Business Plan 2019

October 2018

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1. About the Australian Access Federation

The Australian Access Federation (AAF) is Australia's premier solution provider, enabling access to online resources and services within the Australian Education and Research sector. This is achieved by delivering a secure trust framework which allows for the exchange of information between an organisation, an individual and a service provider of digital resources (the federation). The outcome of the AAF's work facilitates data sharing and collaboration across many different organisations, which benefits end users in Australian universities and research organisations.

Today, the federation is a globally connected facility that provides access to Australia's teaching, learning and research as well as enabling access to international online resources via eduGAIN (the international connection of research and education federations). In October 2018, the federation has over 100 subscribers, more than 370 registered Australian services, and 197 international research and scholarship services connected through eduGAIN.

The AAF is also recognised as a leading Australian National Research Infrastructure Facility and plays a vital role in enabling trusted electronic communications and collaboration between education and research institutions both locally and internationally.

The AAF was established by the Council of Australian University Directors of Information Technology (CAUDIT) in December 2008 and seed-funded by the Department of Education and Training (formerly the Department of Industry, Science and Research) in 2009 to provide a sustainable service for organisations and institutions that undertake or support education, research, or research and development in Australia. The AAF has operated as a self-funded operation since January 2012.

The AAF's core value proposition is a service owned by, and for, the Australian research and education sector.

Through the AAF, subscribers benefit from the federation service that:

- Lowers costs and reduces the effort to manage federated identity in individual subscriber organisations;
- Provides users with one login that is a fast and simple way to access the services they need from around Australia and around the world;
- Allows academics and researchers to easily collaborate with their colleagues in other organisations (within Australia and internationally);

- Enables users to quickly and easily connect with a growing number of digital resources connected to the federation, including national research infrastructure (i.e. teaching and learning tools and services and research data storage, virtual laboratories, eResearch tools and instrumentation); and
- Enables service providers to quickly and easily connect their services to over 1.1 million users in Australia (e.g. teachers, students, administrative staff, researchers) across the research and education sector and many more users from over 50 similar international federations.

Today, the AAF has expanded its services beyond the federation and is complemented by a leading edge cloud solution to simplify technical participation in the federation as well as verification services. In 2016, the AAF became the Open Researcher and Contributor ID (ORCID) Consortium Lead for Australia, enabling a national approach for the adoption and integration of ORCID.

Operating as a shared service for the sector, the AAF encompasses many leading organisations in the research and education sector today.

Our Vision and Mission

The AAF's **vision** is to lead access management for Australian education and research.

The AAF's **mission** is to deliver secure federated access that connects Australian teachers, students and researchers to global online resources.

"the eduGAIN connection is a vital service for an international collaboration like the Murchison Widefield Array making it simple for our team of global researchers to access data from the telescope"…..Using eduGAIN to further streamline international collaboration is "fundamental to the continued success of the project."

Professor Melanie Johnston-Hollit
Director of the Murchison Widefield Array

"Many organisations have natural sensitivities and concerns about their data and require advanced security solutions to be in place. AURIN [Australian Urban Research Infrastructure Network] leverages the AAF to provide all academics across Australia with authenticated access to these data resources and tools, with transparent extensions to provide finer-grained authorisation."

Professor Richard Sinnott, Director eResearch
The University of Melbourne

2. Executive Summary

Key Activities for 2019

In 2019, the AAF will undertake the following operational business activities:

1. Provide **support services** (connecting services of value to federation subscribers, Service Desk, Knowledgebase and technical documentation and best practice and technical architecture advice) to help existing subscribers maximise value from their subscription;

2. Ensure the **technology** on which the AAF depends is **appropriately maintained** (application patching, security bug fixes and minor enhancements to AAF's software stack where activities are critical for the successful operations of the federation);

3. Continue **partnerships, memberships and supporting international initiatives** through:

    a. **Partnerships** with national eResearch infrastructure projects and other subscribers to pursue beneficial opportunities;

    b. Continue bronze **sponsorship** of global REFEDS (Research and Education Federations[1]) group, remain a member of the OpenID Connect Foundation and, subject to sufficient income, to cover the expense, become a member of the international Shibboleth Consortium;

    c. Continue to provide **thought leadership and support** to the global community through holding a seat on the REFEDS Steering Committee and continue to provide leadership and support to the Asia Pacific community through chairing the APAN (Asia Pacific Advanced Networking) Federated Identity Management task force; and

    d. Continue to **engage with international federations** to ensure best practice and knowledge exchange.

