Australian Access Federation (AAF)

Nick Tate, Director, ITS and AusCERT
The University of Queensland

"Before I refuse to take your questions, I have an opening statement."

Ronald Reagan
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- AusCERT
- What is the Australian Access Federation?
- What does it take to make it work?
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About AusCERT

- Australia’s national CERT
  - Collect, monitor, advise on security threats and vulnerabilities
  - Security Incident response coordination and assistance
- Independent, university-based, not-for-profit
- All Universities are members
- Close collaboration with industry, vendors, government and law enforcement agencies
- Founder member of APCERT (Asia Pacific CERT)
- Specialist Training Provider
- Operated recently in 27 countries
- Runs largest security conference in Asia Pacific
IT SECURITY – HOW BAD IS THE INTERNET?

“Cybercrime more profitable than illicit drug sales” US Treasury advisor
Organised crime using malware for ID theft and fraud
60% of ID Theft Trojan Horses undetectable at release time
80% of home computers infected with spyware
AusCERT Australian Computer Crime Survey
Large organisations can experience up to 20,000 attacks an hour
An unprotected PC last 10-15 minutes

Cybercrime pays off more than drug trafficking, security expert says
Proceeds from cybercrime in 2004 topped $105B, says Valerie McNiven

News Story by Suhaib Karam

NOVEMBER 29, 2005 [REUTERS] - Global
cybercrime generated a higher payback than drug trafficking in 2004 and is set to grow even further as the use of technology expands in developing countries, a security expert said today.

No country is immune from cybercrime, which includes corporate espionage, child pornography, stock manipulation, extortion and piracy, said Valerie McNiven, who advises the U.S. Department of the Treasury on the problem. “Last year was the first year that proceeds from cybercrime were greater than proceeds from the sale of illegal drugs, and that was, I believe, over $105 billion,” McNiven said.

“Cybercrime is moving at such a high speed that law enforcement cannot catch up with it.”
What is the Australian Access Federation?

What will it do?

- Secure access to resources
  - Journals, library resources etc
- Secure access to infrastructure
  - Research Instruments
  - High Performance Computers
  - Compute Grids
- Secure access to Data
  - ANDS
  - Data Grids
- Secure exchange of information
  - Encrypted emails
  - Digital signatures
  - Secure file transfer
  - Secure web browsing
### What is the Australian Access Federation?

#### What will it look like?

- 1 Million users
- Around 60 organisations
- Schools and VET federations
  - may peer with AAF or be part of it

### What does it take to make it work?

- **Trust**
  - Identify the community involved
  - Develop a *Trust Fabric* between community members
  - Trusted entity to formalise agreements between federation members by defining a common set of policies and technologies that the members adopt
  - Trusted entity to enable scalability by replacing large numbers of bilateral agreements with a federation agreement
  - Building on existing trust relationships between CAUDIT, AusCERT and other partners
What does it take to make it work?

- Technology to support the trust fabric
  - PKI
  - Shibboleth

Introduction to PKI

- Services enabled by PKI
  - Authentication
  - Integrity
  - Confidentiality
  - Non-Repudiation

- How does PKI translates into AAF?
  - Authentication to resources
  - Exchange of secure emails
  - Electronic Signature
    - Code signing
    - Document signing
  - Secure web browsing
    - Encryption of web transactions
Introduction to Shibboleth

- Services enabled by Shibboleth
  - Authentication
  - Authorization
  - Anonymous access based on attributes

- How does Shibboleth translates into AAF?
  - Authentication to resources (e.g., Library journals)
  - Authorisation of access to resources based on attributes
  - Similar to UK’s Access Federation

Are we starting from scratch?

AAF builds on existing project deliverables

- eSecurity Framework Project
  - Develop Production Level PKI and alignment with Shibboleth
    - AusCERT Root Certificate in browsers
      - Simplify end user experience
      - Microsoft, Firefox, Apple
    - Reduce the Cost barriers to entry for PKI

- MAMS project
  - Development, Support and deployment of Shibboleth technology
Australian Access Federation
Project

- Funded by ~ $4.8 M
- Lead Institution: UQ
- Partners

http://www.aaf.edu.au

Australian Access Federation
Project Components

- **Part 1**: The development of overarching governance and policies for the whole Trust Federation – independent of delivery technologies

- **Part 2**: The development of specific policies, technical implementation and rollout of PKI for a Trust Federation

- **Part 3**: The development of specific policies, technical implementation and rollout of Shibboleth for a Trust Federation
Operationalising the Australian Access Federation Project

**Roles Needed**

- **Underlying Entity**
  - Someone to contract with

- **Governing Role**
  - Overall agreement of rules and policies

- **Operational Role – PKI**

- **Operational Role – Shibboleth**

**Emerging Principles**

- **Ease of Use**
- **International Peering**
  - PKI
  - Shibboleth
- **Sustainability through subscription**
- **Lightweight Governance**
### Operationalising the Australian Access Federation Project

#### Emerging Principles

- Low liability
- Expulsion as a last resort
- Single Identity Provider per institution
- Annual Audits
- Phased approach to releases

#### More Information

- **Web Sites**
  - AAF (www.aaf.edu.au)
  - eSecurity Framework (www.esecurity.edu.au)
  - MAMS (www.mams.melcoe.mq.edu.au)

- **Workshops**
  - eResearch Australasia Conference
  - Questnet Conference
  - APAC Conference