

Authentication and Authorization (~~including~~ focussing on Shibboleth)

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Background

- ▶ School of Medical Education Development
- ▶ Responsible for IT provision of the MBBS programme, 1700 students, 1400 staff - many in the NHS
- ▶ Project manager, IAMSECT (Shibboleth dissemination)
- ▶ Project manager, FDTL-4 ePortfolios
- ▶ Technical Director, CETL4HealthNE
 - ▶ ie not an über-geek...

The session...

- ▶ Is about information/knowledge transfer
- ▶ Is *informal*
- ▶ Is about making connections
- ▶ Is about problem solving...
- ▶ Is about recognizing the potential of authentication/ authorization systems
- ▶ Is about getting these systems setup at *your* institution

Outline

- ▶ What is authentication/authorization
- ▶ Single sign on
- ▶ Shibboleth (introduction, issues)
- ▶ Use cases
- ▶ Discussion
- ▶ Shibboleth futures
- ▶ Roundup

What is authentication/ authorization?

- ▶ authentication - identifies **who** you are
- ▶ username, N.I. number, email address, employee number, biometrics, DNA
- ▶ authorization - **what** you are allowed to do
- ▶ almost always requires another level of lookup
- ▶ *in the past, **particularly** for online systems, these have usually been combined. You login to a system and it knows what you can do.*



Authentication

- ▶ login (username/password) - Windows, unix, Amazon
 - ▶ *username can be anything; **d56rtx, bingo@bob.com***
 - ▶ would be keyed against flat files, databases, active directory, LDAP
 - ▶ These 'databases' can be held locally or remotely

Single sign on

- ▶ A way of accessing more systems using one login
- ▶ It *can* be centralised (Athens, one big domain)
 - ▶ Big database in the middle of the world, managed *centrally*
- ▶ Can also be *de-centralised* (Shibboleth is best known example)
 - ▶ Lots of small databases, managed *locally*
 - ▶ implies some level of communication between sites

Why use single sign on?

- ▶ Shared students
 - ▶ including students from 'feeder' colleges
- ▶ Shared resources
 - ▶ Journals, re-usable learning objects
 - ▶ Not necessarily electronic resources
- ▶ **Increasingly needed for 'joined up' systems and processes**

Shibboleth

Then said they unto him, Say now Shibboleth: and he said Sibboleth: for he could not frame to pronounce it right. Then they took him, and slew him at the passages of Jordan: and there fell at that time of the Ephraimites forty and two thousand.

Judges 12:5-7

- ▶ Possibly the first password
- ▶ *Distributed* authentication and authorization
- ▶ Standards-based (SAML)
- ▶ Lots of backing from JISC and Internet-2

Core Concepts of Shibboleth

- ▶ A user is authenticated at “home”
- ▶ *Home* knows who and what a user is
 - ▶ *eg Tony McDonald, member of staff; access to some admin areas*
- ▶ Service providers make access decisions based on what a user is (ie staff, student, medic etc)
- ▶ Service providers should only know the *minimum* about a user
 - ▶ *Can improve privacy*

Some Issues...

- ▶ Involves *trust* between institutions - this **must** come first
 - ▶ and this is where federations can help
- ▶ Data protection issues
- ▶ Technical ability of provider and consumer of Shibboleth-enabled resources
 - ▶ *not* rocket-science, but *not trivial* either (IAMSECT is helping to simplify the process)

Some use cases

- ▶ Based on some selected projects currently underway;
- ▶ IAMSECT (Shibboleth awareness raising, developing functioning systems)
- ▶ FDTL-4 ePortfolios (ePortfolios for medicine, since grown into a major growth area for our school)
- ▶ CETL4HealthNE (9000 health care students in 3 years)

IAMSECT

JISC funded

May 04-Apr 06

Three Universities; Newcastle*, Durham* and Northumbria, plus Subject Centre for Medicine, Dentistry and Veterinary Medicine - and the NHS

Technical *and managerial* issues are addressed, documented and disseminated.

What worked?

- More people using Shibboleth
- Better inter-institutional relations
- Insight into NHS processes
- Different VLEs/OSes worked
 - BlackBoard/Open Source

What could have been done better?

- Consortium agreements
- Emphasized benefits earlier?
- Certification authority issues

ePortfolios FDTL-4 funded

See Simons talk tomorrow! (10:30am)
Sydney room - ie here

Sheffield and Leeds - focussing
on medical students

ePortfolios for medical students
at all institutions, using two
different VLEs

What worked?

ePortfolios integrated into course

Better inter-institutional relations

Led to ePET project - web
service enabled ePortfolio,

What lessons were learnt?

ePortfolios and Shibboleth are
not a natural fit

CETL4HealthNE HEFCE funded Oct 04-Sep 09

Five Universities of North-East;
Newcastle, Northumbria,
Durham, Sunderland, Teesside.
Strategic Health Authorities and
NHS Trusts

£4.5 million over 5 years

Impact on **9000** *diverse* students
in first 3 years

What's *working*?

People wanting to use Shibboleth
Good inter-institutional relations
Insight into NHS processes

What *could* be done better?

Better communications - **always**
Emphasized benefits earlier?

Shibboleth and CETL4HealthNE

- ▶ Perhaps an ideal vehicle for Shibboleth

- ▶ Access required to *wide* range of resources

 - ▶ VLEs, training, video, admin.

- ▶ For a *wide* range of students

- ▶ From *many* institutions

 - ▶ Five HEIs, SHA's, NHS Trusts

and 9000 students impacted in first three years...

Medicine

Nursing

Physiotherapy

Dentistry

Speech & Language Therapy

Occupational Therapy

Pharmacy

Radiography

Social Work

Foundation Degrees

JISC Investment

- ▶ Various programmes, attacking problem from both sides:
 - ▶ Information provision (EDINA, MIMAS etc) - *origins* in Shibboleth parlance
 - ▶ Information usage (core middleware) - *targets* in Shib-speak
- ▶ Large sums of money have been invested
 - ▶ 01/04 - 13 projects, 05/05, 07/04, DeL - 6 projects
- ▶ And are transitioning from Athens to Shibboleth

Your Turn! - 15 mins

- ▶ Using examples from the use cases (or wherever), do a SWOT on;

Introducing single sign on systems into my organisation

Discussion points?

- ▶ It could work but not here...
- ▶ What would we use it for?
- ▶ How do we get started?

What happens next?

Shibboleth Futures

- ▶ Shibboleth is a **disruptive** technology
- ▶ Authentication, privacy barrier removed
- ▶ Online “reputation based” systems could kill journals?
- ▶ Services bought in from outside e.g. webmail for students
- ▶ Niche services flourish

Group Discussion

- ▶ Some possible talking points;
 - ▶ Is Shibboleth *really* disruptive?
 - ▶ How can I make this work at my institution?
 - ▶ and *It'll **never** work at my institution*
 - ▶ Where do I sign up?

Resources

- ▶ IAMSECT - <http://iamsect.ncl.ac.uk/>
- ▶ Lots of links and resources to Shibboleth and related information. Including a glossary - <http://iamsect.ncl.ac.uk/glossary>
- ▶ MEDEV - <http://www.ncl.ac.uk/medev/>
- ▶ VLEs, ePortfolios, Admin systems, Medical Education, CETL4HealthNE, Subject Centre for Medicine, Veterinary Medicine and Dentistry
- ▶ JISC - <http://www.jisc.ac.uk/> (search for Shibboleth)
- ▶ Driving the Shibboleth agenda in the UK