REFEDS

REFEDS 2021 End of Year Report

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Abstract:

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1. Abstract

This report provides an overview of the work carried out by REFEDS during 2021 as well as the costs incurred in the same period. The workplan for 2021, as approved by the REFEDS SC and supported by the sponsors can be found online at: https://refeds.org/work/.

This report is mainly aimed at the REFEDS Sponsors, to highlight the achievements in relation to the expenditures and the yearly sponsorships.

2. Executive Summary and Highlights

This document provides an update on the progress made by REFEDS in the various work packages that were part of the REFEDS 2021 Workplan. REFEDS continued its work in 2021 to strengthen its position as the reference and harmonisation body for best practices for federation operators, and saw an increasing amount of outreach to the service provider community (particularly scholarly publishers) over the course of the year.

2021 continued to challenge engagement with our community due to the ongoing pandemic and impact of COVID-19. Meetings had been scaled back in 2020, and continued to follow this constrained pattern in 2021. REFEDS Working Groups, however, continued more or less as normal.

The following highlights for the year should be noted:

- The community met in two virtual meetings in June and December 2021.
- The Metadata Explorer Tool went through a much-needed code refresh.
- The community responded to six Consultations.
- The REFEDS Steering Committee received excellent community feedback on a new strategic plan.
- The REFEDS Schema Editorial Board (SEB) brought two schema under its governance: the ldapPublicKey schema, often used for SSH key management in LDAP, and voPerson 2.0, an attribute schema heavily used by the research community. The SEB also

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released eduPerson (202111) with the addition of the eduPersonAnalyticsTag attribute.
- 95 Working Group meetings were held across the working group portfolio.

3. Sponsorship

The sponsorships for 2021 were handled according to the established sponsorship model in use since 2015. This model includes sponsorship levels (platinum, gold, silver, and bronze) with an associated amount for each of the levels. The list of current sponsors is shown in the table below:

Sponsorship Levels	Organisations
PLATINUM	InCommon, JISC, GARR, NORDUnet
GOLD	Renater, SURFnet, SWiTCH
SILVER	RedIRIS, LIGO, CANARIE, Internet Society
BRONZE	Australian Access Federation, CESNET, TENET

In total these organisations contributed 69000 EUR in sponsorship; see Section 5. Finances for a detailed overview of the expenditures.

4. Activities

REFEDS work is organised in sets of work items via an annual workplan. Each year REFEDS participants are solicited to provide inputs for possible work areas. A short list is created with the expected budget associated with each work area. The REFEDS Steering Committee is then asked to approve the list and to define the initial priorities (accordingly with specific wishes from the sponsors if any). Once the plan is ready, the REFEDS sponsors will be asked to provide feedback via the mailing list or via a consultation meeting.

Each work package covers area of work that are in line with REFEDS goals of:

- Representing the needs for the research and education community in the wider space of access and identity management;
- Addressing inter-federation issues and trying to offer some solutions for these;
- Engaging more actively with other communities interested in identity federations;
- Enhancing international collaborations among participants by sharing best practices and possibly contributing to the creation and/or adoption of new standards.

A high level view of the annual workplan, once approved, is available on the REFEDS website: https://refeds.org/our-work. A more detailed view is available on the wiki and may be updated as the community and the work evolves: https://wiki.refeds.org/display/WOR/2022+Workplan.

4.1. REF21-1: REFEDS Coordination and Management

AIM: to progress REFEDS position as an important player within the access and identity management space internationally and to build on established relationships.

4.1.1. Meetings, Presentations, and BoFs

REFEDS took a very purposeful decision in 2020 not to facilitate the main meetings due to the pressure on federation operators and other related parties to meet new due demands brought about by the pandemic and to reduce the amount of time spent online. It was also felt that it was more appropriate to spend time focusing on the practical results of the working group meetings rather than more generalised information sharing. This decision continued to guide the thoughts and planning for 2021.

A REFEDS Steering Committee strategy meetings were held online over the course of the year and resulted in the first draft of a REFEDS Strategic Plan. That plan went out for community consultation in June 2021 and was discussed extensively at the virtual meeting held that month. Community feedback was positive, and the plan has evolved accordingly. A final version of the strategic plan will be published in early 2022.

REFEDS coordinated the following meetings:

- REFEDS online (June 2021)

- REFEDS online before the Internet2 CAMP conference (September 2021)

All other REFEDS meetings happened at the working group or committee level, with many working groups meeting weekly. A total of 95 working group meetings were held (as compared to 100 in 2020).
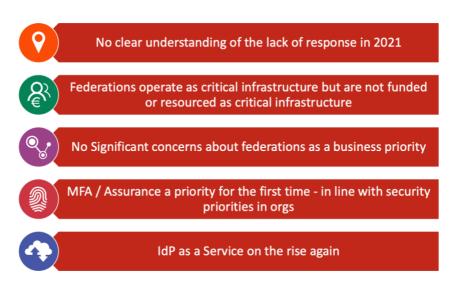
4.1.2. Maintain the REFEDS Blog

The REFEDS Blog saw more posts than in 2020 with six articles published.

