Using Shibboleth Authentication with Blackboard

WHAT IS SHIBBOLETH ?

Shibboleth is technology that helps to establish a given user's identity (*authenticate* them) and whether they have the right to access a particular resource (*authorise* them). Rather than use one large database, the process is devolved to groups – known as **Federations**. The infrastructure is based on **SAML** (Security Assertion Markup Language).

Federated identity allows an institution to share some information about their users with others within the same federation. This allows cross-domain single sign-on, removing the need for content/service providers to maintain their own lists of usernames and passwords. **Identity providers** supply user information, while **service providers** consume this information and control access to secure content.

Shibboleth is a Hebrew word that literally means "ear of wheat" or "torrent of water". It is associated with identity and authorisation because of a story where the way an individual pronounced this word could be used to discriminate between two warring tribes. The ones who couldn't pronounce the "sh" sound were put to the sword. Not very nice ☹

WHY USE IT WITH BLACKBOARD ?

As Shibboleth adoption increases it is likely to become a common form of authentication. If your Blackboard server is configured to accept Shibboleth identities then you reap the following benefits:

• Users have less passwords to remember

• Support staff have less accounts and passwords to manage

• Single Sign On (SSO) solutions are easy to implement

• It simplifies the process of managing and authenticating Blackboard users from other institutions

Blackboard should be an easy Shibboleth install, as it only uses the identity provider for authentication (the password check). Authorisation questions – e.g. whether you can see a given portal tab, can perform Sys Admin tasks or are enrolled in a course – are still handled using queries to the existing Blackboard database.

SETTING IT UP

1. Configure a server to act as your local Shibboleth Identity Provider - this includes a **WebISO** (Web Initial Sign On) service such as **PubCookie**.

2. Install SSL certificates on your Blackboard server and enable SSL encryption

3. Setup a Shibboleth Service Provider for use with Blackboard

4. Add these servers to a Federation (not required for in-house use)

5. Alter Blackboard to use Shibboleth Authentication
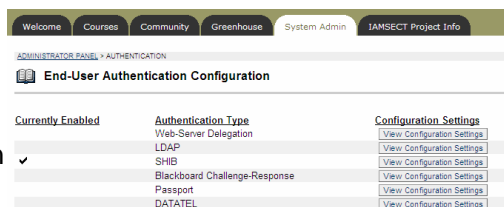
WHERE ARE YOU FROM ?

A key part of Shibboleth is selecting which institution within the Federation you want to use for authentication and authorisation. The user makes this choice from a web page known as the **WAYF** (Where Are You From) which lists all the public Identity providers within the Federation.

Usually this choice is only made once per session and the user's web browser stores their selection.
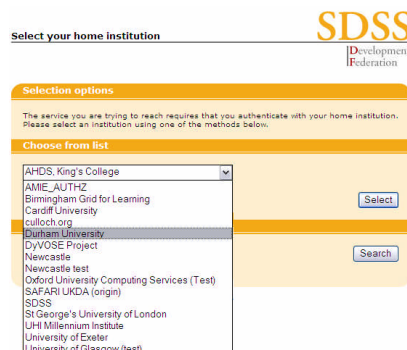
OUT THE BOX FUNCTIONALITY

❶ Users typing in the URL of your Blackboard server are instantly redirected to your local login page e.g. PubCookie or CAS.
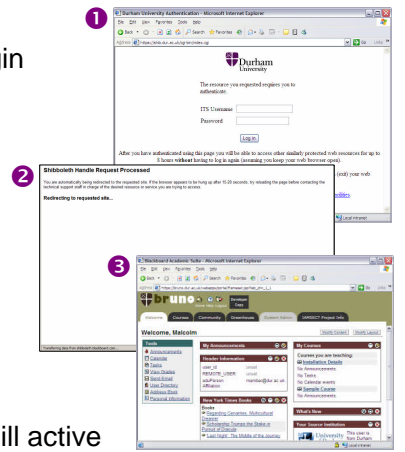
If they successfully authenticate, they are redirected ❷ to your Blackboard server ❸ (after a short delay)

WebDAV links to the Content System work

Portal Direct Entry is lost

There is no fallback to other authentication methods

User can't actually log out – their session is still active so they are logged straight back in!

PLATFORM CHOICE

The first version of Shibboleth was based on Apache and so only worked with Blackboard implementations on Unix or Linux servers, as they use Apache as their web server.

Shibboleth has now been ported to Windows, to run on Microsoft's Internet Information Server (IIS). As such it should be possible to modify a Windows installation of Blackboard to use Shibboleth. Currently this is not an "out of the box" option and requires extensive customisation and/or help from Blackboard Consulting.

PUTTING IT INTO PRODUCTION

You can easily alter the service provider's settings so the first page seen is the Federation WAYF – allowing members from other institutions to log in:
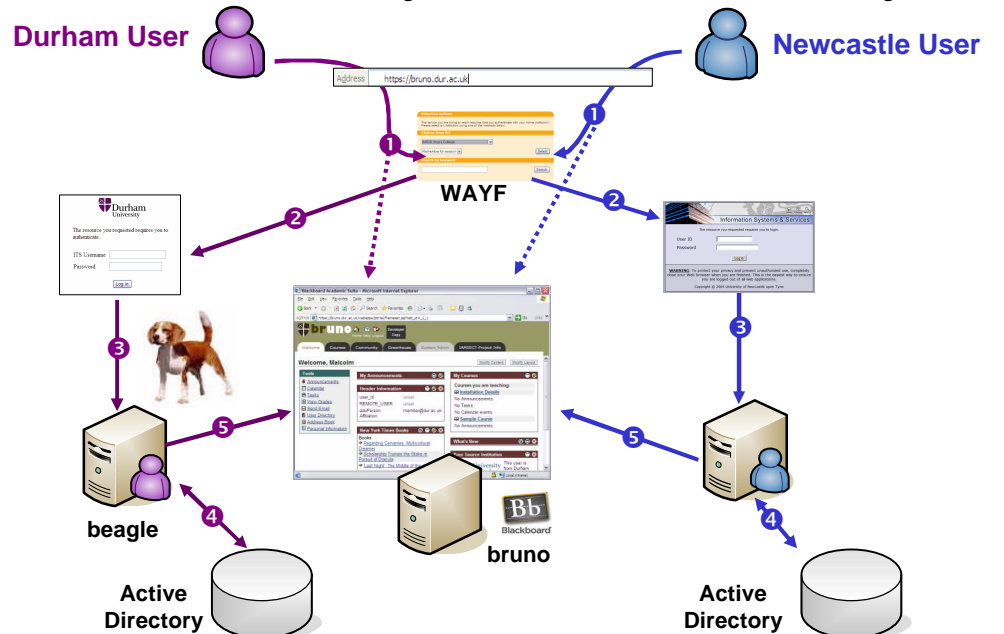
Before using it in production, however, you may want to make more changes such as writing a Java **CustomAuthentication** class, and/or make more modifications to Shibboleth (e.g. implement Lazy Sessions) to try and restore portal direct entry and allow you local fallback to another password database.

Such changes require a detailed understanding of both Blackboard and Shibboleth's authentication processes. Some early attempts hit problems with WebDAV breaking. This is an area where some development work remains.

MORE INFORMATION

Details of Durham's installation and configuration of their Blackboard server can be found on the website of the JISC-funded IAMSECT project:
http://iamsect.ncl.ac.uk

The Shibboleth software can be found from the Internet2 website:
http://shibboleth.internet2.edu

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