4. Provide **compliance support activities** associated with the Federation Rules and annual Compliance Statements and applicable privacy legislation;

5. Provide a range of **professional services** (install and configure Identity Providers, and software development services for bespoke federated identity management solutions) to support subscriber needs;

6. Develop and deliver **bespoke Identity Management workshops** as required;

7. Continuation of AAF's **innovation capabilities** to further build upon the utility and value of the federation;

8. Undertake **business development as part of the operating culture** of the AAF; and

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[1] http://refeds.org

9. Undertake **communication and engagement** activities that focus on promoting the AAF's value proposition to existing subscribers, prospective subscribers, ORCID members, and the international community.

In 2019, the AAF will continue to be the ORCID (Open Researcher and Contributor ID) Consortium Lead for Australia, furthering a national approach for the adoption and integration of ORCID within the research ecosystem. Key activities planned in 2019 include:

- Providing administrative support to the Consortium;
- Managing the onboarding of Consortium members;
- Providing tier 1 technical support to Consortium members;
- International engagement with other Consortium Leads to ensure best practice and knowledge exchange; and
- Maintaining consortium documentation and technical documentation repositories.

2019 will see the AAF work on a number of projects and new initiatives. These include:

- **Enhancing AAF's Security and Privacy Capabilities** to support legislation, cyber-security, systems security and compliance to best practice;
- **Deliver innovation impact for the Australian eResearch agenda** through support of the Research Infrastructure Investment Plan;
- Operate and grow the adoption of the **Rapid Identity Provider managed service** and **student verification service;** and
- Enhance **multi-protocol support for the federation** through the evolution of an OpenID Connect Service (enabled by external funding).

The AAF's core value proposition is that it is a service owned by, and for, the Australian research and education sector. As a not-for-profit, lean organisation, the AAF represents outstanding value for the services it delivers.

To manage and operate an increasingly complex range of technology based tools, services and policies and to maintain appropriate security and privacy capabilities, subscription fees will increase in 2019 on average by $6,000 for an Enterprise subscriber and $345 for a Publisher subscriber.

Highlights from the 2019 operating budget are summarised in Table 1.

	Budget 2019
Retained Earnings	
Forecast Retained Earnings as at 1 January	$609,969
Total Income	**$2,429,500**
Total Income + Retained Earnings	**$3,039,469**
Total Expenses	**$2,413,328**
Retained Earnings as at 31 December	**$626,141**

Table 1: *2019 (forecast) Operating Budget*

3. Operational Business Activities in 2019

This section outlines the key operational business activities planned for 2019.

3.1 Support Services

AAF personnel will provide a range of support services to subscribers including:

1. Connecting services of value to federation subscribers;
2. Ongoing technical support to current and new subscribers via the support desk, technical documentation and knowledgebase; and
3. Subscriber support with interpreting best practice technical architecture as well as Service Provider and/or Identity Provider configurations.

3.2 Technology Maintenance

The AAF will continue to maintain the software stack of the federation. This includes planned maintenance activities for application patching, security bug fixes and minor enhancements to the AAF software stack where activities are critical for the successful operations of the AAF.

3.3 Partnerships, Memberships and International Engagement and Initiatives

3.3.1 Partnering with national eResearch Infrastructure Projects

The AAF will continue to partner with the NCRIS capabilities to assist with developing and supporting their identity management needs. This work will be done as part of AAF's Professional Services capability.

3.3.2 Partnering with Subscribers

The AAF will undertake partnerships with subscribers to pursue mutually beneficial opportunities.

3.3.3 Sponsorships and Memberships

The AAF will continue to remain a Bronze sponsor of REFEDS and a member of the OpenID Connect Foundation.

In addition, subject to sufficient income to cover the expense, the AAF will also join the international Shibboleth Consortium.

3.3.4 Leading the global access and authentication agenda for research and education

The Chief Executive Officer will continue to take a leadership role and represent the views and interests of the Australian Higher Education and Research sector through holding a seat on the global REFEDS Committee. Likewise, the Technical Engagement and Support Manager will continue to take a leadership role in continuing to assist the Asia Pacific community as Chair of the APAN task force for federated identity management. This includes continued support for the European Union funded BACKFIRE project that has been established to directly assist advancement of federation activities for developing nations in Asia Pacific by broadening the reach of these identity federations in the region.

