



Eduroam AU

Now and Future

QUESTnet 2011

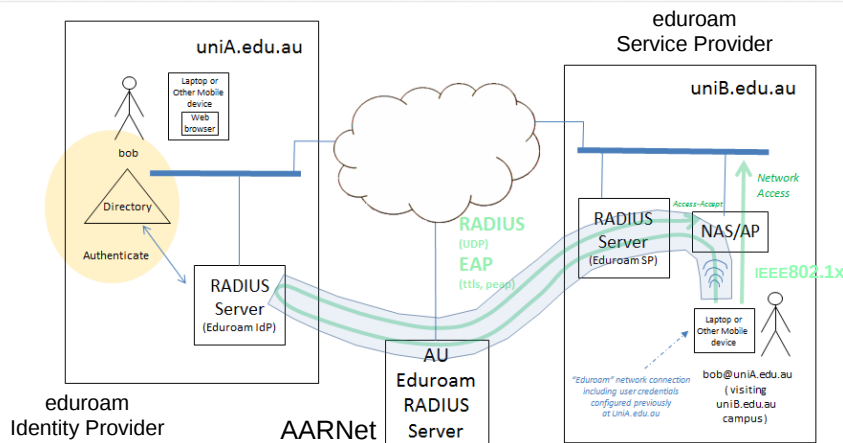
Neil Witheridge
Authentication & Authorisation Services Technical Manager
14th July 2011

**aarnet**
Australia's Academic
and Research Network

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	Topics	
2	• Now – Growth in eduroam usage & uptake, both national and global – AU eduroam info resources and infrastructure monitoring – Dedicated eduroam monitoring server for member institutions • Short-term – Usage Metrics for Member Institutions – Agreement on Global eduroam Compliance for improved interoperability • Technical Standardisation to deliver “zero-effort” connectivity • Longer-term – Monitoring using devices within member networks – Technical evolution to address current RADIUS constraints: RadSec – Policy and Technical integration with other Federations	

Eduroam Service

- Goal of Eduroam
 - Zero-effort network connectivity when visiting other institutions



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Not Quite “Zero Effort”, yet...

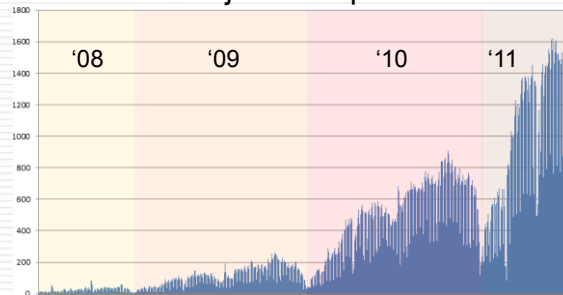
NOW

- Current Challenges
 - Configuration variations and incompatibilities
 - Wireless security protocol (IEEE8002.1x: WPA/TKIP, WPA2/AES)
 - EAP outer authentication (secure tunnel) (TTLS, PEAP; RADIUS)
 - EAP inner authentication (PAP, MSCHAPv2; RADIUS)
 - Variations in network resources and coverage at member institutions
 - Local authentication not always available (can't configure 'at home')
 - Username confusion
- Solution
 - Technical requirements standardisation (common technical baseline)
 - > eduroam Global Compliance policy (Future)

