted by federations worldwide in order for it to be successful.

In order to become an identity provider within the UK federation, an institution must first build a directory of all its users and which resources they are entitled to access, by providing them with an identity linked to a set of attributes. Many institutions had previously held data about their students and staff in different information systems and therefore spent quite a bit of time building the directory and deciding which resources different types of users would have access to. Although this was one of the more difficult and time-consuming steps in becoming a federation member, the long-term benefits far outweighed the effort required to put the directory in place.

As the case studies have proved, a directory can potentially enable institutions to automatically provide usage figures to publishers, ensuring legal compliance with license regulations. (This is something that JANET (UK) are doing some development on to streamline the system and the process.) Institutions will also be able to co-operate with publishers regarding usage requirements in licensing agreements, as they will be able to identify any users that misuse the materials they have access to. Rhys Smith of Cardiff University said:

'We now have a defined list of permitted users of resources. If a publisher wants to audit usage, we can say "These are all the people allowed to access it" ... we have a much better legal compliance with licence restrictions than we had before.'

In addition, librarians will be able to manage subscriptions to external resources more easily within their very tight budgets and to cut down on the amount of unnecessary administration required to update numerous databases, usernames and passwords. Elizabeth Malone at Kingston said:

'At the end of the day, the library is trying to support teaching staff by providing access to quality resources. We are already up against the challenge of the student who thinks a Google search or Wikipedia is sufficient research for their assignment. We are paying hundreds of thousands of pounds for quality resources, but there is no incentive to use them if students are having to leap hurdles ... we must focus on what will offer the best student experience. Students don't see why they should hop around between different lists and they don't like "multiple passwords". They want their access kept simple.'

Ultimately though, it will be the users that benefit as they are provided with easier access to those resources most relevant to their field of study, any time and from anywhere. Furthermore, good identity management will enable institutions to more easily extend access to business and community organisations.

David Lewney, of IT services, Sussex University, said:

'Library staff say that the user experience is much better than before, especially for off-campus users ... the Shibboleth logs give a good idea of which subscriptions are giving value for money.'

He went on to say that the main benefit of implementing Shibboleth was having access to clean data in an accessible form – 'it provides a foundation for all kinds of future work'.

Improving the student experience doesn't just end there. As well as creating a single sign-on for users, thereby reducing the number of usernames and passwords they have to remember, the use of WAYFless URLs (a direct web link to the resource which identifies the institution for authentication purposes) can be embedded by learning and teaching staff in their teaching materials so as to take students directly to a particular resource, making access for users as simple as possible. JISC is planning to do further work in this area to provide examples of how to use WAYFless URLs effectively, building on the advice and guidance already provided by the JISC-funded project 'Gabriel' at the London School of Economics.

Responding to the government's agenda for institutions to engage with employers and extend access to resources for lifelong learning and work-force-development opportunities, JISC recently commissioned Oakleigh Consulting to undertake a scoping study looking into how colleges and universities can extend access to organisations external to the institution, where institutions take on the role of a 'service provider' within the UK federation. The report calls for institutions to put in place 'an institutional access policy, governing rights of certain groups to institutional resources, as part of a wider, more strategic approach to managing and disseminating information', as Cardiff has done through its board-led membership categories entitlements group. The report makes recommendations for next steps in addressing some of the key issues, such as enabling the current federation infrastructure to support business and community users as members, ideally by opening up institutional and third-party resources through a simple web interface, clarifying access rights to external resources and scaling up the current infrastructure and support.

As with the initial implementation, sharing best practice in using federated access in different ways across an institution will be extremely useful for those who are also thinking about next steps. The case studies cited many sources of community support for using federated access, including JISC regional support centres, the UK federation, JISC, Internet2 and the institutions themselves. There is no doubt that there is community support and sharing of best practice will continue with the next phase of development for institutions, and that JISC and the UK federation service will be central to that support. JISC is fully committed to its range of services becoming service providers within the UK federation, and major data and service providers such as Edina, Mimas, JANET (UK) and the British Film and Video Council (BUFVC) are already providing federated access.

It will also be important for library and IT functions to get buy-in from senior management and to continue working in partnership to take forward any new projects, which has also been the case with institutions' initial implementation of federated access. Andy Swiffen of Dundee University describes his relationship with library personnel:

'We've established a very good working relationship which has been instrumental in moving us forward into the federated world.'

As with institutions' implementation of federated access to become identity providers in the UK federation, developing the infrastructure to integrate internal systems and processes to become a service provider will require a degree of time and human resources to take forward any developments. This can have its advantages, however, as many staff who were interviewed mentioned the benefit of developing their skills in-house as well as building a closer relationship with publishers and other service providers.

Institutions such as Kidderminster College and Cardiff University, who were early adopters of the new technology, have seized the opportunity of utilising federated access to their institutions' strategic advantage. Kidderminster used its expertise to set up a consultancy service to smaller institutions and publishers that don't have the resources or expertise in-house to implement the new technology. Cardiff is a service provider within the UK federation, providing access to externally supported services such as European Sources Online. Enabling this service to be more easily accessed by external users via the UK federation was a strategic decision by Cardiff because it made the managing of identities more streamlined and reduced the administrative overheads.

It won't be long before others are thinking about how they can best use federated access management to benefit their institution and its widening range of users. Sarah Lowe, electronic resources co-ordinator at the University of Brighton, said:

'Now we will hopefully start to consider the integration of existing systems and perhaps an internal federation of services.'

JISC held a 'Federating, the next generation' conference on the next steps in taking up opportunities presented by federated access management technology in Cardiff, in November 2009. To find out more about the event, visit: <http://www.jisc.ac.uk/events/2009/11/federatingthenextgeneration.aspx>.

FOR FURTHER INFORMATION

'UK Access Management Federation case studies', at <http://www.ukfederation.org.uk/content/Documents/CaseStudies>

'Extending access to resources' report, at www.jisc.ac.uk/media/documents/programmes/bce/extendingaccessmanagementreport.pdf

WAYFless URLs, at <https://gabriel.lse.ac.uk/twiki/bin/view/Projects/WayfLess>

'Service provider interface study', at <http://sites.google.com/site/publisherinterfacestudy/>