3.3.5 International Engagement

The AAF will continue to engage with international federations through industry events.

3.4 Compliance Support Activities

AAF will support the following key activities:

1. Annual Federation Rule compliance program:
   AAF personnel will assist subscribers to meet their compliance requirements, in particular to submit their annual Compliance Statement on or before 30 June each year.
2. Compliance with any applicable legislation in relation to data protection and privacy including the Australian Privacy Act and the Notifiable Data Breach Scheme.

3.5 Professional Services

The AAF will provide a range of Professional Services to the sector in 2019. This includes:

1. On-request, and where practical and aligned with business priorities, professional service engagements to install and configure Identity Providers; and
2. Software development services for bespoke federated identity management solutions.

3.6 Bespoke Identity Management Workshops

Bespoke identity management workshops will be provided as required over 2019. These will be provided on a cost-recovered basis.

3.7 Continuation of AAF's Innovation Capability

Innovation capability was formalised in 2015 to extend the utility and value of the federation to AAF subscribers and ensure long term sustainability of the service.

The continuation of this capability is vital to enable the AAF to ensure its services remain relevant and continue to meet the changing needs of the research community.

Innovation is important to the AAF for a number of reasons. Firstly, the technology landscape of federated identity management continues to evolve at a rapid pace. There is a greater need for tools and technology to assist with collaboration both locally and internationally. In addition, new and emerging standards for authentication and authorisation are being developed and adopted. Secondly, in many cases research infrastructure projects make their own 'fit for purpose' choice of technology for authentication and authorisation. This makes it difficult for the AAF to predict these requirements and an innovation capability is required to respond to these needs.

Finally, innovation of federated identity management technologies is neither a core activity nor a cost effective proposition for subscribers to invest in individually.

To address these requirements and ensure that the AAF services continue to reflect international best practice, the AAF will continue its innovation activities in 2019.

3.7.1 Extending AAF Services

The technology requirements for federated identity management are often complex, diverse and in many cases, still evolving. In addition, the authentication and authorisation landscape is continuing to evolve with the emergence and adoption more divergent identity sources including social media identifiers such as Google and Facebook.

The AAF will prioritise innovation work around activities on the technology roadmap including:

- The evolution of AAF's technology stack to build upon its functionality through automation and to further stream-line operations through the use of Amazon Web Services and other cloud based platforms;
- Enhanced support for other authentication protocols such as OpenID Connect and OAuth2;
- Further advancing the internationalisation of the federation through eduGAIN;
- Enhanced verification services; and
- Persistent Identifiers such as RAID (Researcher Activity ID) in conjunction with the Australian Research Data Commons.

The AAF will evaluate these technologies in line with best practice within the industry to determine their suitability to meet subscriber requirements and their potential to become a future service. Should technologies be proven to meet these needs, they would then be further developed to form part of the AAF's production service offerings.

The AAF will continue to seek investment funding from a number of sources where it aligns with the use of AAF's services in 2019 and beyond. This may include, but is not limited to, the ARDC and other NCRIS capabilities, subscribers, federal government agencies and initiatives. Investment will assist and expedite the advancement of innovation activities where they may be mutually beneficial.

3.8 Business Development

Business Development is a shared responsibility at the AAF where all staff have the remit to identify and progress business development opportunities.

Business development will continue to focus on:

- **Increasing** new subscriptions of the AAF services and professional service engagements;
- **Building** further value for the members;
- **Growing** new federated services connected to the federation; and
- **Raising** brand awareness, external marketing and promotion.

Business development in 2019 will focus on three key strategies:

1. Leveraging existing subscribers for referral business;
2. External marketing utilising digital assets; and
3. Communication and engagement to reinforce the value proposition of the AAF's work.

3.9 Communication and Engagement

The AAF will execute a communication and engagement plan that focuses on promoting the AAF's value proposition to current subscribers, ORCID members and the broader international education and research community. Activities will include:

- A presence at key industry events, both locally and internationally (e.g. eResearch Australasia, THETA, TERENA Géant Association Conference, international Research Education Federations (REFEDS) meetings, APAN (Asia Pacific Advanced Networking) conferences and Identity Management Access Working Group and ORCID (Consortium Lead meetings and Pidapalooza digital identifier conference);
- Regular newsletters to target audiences;
- A content rich, product-centric website which describes AAF products to prospective users of AAF's services;
- Content development and design of publications and promotional materials;
- Promotional and educative communication campaigns for current subscribers;
- Development and delivery of webinars, events, 'how to' videos and guides;
- Development of a Marketing Plan for external target markets that focuses on new products;
- Development of digital assets which market the AAF to a broader target audience for business development; and
- Development of promotional and advertising collateral for the release of new products and services.