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Eduroam Uptake

- Eduroam Project Group worked to establish AU Eduroam in the APAN Federation



AU Eduroam Usage Growth Trend

Logins to/from AU eduroam institutions*
12/6/08 – 7/7/11

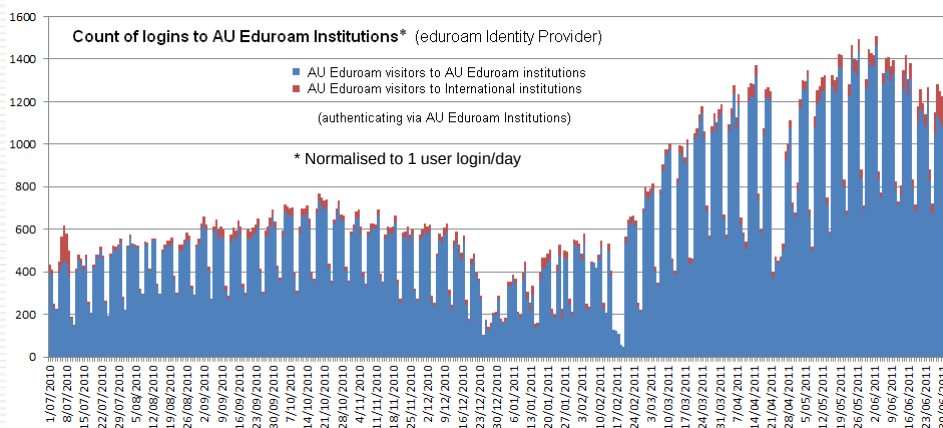
* Normalised to one user-login per day

- Currently, AU Eduroam has 50 member institutions
 - 36/39 Australian Universities
 - 6-non-university (AARNet, AIMS, ADFA, CSIRO, VPAC)
 - 1 school (Hutchins School Tasmania)
 - 6/8 NZ universities, 1/3 PNG university, 0/1 South Pacific university (Fiji)

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Eduroam Usage (Jul '10- Jun '11)

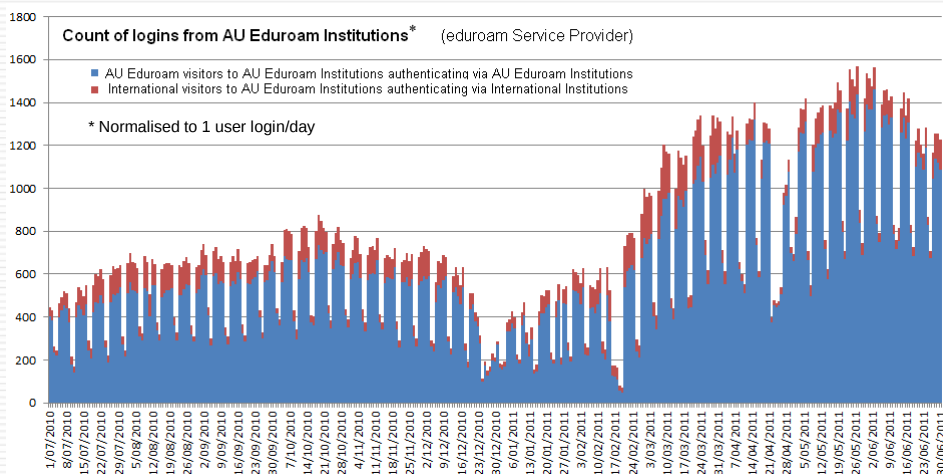
- AU Eduroam member institutions as eduroam identity providers



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Eduroam Usage (Jul '10- Jun '11)

- AU Eduroam member institutions as eduroam service providers



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Eduroam Information Online

NOW

- Admin and end-user information
 - AARNet resources for eduroam administrators
 - How to join the federation

<https://wiki.aarnet.edu.au/display/eduroam/10+steps+to+eduroam>

- MyEduroam Website

www.eduroam.edu.au

- National eduroam operability
 - Google Map, Weather Map

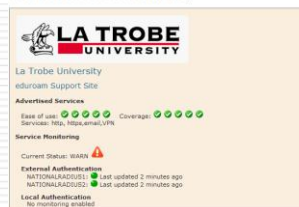
- Information for AARNet staff

<https://wiki.aarnet.edu.au/display/INT/AARNet+Eduroam+User+Guidelines>

- Member-specific configuration guidelines
 - Platform-specific guides, Certificate info



Technical 'ease of use' weather map

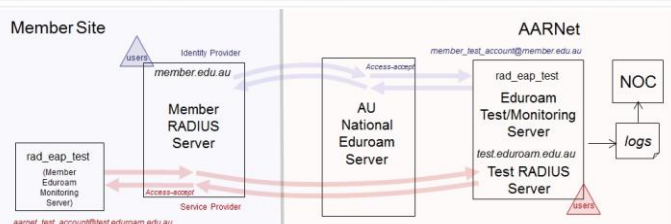


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Eduroam Service Monitoring

NOW

- Goal: Improved Operational Status Monitoring & Reporting
- Use dedicated AARNet Eduroam Test and Monitoring Server
- Requests to each customers for Service Monitoring
 - Member to provide a test account to AARNet for monitoring identity provider status (AARNet authenticates to realm as the test user)
 - AARNet to provide a test account to Member for monitoring service provider status (Member authenticates to test.arnet.edu.au)

