Watching the Federation
What is federated access management?
• To be increasingly valued as the provider of access management services for Australian Higher Education and Research.

• To support the collaboration and resource sharing objectives of its subscribers through provision of effective access management technologies and services.
What components make up the AAF?

Core AAF services

• Discovery Services (WAYF) – 5 servers across Australia
• Federation Registry
• Metadata and Metadata distribution
• Virtual Home
• Web site

Plus 70 subscribers that bring Identity providers and Service providers to the federation…
9 Commercial Publishers
Emerald Group  Cambridge Uni Press
HighWire Press  Ingram Library Services
RMIT Publishing  John Wiley and Sons
Karger Publishers  Emerald Publishing
Royal Society of Chemistry

6 Commercial Service Providers
Trobexis  TALIS Education Ltd
Netspot  MyUNiDAYS Ltd
Lynda.com  UCROO Pty Ltd

3 Non-commercial Service Providers
•Masaryk University
•JISC Advance
•TERENA (Trans-European Research and Education Networking Association)

12 Research Organisations
•AARNet
•AIMS
•Australian Antarctic Division
•CAUDIT Inc
•CSIRO
•eResearch SA
•Intersect Australia Ltd
•NICTA
•QCIF
•QuestNet / QRNO
•TPAC
•VeRSI

70 Subscribers
Our Problem

• How do we ensure it’s all working and available for a user base of a million+?

• When something does break, how do we quickly identify the issue and notify the right people to get it fixed?

• How can we minimise the operational and support workload of the small and dedicated AAF support team?
Our Solution

Federation Status

...keeping an eye on the health of the Federation

<table>
<thead>
<tr>
<th>Core Federation</th>
<th>Identity Providers</th>
<th>Service Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Core Federation" /></td>
<td>46 / 46 Active</td>
<td>121 / 123 Active</td>
</tr>
</tbody>
</table>

- Discovery Service (WAYF)
- Federation Registry
- Metadata
- Virtual Home
- www.aaf.edu.au

Not Monitored: 1
What is Federation Status

• **Open Source components**
  – Icinga monitoring (Nagios variant)
  – Nagios Business Process monitoring plugin

• **Integration sources of data via defined APIs**
  – Federation Registry
  – Puppet dashboard

• **Dashboard**
  – Simple publically accessible view
  – Publish scheduled and unscheduled outage notifications
Where monitoring fits within the AAF
What is monitored

- Core
  - CPU
  - Memory
  - Disk
  - Processes
  - MySQL
  - others as required

- IdPs and SPs
  - Time Sync
  - HTTPS
  - Shibboleth basic / advanced
  - Certificate expiry
  - Ping
  - More to come
A quick demo

Federation Registry
Registry what to monitor

Monitoring
Perform the monitoring
Send notifications

Federation Status
View the results
When a Service is down

Service Provider Statuses

Last Updated: 15:06:20 27/06/2013 (Brisbane, Australia UTC+10)

121 Available
1 Down
0 Maintenance
1 Not Monitored

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Status</th>
<th>Since</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genomics Virtual Lab, Galaxy Workflow (Members Area)</td>
<td>✗</td>
<td>10:46:20 25/06/2013</td>
</tr>
<tr>
<td>AAF Federation Registry</td>
<td>✓</td>
<td>02:10:59 07/04/2013</td>
</tr>
<tr>
<td>AAF Home Web Site</td>
<td>✓</td>
<td>00:53:19 27/06/2013</td>
</tr>
<tr>
<td>AAF Monitoring</td>
<td>✓</td>
<td>05:53:19 03/06/2013</td>
</tr>
</tbody>
</table>
An important message from the Australian Access Federation monitoring system, Federation Status...

Do you need help with the Federation? Access the AAF Support service.

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**Monitoring Notification**

<table>
<thead>
<tr>
<th><a href="http://www.telescope-net.com">www.telescope-net.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Notification Type:</td>
</tr>
<tr>
<td>Server:</td>
</tr>
<tr>
<td>Supports the following SPs:</td>
</tr>
<tr>
<td>Action:</td>
</tr>
</tbody>
</table>

Follow on Twitter | Friend on Facebook | Get AAF Support
The Benefits

- Zero touch monitoring – automation
- Proactive notifications to the right technical people
- Public view → reduces support calls
- Helps identify the actual cause of authentication problems
  - SPs were generally blamed when users could not login
- Tools for support desks
Institutional Service Desk Engagement Framework is a joint initiative by CAUDIT and the AAF (funded by the Department of Innovation) to improve end-user support for federated services within the Higher Education and Research Sector. The primary objective is to better equip Service Desks with support material to improve coordination of incidents across different organisations and tiers.

- The AAF Status page has been provided to support this initiative
- Allows the AAF and subscribers to post notifications of coming maintenance events and service disruptions / resolutions

Next steps

Identity Provider (IdP) Improvement Program

• Ensure all IdPs are aware of the Status tool
• Define additional monitors for IdPs
  – Ensure metadata and attribute filters are refreshed regularly
  – Host monitoring (CPU, Memory, Disk, etc)
• Begins next week
  – IdP admins to expect a short survey in early August
AAF Virtual Home

- New user interface
- IdP for the homeless
- Level 1 and 2 access assurance (strong password + rules)
- Password management – mobile device involved
- Every subscriber can add users
The AAF is investigating requirements for higher levels of identity assurance to allow Service Providers to define trust levels they require, independently of the different IdP implementation states of AAF’s subscribers.

- Web UI that will allow researchers to request a higher level of identity assurance
- allow the Registration Authority (RA) to approve such requests.
- A tool for RA’s to record users who have been assured with a higher level of identity assurance (level 2)
Groups

Group management tool

- AAF Groups allows association experts to centrally manage group membership to provide access to resources across multiple services
- Alpha version available for public comment and feedback
- Membership details can be accessed by applications using…
  - Attribute Authority (SAML)
  - Restful API

https://groups.aaf.edu.au/
The AAF Dashboard

Bringing it all together, the AAF dashboard provides a launch pad for all the tools and services provided by the AAF. A convenient one stop shop.
More than just monitoring

Summary

The Federation Status site is a core component of services provided by the AAF. Delivering more than just monitoring…

It is a tool for everyone that continually watches every component of the federation with minimal manual intervention that has resulted in reduced support calls.
Questions or comments?

To keep up to date with what’s happening in the AAF go to:

http://www.aaf.edu.au/about/news-events/
“We see the AAF as an enabler for sharing all manner of fragile, dangerous, rare and geographically remote equipment between research organisations.”

Michel De La Villefromoy - Manager, University of Technology, Sydney