4. ORCID Consortium Lead

ORCID (Open Researcher and Contributor ID)[2] is an international, open, non-profit, community-driven effort developed by and for the research community to provide a unique persistent identifier for researchers. It links research publications, data and other research activities with their creators.

The AAF commenced as the ORCID Consortium Lead for Australia in January 2016. Since then the AAF has developed and promoted a national approach to the adoption and integration of ORCID which has been internaltionally recognised as a leading model for operating corsortia. Participation in the consortium is open to organisations and institutions of higher education, non-profit organisations and government research institutes and funding agencies in Australia.

In 2019, the AAF will continue to undertake the following key responsibilities as Consortium Lead:

- Provide administrative support to the Consortium;
- Participate in the ORCID Consortium Advisory Group and Governance Group;
- Manage and support the on-boarding of consortium members;
- Provide tier 1 technical support to consortium members; and
- Maintain consortium documentation and technical documentation repositories.

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[2] See: http://orcid.org

5. Projects and Other New Initiatives

This section outlines the projects and other new initiatives for 2019.

5.1 Enhancing AAF's Security and Privacy Capabilities – Expansion of activities in 2019

Like all organisations, federations globally are faced with increasing pressures from:

- **Legislation:** Complying with national and emerging international privacy legislation. The National Data Breach Scheme came into force in February 2018 and contains obligations for all organisations around the reporting of data breaches. The European Union General Data Protection Regulation (GDPR) also came into force May 2018 and applies to all firms that hold information about EU citizens;
- **Cybercrime:** Implementing practices, policies, processes and technologies to mitigate against and manage the threat of cyber theft and data breaches;
- **Systems security:** Managing a growing fleet of complex systems and architectures as well as a constant stream of system security advisories and staying current with security regimes; and
- **Compliance with best practice:** In an ever-changing ecosystem, it is paramount that security remains part of the culture for federation operators.

Three key areas of activity have been identified as part of AAF's risk mitigation strategy to address these factors and enhance AAF's security and privacy in 2019. These include:

- **Area 1: Staff training and awareness:** A targeted program of training and awareness to reduce the risk of a cyber event due to the ongoing evolving landscape for both technical and business staff;
- **Area 2: Infrastructure hardening:** Ongoing hardening of AAF's infrastructure to ensure systems are operating at a best practice level and utilising leading solutions in the market-place, as required. The AAF operates internet connected servers, applications and data to provide services to customers both nationally and internationally. Given AAF's direct connectivity to the internet and the overall focus on federated identity and access management, it is critical that all aspects of this infrastructure are continuously defended against threats. Architecture, automation, hardened access controls, external expertise, monitoring, real-time response and an ability to deeply investigate events are all key components to what is a 'defence in depth' approach; and
- **Area 3: Utilisation of external partners:** The AAF will work with expert external partners to provide an enhanced capability to AAF's current staff capability. To be

able to respond to the diverse technical, policy and business requirements and to manage security, privacy and legislative requirements, it is important that AAF has access to a range of technical and advisory services by engaging external parties with the appropriate expertise.

5.2 Deliver innovation impact for the Australian eResearch agenda

In response to the 2016 National Research infrastructure Roadmap, the Australian Federal Government released the Research Infrastructure Investment Plan in 2018. The Plan sets out the Government's priorities for investment in response to the Roadmap. The AAF is identified as a National Research Infrastructure Facility within the Plan.

In 2019, the AAF will continue to support the Plan through a number of initiatives to:

- Remain aligned with the Australian eResearch agenda as a national research infrastructure capability;
- Drive advances in AAF's technologies to underpin leading edge research and innovation;
- Leverage key strategic partnerships; and
- Connect research globally.

Strategies to achieve this in 2019 include:

- Co-planning with the Australian Research Data Commons (ARDC) to ensure AAF is central to national eResearch infrastructure planning and operations;
- Co-planning with the Digital Data and eResearch Platforms (DDeRP) (ARDC, National Computational infrastructure, Pawsey super computing and Australia's Academic and Research Network);
- Co-developing programs of work in line with the needs of the NCRIS system and research stakeholders; and
- Seeking funding to drive advances and innovation in AAF's technologies.