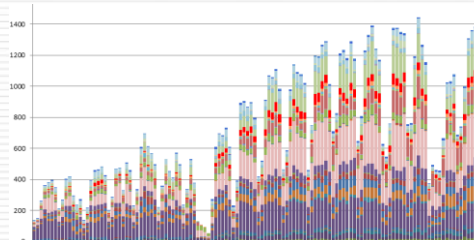


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Eduroam Metrics for Members

FUTURE

- Goal: improved metrics for members (as requested during previous meeting)
 - Service Provider metrics (outbound authentications)
 - Totals from AU realms; totals from international realms
 - Trend over defined period
 - Identity Provider metrics (inbound authentications)
 - Totals to AU realms;
 - totals to international realms
 - Trend over defined period
 - Graphs and Tables
 - Monthly updates
- Protected access by customer
 - Publish via existing customer information pages



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Eduroam Global Compliance

FUTURE

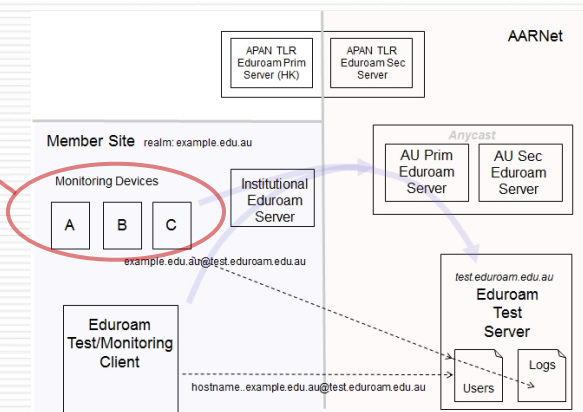
- Global eduroam Governance Committee (GeGC)
 - Global Eduroam Compliance Requirement Document
 - Facilitate eduroam member interoperability globally
 - Establish standard baseline of technical deployment globally
 - WPA2/AES, PEAP+MSCHAPV2
 - Standardise a single SSID “eduroam”
 - Others e.g. standardise logging and accountability
- Reviewed by AARNet & CAUDIT eduroam subcommittee
 - preserve key value proposition - “zero-effort”
 - recommend support for local authentication
 - deliver signed list of member institutions (IdP realms, SPs) from each National Federation

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Eduroam Service Monitoring

FUTURE

- Sheeva Plug-based Monitoring Status
 - Significant additional work required, cost-benefit to be reviewed.



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RadSec

FUTURE

- Proposal to address technical shortcomings of RADIUS
 - Transport over UDP, hierarchical architecture, scalability
- RadSec delivers transport of RADIUS over TCP with TLS
- Trust Model
 - Trusted CA's, Server Certificate bundles (cf Grid)
- Implications for Institutions
 - Improved eduroam federation scalability
 - Dynamic Host Discovery , Local Configuration
- Implications for eduroam operators
 - Less visibility due to peer-peer interactions (logging constraints)
 - Trust & Certificate management

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Federation Developments

- What about the Broader Federation Context ?
- International Grid Trust Federation +
eduroam +
Australian Access Federation
- Purpose, Technical Infrastructure and Trust Model
 - Common policy area is identity management
 - Registration process, naming conventions, directory schema etc.
- Potential for Integration ?
 - Technical vs Policy
- Projects (integration and/or extension)
 - SLCS, Moonshot, CILogin

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Summary

- Now
 - Growth in eduroam usage & uptake, both national and global
 - AU eduroam info resources and infrastructure monitoring
 - Dedicated eduroam monitoring server for member institutions
- Short-term
 - Usage Metrics for Member Institutions
 - Agreement on Global eduroam Compliance for improved interoperability
 - Technical Standardisation to deliver “zero-effort” connectivity
- Longer-term
 - Monitoring using devices within member networks
 - Technical evolution to address current RADIUS constraints: RadSec
 - Policy and Technical integration with other Federations

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Thankyou

Questions ?

For discussion or comment, email

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