

Know Your Researcher

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Experts in
Trust & Identity



Acknowledgement of country



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In the spirit of reconciliation the Australian Access Federation (AAF) acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community.

We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

Agenda

1. What is the Australian Access Federation (AAF)?
2. Trust in the AAF
3. Current trust in identities
4. What is assurance?
5. Improving credentials
6. Improving identity verification
7. Rollout plan



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AAF on a page



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Funded by

Members and subscribers to operate the Australian identity Federation for research and education

Members to lead the Australian ORCID consortium

Australian Government to ensure that the National Collaborative Research Infrastructure Strategy (NCRIS) ecosystem is underpinned by consistent and secure trust and identity



Operating as a company limited by guarantee

Governed by a Board comprised of member based and independent directors

Established in 2009

Financially sustainable

Provides

World leading identity Federation

820+ services for 100+ subscribers

Australian ORCID consortium for 44 members and 172,000 individual researchers

Expertise, tools and services to ensure NCRIS trust and identity underpinning, is consistent, secure and aligned to best practice

Overview of the AAF



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**Global
thought
leadership**



**National
Trust and
Identity
Federation**



**Australian
ORCID
Consortium**



**Privacy
preserving
verification
service**



**Partner of
the cyber
community**



**National
Digital
Research
Infrastructure**

AAF celebrates 15 years



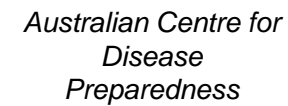
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For 15 years, the Australian Access Federation has been providing trust and identity services to connect and protect the research and higher education sector.

15



**Research
Infrastructure
Connected**



Trust in the AAF

The AAF was established with Trust and Privacy as core to its operation



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Trust between the AAF and its members

- Federation Rules
 - Security
 - Privacy
- Constitution
- Yearly compliance
- Board comprising representatives from our members

Technical Trust

- Standards and Protocols
- AAF Tools and services provided to members
- Federation Manager
- RapidIdP
- Validator
- ISO27001 compliance (in progress)

Global Trust

- Member of REFEDs
- Active participant in eduGAIN
- SIRTFI and other global specifications

Current Trust in Identities

Two sides of the Federation



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Identity Providers

The People:

- Identities verified
- Credentials issued
- Logins authenticated
- Attributes released

- Universities / TAFEs / VETs
- Research institutions

Service Providers

- The Compute / Data / Resources
- Federated SSO
- Authorisation

Publishers

- Infrastructure Providers
- Research Equipment / tools / services
- Data repositories

Current Trust in Identities

Researchers and Services



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Researchers

- Want:
 - Access to services
 - Collaborate
- Have:
 - Credentials (Password, MFA)
 - Attributes (Identity, Personal, Organisational, Assurance)

Services

- Provide:
 - Services
 - Collaboration opportunities
- Require:
 - Authenticated users
 - Verified identities

Current Trust in Identity

Assumed trust in identities



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A Service Provider has no way of knowing...

- If and how a researcher's identity was verified?
- What credentials were used at login?
- If MFA was used?
- How strong the credentials are?

Currently...

- Federated researchers are from universities and peak research organisations.
- It can only be assumed that these organisations are doing the right thing.
- Is this good enough?

What is assurance?







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User's credentials:

-  **None**
Assumed IdP is requiring good practice credentials
-  **SFA**
Strong Passwords
-  **MFA**
Phishing proof

Verified Researchers:

-  **None**
Assumed IdP is applying good practice at on-boarding
-  **Low**
Self asserted identity, check to a person, demonstrated control of at least one contact information.
-  **Medium**
Low + Identity evidence required and appears to be valid and current.
-  **High**
Medium + identity evidence verified by the issuer

Reducing the risk that a bad actor is not logging in using a phished or stolen researcher's credentials

Reducing the likelihood of a bad actor impersonating or faking an identity

Improving User's Credentials

Multi-Factor Authentication (MFA)



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All Universities have been rolling out MFA to all users for all services.

Users:

- Staff
- Students
- Visitors
- Contractors

Services:

- Corporate (HR, Student admin, Research admin, VPN, etc)
- Student (LMS, Help desk...)
- Federated (AAF, eduGAIN)

This is great but...

A service provider has no way of knowing that MFA has during the session.

REFEDS MFA Profile

- International standard
- SP can request that MFA occur
- IdPs respond that MFA has in fact occurred, or
- Reports an error state if it has now
- SP can react appropriately when the error state occurs.
- Built into the SAML and OIDC protocols

Improving User's Credentials

Multi-Factor Authentication (MFA)



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The SP now has control.