5.3 Managed Services

The AAF will continue to operate its two managed service offerings in 2019: the AAF SaaS Hosted IdP service (Rapid Identity Provider) and the AAF student verification service (VerifID).

5.3.1 AAF SaaS Hosted IdP service (Rapid IdP)

The AAF will continue to grow the adoption of its Rapid IdP cloud Identity Provider Platform in 2019. The platform offers a variety of benefits to AAF subscribers including:

- Accelerating the process for new subscribers to connect to the federation by reducing the need for local specialist skills to install and configure servers and software;
- Eliminating the need for subscribers to deploy local infrastructure in order to connect to the federation;
- Eliminating the need for subscribers to have specially trained staff locally to manage and maintain the technical infrastructure they currently have to participate in the federation. (This will be done via an AAF-managed centrally coordinated approach to security patching and upgrades);
- Delivering an offering that better meets the requirements of a diverse range of subscribers (small, medium and large organisations); and
- Reducing many of the barriers that have prevented smaller organisations from previously joining the AAF.

In addition to the subscription income from the service, the AAF will continue to seek project funding through the ARDC to further advance the services capabilities in 2019.

5.3.2 AAF Verification Service (VerifID)

In Quarter 3 2018, the AAF launched its verification service (VerifID). The service has been developed to meet the needs of commercial services providers offering discounts on their products to students. These commercial service providers are common in international federations. VerifID has been designed to be privacy preserving and to significantly reduce the time and complexity involved in the process of verifying a students' status. It only provides a true or false response when an end-user logs into the service provider. No other attribute information is disclosed.

The AAF will seek to grow the number of service providers using the system in 2019. The service will continue to operate on a fee per verification basis.

5.4 Multi-protocol Support – OpenID Connect

The 2016 and 2017 REFEDS surveys identified that the OpenID Connect protocol (OIDC) is likely to be the next most important technology for consideration in federations. The 2018 AAF survey continued to show subscriber demand for multi-protocol support as a 'high rated priority'.

From 2015-2017, the then NeCTAR Project, funded[3] the AAF to undertake a program of activities to develop support for the OpenID Connect protocol within the federation. This program of work was the genesis of AAF's multiprotocol platform called 'AAF Central'. AAF Central was soft-launched in Quarter 1, 2018 with basic support for OIDC. It enables Service Providers to use OIDC to connect to the AAF. The AAF is one of the first federations to implement support for OIDC. Benefits of this new service include:

- Support for mobile devices; and
- Easier integration with a broader range of applications.

Further development of the platform is required in 2019 and beyond, and as such the AAF will seek funding in part or full from the NCRIS capabilities and other granting agencies to develop the platform to support a wider range of use cases. Subject to funding, the next stage activities will include:

- Packaging the service, training and supporting the technology;
- Further development of a broader number of use cases for OpenID connect within the federation;
- Integration of the service into the next iteration of AAF's software stack;
- Integration with Rapid Connect and eduGAIN; and
- Contribution to international standards development.

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[3] $237,000 funding for Phase 1, 2 and 3-NeCTAR funded OIDC projects.

6. Support Model

This section outlines the support model for 2019.

6.1 Organisational Structure

The delivery of the 2019 Business Plan will be driven by the Leadership Team as outlined in the operational organisation structure shown in Figure 1.
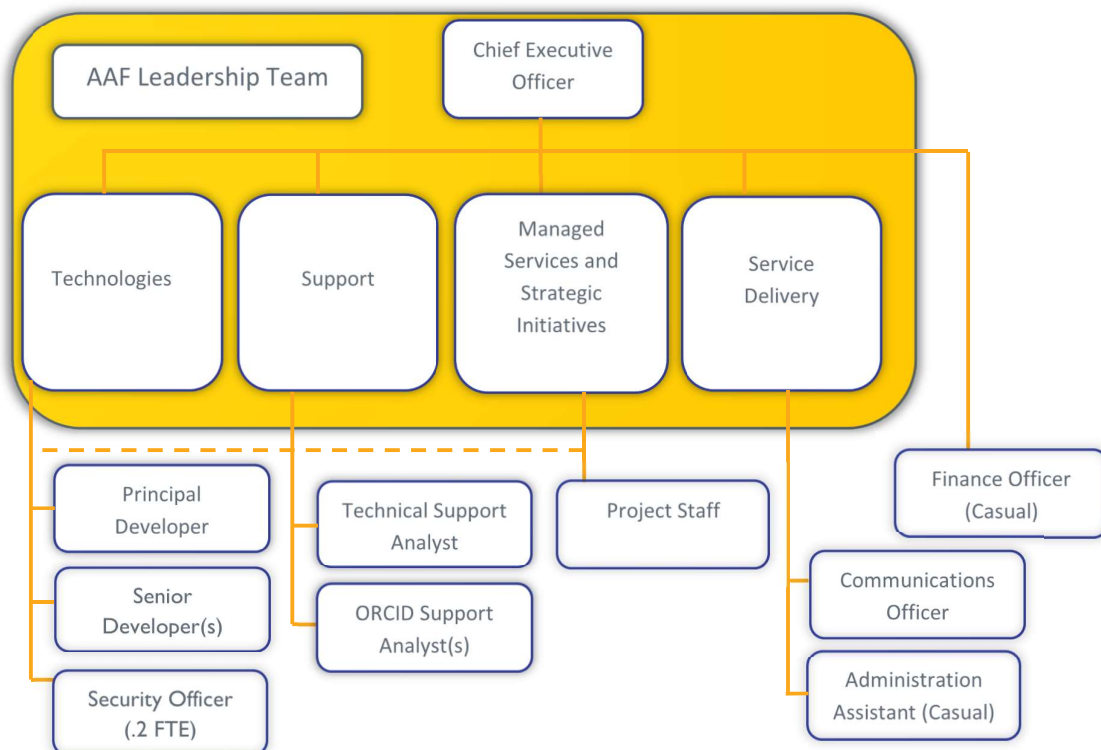

Figure 1: *Organisational Structure 2019*

6.2 Infrastructure Hosting

In 2016, the AAF moved its infrastructure to an Information Security Registered Assessors Program (IRAP)[4] certified infrastructure provider. This was part of a continuing strategy to ensure AAF's systems are secure and information is protected. The continuation of this arrangement along with increased investment in information security will ensure robust operations of the AAF's services in 2019.

The AAF will continue to use cloud-based services for its support systems.

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[4] The Information Security Registered Assessors Program (IRAP) is an Australian Signals Directorate (ASD) initiative to provide high-quality information and communications technology (ICT) services to government in support of Australia's security.

7. Operating Expenses and Subscriptions

This section outlines the operating costs and subscriptions for 2019.

7.1 Overview

The AAF was incorporated in June 2009 with funding provided by a $2M grant from the Department of Education. A subscription model has been applied since 2011 with the strategic intent to be self-funded and operate at a break-even level. As at 1 January 2019, the AAF expects to have forecast retained earnings of $609,969, noting that it is forecast that this amount is estimated to be $626,141 at 31 December 2019.

To manage and operate an increasingly complex range of technology based tools, services and policies and to maintain appropriate security and privacy capabilities, subscription fees will increase in 2019.

Figure 2 outlines the 2009-2019 income sources for the AAF. Figure 3 outlines the 2009 – 2019 expenses matched to funding sources.
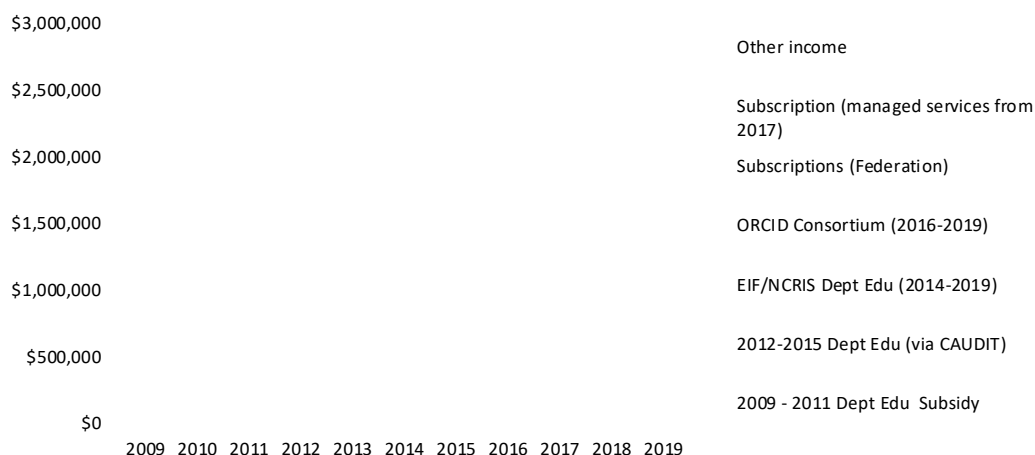