- Restrict or block access
- Provide a meaning message to help guide the user

The SP does not have to implement its own local MFA

- Reduced effort for the SP
- Less MFA for the users
- Improved user experience

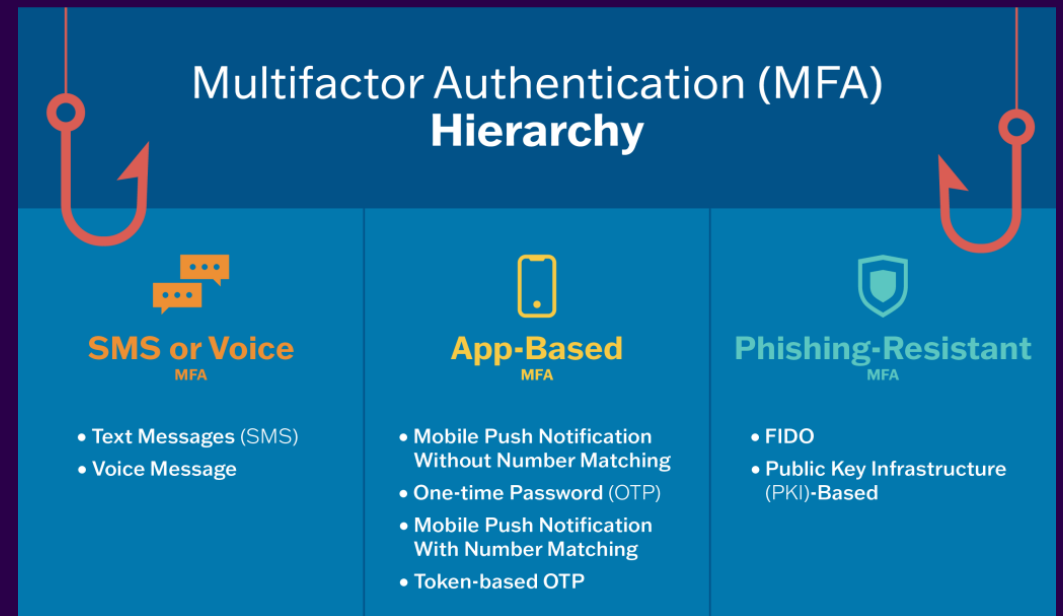
Demo: <https://validator.aaf.edu.au/>

YouTube: [MFA/2FA Showdown: Which Authentication Factor is Best?](#)

Image: <https://www.cisa.gov/MFA>

Not all MFAs methods gives you the same level of protection.

- Some MFA types are better than others
- phishing-resistant MFA is what we should aim for
- any MFA is better than no MFA
- FIDO/WebAuthn only widely available phishing-resistant



Improving identity verification



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What identity verification / validations checks occurred when you joined your organisation?

Your bank is doing identify verification now... “Know your Customer”

- Comply with Anti-Money Laundering and Counter-Terrorism Financing Act 2006.

Not a legislative requirement for research infrastructure yet, but for some there is a need:

- CI's who control access
- Sensitive data sets

Teachers Mutual Bank / Confirm your identity

Talk to us

Progress: About you | Verification | Complete

To comply with the Anti-Money Laundering and Counter-Terrorism Financing Act 2006, we are required to ensure your personal identity and information is accurate and up to date. We need to collect up to date information to comply with our regulatory obligations.

This process only takes a few minutes. You will require a valid Australian driver licence or passport to complete the verification. In some instances, you may be prompted if a second form of ID is required.

Your personal details

Member number *

Title *

First name * Middle name (if you have one)

Last name * Date of birth * (DD/MM/YYYY)

Country of birth *

Occupation *

Your current address

Improving identity verification



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Identity verification at universities

- Who owns the process or processes?
- Are the processes well documented?
- Are international standards followed?
- What records are kept?
- Are the results provided to the identity systems?

AAF on tour

- No-one really knows
- Lots of interest in finding out
- May take significant time implement
 - Even for a small cohort of researchers that require a high level of assurance to access the services they use.
- Can the AAF provide an option?

Improving identity verification



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Implementing the REFEDS Assurance Framework (RAF)

This framework splits assurance into the following independent components:

- Identifier Uniqueness
- Identity Assurance
- Attribute Assurance

Identity Assurance

Universities need to provide

- Low
- Medium
- High

Based on the requirements of the RAF.

Improving identity verification

For Identity Providers



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Identity Providers will be responsible for providing this information

Determine universities' ability to verify

- Survey tool
- Review of responses
- Assigning a level (Low, Medium, High)
- Reporting results

Providing advice

- Knowledge base
- Support and guidance

Providing an API

- Utilising third party service to augment

Improving identity verification

For Service Providers



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Service provider

- Request the eduPersonAssurance
- Determine level of access
 - A CI requires High
 - Research participants need Medium
 - Everyone else – Low or None
- Block users who don't meet requirements
- Inform users how to improve their level

Who wants / needs this?

- AAF working with incubators
- In the US, the NIH implemented the requirement for REFEDS MFA some time ago, they are planning to require REFEDS RAF soon.
- It's not for everyone

Rollout plan

REFEDS Assurance Framework

- Changes to eduPersonAffiliation to be completed this year
- Survey to determine maturity of user verification processes
 - Provides Low, Medium or High
- Investigating the creation of an API
 - To augment values provided by universities
 - Documentation and tutorials being developed for SPs

Initial rollout to IdPs expected Q1 2025 – for None and Low.
Medium and High will take longer.



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Rollout plan

REFEDs MFA Profile

- Underway as we speak
- Rolling out to the AAF Test Federation
- Survey tool to determine maturity of MFA within our organisations
- Documentation and tutorials being developed for SPs

Complete rollout to IdPs expected Q1 2025



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Any questions?

Visit: aaf.edu.au
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