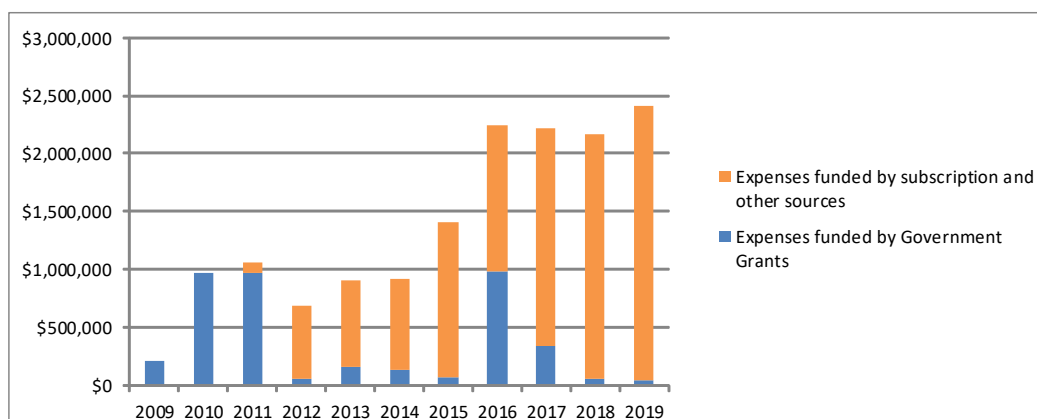**Figure 2:** *Total income 2009-2017 (actual), 2018-2019 (forecast)*

Figure 3: *Total expenses 2009-2017 (actual), 2018-2019 (forecast)*

7.2 Subscriptions

The AAF subscription fees are outlined in Table 2. For the typical AAF subscriber (*AAF Enterprise, AAF Team and AAF Publisher*), subscription fees will increase on average by $6,000 for the Enterprise subscriber and $345 for the Publisher subscriber, in 2019. The Joining fee will remain the same as 2018. Based on a subscription income forecast in Table 8, subscriptions will be set to raise a total forecasted income of $1,492,594 in 2019.

Table 3 outlines the subscription fees for the Rapid IdP in 2019. Eligible higher education and research customers will continue to receive a 30% discount on the annual fee to use the service. The RapidIdP subscription fees were reviewed Quarter 3, 2018 and a banded structure based on FTE count was introduced, there will be no increase to the fees for 2019.

Subscription Component	AAF Enterprise
Year	**2019**
Joining fee	$9,617
Base price	$12,228
Fee per FTE[5]	$5.31
Additional Identity provider registration	$15,455
Extra Service provider registration bundle	$8,588
Subscription Component	AAF Team
Year	**2019**
Joining fee	$9,617
Base price	$12,228
Fee per user	$36.99

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[5] Full Time Equivalent Staff Member

| Additional Identity provider registration | $15,455 |
| Extra Service provider registration bundle | $8,588 |

Subscription Component	AAF Publisher
Year	2019
Joining fee	$4,798
Base price	$1,716
Extra Service provider registration bundle	$1,716

Table 2: *Subscription Fees for 2019 (ex GST)*

Subscription Component	AAF Rapid Starter	
Year	2019	2019 – Eligible Higher Education and Research Discounted 30%
Joining Fee	$0	$0
Annual Fee	$5,200	$4,000[6]

Subscription Component	AAF Rapid Enterprise	
Year	2019	2019 – Eligible Higher Education and Research Discounted 30%
Joining Fee (new subscribers)	As per Enterprise/Team fees	As per Enterprise/Team fees
Migration Fee (existing subscribers)	Negotiated	Negotiated
Annual Fee	Based on FTE count	Based on FTE count

Table 3: *Rapid IdP Managed Service Subscription Fees for 2019 (ex GST).*

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[6] Inclusive of a 30% discount for eligible higher education and research subscribers.

7.3 2019 Product Portfolio Expenses

Table 4, 5, 6 and 7 outline the operating expenses across the AAF product portfolio for 2019.

Product: Core Federation Services	
2019 Expenses	
Salary Expenses	$1,061,036
Office and General	$81,012
Professional Development	$6,750
Professional Fees	$30,200
Marketing and Communication (inc. Digital Asset Program)	$27,850
Telecommunications	$7,600
Software and Certificate Services	$25,000
Hosting Services	$27,000
Engagements, Meetings and Events	$90,965
Security & Privacy	$184,749
Total	
Operating Surplus (2% Safety Margin)[7]	$27,948
Total Core Federation Services	$1,570,110

Table 4: *2019 Core Federation Operating Expenses*

Product: ORCID Consortium Service	
2019 Expenses	
Salary Expenses	$261,553
Office and General	$27,159
Events, Engagement and Meetings	$13,113
International Engagement & ORCID.org Board Activity	$26,471
Consortium Member Licence Fees[8]	$200,000
Total	
Operating Surplus (2% Safety Margin[9])	$6,229
Total Core ORCID Consortium Service	$534,525

Table 5: *2019 ORCID Consortium Operating Expenses*

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[7] 2% safety margin on all activities except Security and Privacy which has a 10% safety margin built in.

[8] ORCID Member Licence fee of $142,000 USD paid by AAF on behalf of the members to ORCID (converted to an approximate AUD using an exchange rate as of 11 September 2018 for representation in the budget).

[9] 2% safety margin not applied to the Consortium Member Licence Fee and the ORCID.org Board activity.

Product: Managed Services	
2019 Expenses	
Salary Expenses	$203,605
Office and General	$13,028
Professional Services	$10,300
Hosting Services	$31,827
Total	
Operating Surplus	$5,933
Total Managed Service	$264,693

Table 6: *Managed Service Operating Expenses*

Product: Supporting the National Research Infrastructure Roadmap	
2019 Expenses	
Salary Expenses	$42,107
Office and General	$1,893
Total	
Total Supporting the National Research Infrastructure Roadmap	$44,000

Table 7: *2019 Supporting the National Research Infrastructure Roadmap Expenses*

7.4 2019 Operating Budget

Table 8 outlines the 2019 budget.

	Budget 2019
Retained Earnings	
Forecast Retained Earnings as at 1 January	$609,969
Income	
Core Federation Services Income	
Forecast Subscription Income (existing subscribers)	$1,492,594
Other	
Forecast Professional Service Income[10]	$40,000
Forecast Interest	$14,422
ORCID Consortium Services Income	
Forecast ORCID Consortium Leader Fee Income (existing members)	$344,840
Forecast ORCID Consortium Leader Fee Income (new members)	$16,794
Forecast ORCID Consortium Member Fee Income[11]	$200,000
Managed Service Income	
Subscriptions (existing subscribers)	$129,000
Subscriptions (new subscribers)	$147,850
Supporting the National Research Infrastructure Roadmap	
Forecast NCRIS funding	$44,000
Total Income	**$2,429,500**
Total Income + Retained Earnings	**$3,039,469**
Expenses	
Operating	
Core Federation Services Expenses	$1,570,110
ORCID Consortium Services	$534,525
Managed Services Expenses	$264,693
Supporting the National Research Infrastructure Roadmap	$44,000
Total Expenses	**$2,413,328**
Retained Earnings as at 31 December[12]	**$626,141**

Table 8: *2019 (forecast) Operating Budget*

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[10] A medium case Professional Services income.

[11] ORCID Member Licence fee of $142,000 USD paid by AAF on behalf of the members to ORCID (converted to an approximate AUD using an exchange rate as of 11 September 2018).

[12] The AAF aims to maintain a cash flow buffer with its retained earnings of approximately 3 to 4 months of its annual operating costs.

8. Risk Management

The AAF maintains an ongoing evaluation of its risk profile via the AAF Ltd. Risk Management Register which covers the following risk categories:

- Human capital management;
- Financial management;
- Business and service continuity;
- Governance;
- Workplace Health and Safety;
- Compliance;
- Remaining relevant and subscriber retention; and
- Reputation.

Risks identified that are associated with the introduction of the new capabilities and services in 2019 have been incorporated into the overall risk profile for AAF Ltd. These risks will be managed by the Chief Executive Officer and the AAF Board.