- Request for Quotations: MET development: https://refeds.org/a/2492
- REFEDS 2020 – End of Year Report: https://refeds.org/a/2507
- REFEDS Community Announces Publication of New Entity Categories: https://refeds.org/a/2558
- Next Steps for the GÉANT Code of Conduct: https://refeds.org/a/2577
- Indepth Conversations at REFEDS 43: https://refeds.org/a/2746
- How Do REFEDS Consultations Work?: https://refeds.org/a/2749

4.1.3. REFEDS Annual Survey

The REFEDS Survey 2021 was answered by 33 of the known 87 federations globally, as compared to 50 respondents in 2020. A full version of the results will be presented at a REFEDS 44 and published to the REFEDS wiki at: https://wiki.refeds.org/display/OUT. The following conclusions were drawn from the survey:

No clear understanding of the lack of response in 2021

Federations operate as critical infrastructure but are not funded or resourced as critical infrastructure

No Significant concerns about federations as a business priority

MFA / Assurance a priority for the first time - in line with security priorities in orgs

IdP as a Service on the rise again

A series of recommendations for the REFEDS workplan were also made and will be discussed in the same meeting. These topics include:

- eIDAS vs eduGAIN and Integration
- MFA and statistics
- Support for various Microsoft products in a federation (Azure, Office 365, Active Directory)

- Expanding the federation operator best practices to provide a more comprehensive guide for new/emerging federations
- Update the discovery guide
- Docker-based custom image to minimise the installation
- Plain language materials, written for end-users (researchers, librarians, administrators)

4.1.4. Contracts with Third Parties

REFEDS established a new contract with Z1 to bring the Metadata Explorer Tool code up to date. The three-year contract with Heather Flanagan remains in place until June 2022.

4.1.5. Sponsorships

At the start of each calendar year, invoices are automatically sent out to the current sponsors. New sponsors can join at any time and an active effort is made to expand the current sponsor base. There was no change to our sponsors in 2021.

4.2. REF21-2: Specialist Working Groups

AIM: to provide infrastructure and support for evolving ideas and areas in the REFEDS community. REFEDS currently supports the following working groups.

Group	Description	Outcomes
FOG https://wiki.refeds.org/display/GROUPS/FOG	*A closed mailing list for the REFEDS **Federation Operators Group**, to facilitate open discussions about operational issues of running Research and Education Identity Federations.*	FOG is intended to be a closed discussion group. No specific outcomes are expected.
Sirtfi https://wiki.refeds.org/display/GROUPS/SIRTFI	*The Security Incident Response Trust Framework for Federated Identity (Sirtfi) aims to enable the coordination of incident response across federated organisations. The working group is currently considering requirements for SIRTFI v2.*	The Sirtfi working group focused on Phase 3 of their plan: "Establish the means for proactive notification of an account compromise when it can be expected to produce a substantial impact to an at-risk SP organisation." A consultation for Sirtfi v2, which features a new requirement around notification, is expected in 2022.

			The group met 23 times in 2021.
Assurance https://wiki.refeds.org/display/GROUPS/Assurance+Working+Group	*The REFEDS Assurance WG was established in 2016 to address the needs in Research & Education (R&E) of defining a minimal degree of identity and authentication assurance. After successful community consultations, the first version of the REFEDS Assurance Suite was published in 2017 and 2018, being comprised of the REFEDS Assurance Framework (RAF), the REFEDS Single Factor Authentication Profile (SFA) and the REFEDS Multi Factor Authentication Profile (MFA).* *The goal as of 2021 of this working group is to* ● *revisit and modernize the specifications (formal review)* ● *ensure test facilities are in place to enable adoption*		The Assurance working group formed a subgroup to focus on the MFA Profile. The main working group focused on developing RAF2.0. **The group met 38 times in 2021.**
SPOG https://wiki.refeds.org/display/GROUPS/SPOG	*This group, modeled off of [FOG](), will provide a forum for Service Providers to facilitate open discussions about operational issues of running services for Research and Education Identity Federations such as deployment issues, gaps in existing guidance, and other SP specific concerns.*		Activity in this group remains sparse.
Baseline Expectations https://wiki.refeds.org/display/GROUPS/Baseline+Expectations+Working+Group	*The goal of this group is to define a common set of expectations of all participant organisations to establish a baseline of trust in identity federations. The material is based on the InCommon Baseline Expectations, modified for an international audience.*		Initial community consultation completed in January 2021. The guidance was published as a formal REFEDS specification: https://refeds.org/baseline-expectations. **The group went dormant after the specification was published.**
Entity Category Support	*The goal of this working group is to explore the potential development of additional entity categories beyond*		The working group reviewed the conflicts and

https://wiki.refeds.org/display/GROUPS/Entity+Categories+Development+Working+Group	*Research & Scholarship v1 and other additional categories that may arise. The overaching work for this group is discussed on the main REFEDS list, but sub-lists will be created as needed for individual work areas.* *The current focus of the group is work on a version 2 of REFEDS R&S.*	challenges of the R&S Entity Category and proposed a complete shift in how attribute release should be considered. Rather than a focus on the type of organization requesting the attribute–something there was ultimately no consensus around–the group instead looked to what attributes should be released. To that end, they developed the Personalized Entity Category, which went out for consultation and was published in 2021: https://refeds.org/category/personalized. **The group met 17 times in 2021.**
Federation 2.0 https://wiki.refeds.org/display/GROUPS/Federation+2.0	*The Federation 2.0 Working Group will follow a structured process to gather input from a wide range of information sources and individual perspectives, in order to review the past and current states and formulate possible future scenarios for the evolution of research and education federations. This data will be analysed and synthesised to articulate the value of R&E federation, identify potential changes that may increase that value, and recommend actions that R&E Federations and others can take to increase their value over time.*	The Federation 2.0 Working Group, following a scenario planning methodology, explored the future of 10 or more years hence. The group developed a report that set out a range of recommendations on actions that need to be taken to ensure the future of Academic Interfederation. This went for consultation in October 2021; the group continues to meet as they resolve the comments from the consultation.

		The group met 22 times in 2021.

4.3. REF21-3: Promotion and Communication

Despite the lack of in-person meetings, REFEDS continued its outreach and communications where possible in 2021.

REFEDS hosted a meeting adjacent to the annual Internet2/GÉANT CAMP and ACAMP meetings. REFED 43 featured in-depth discussions on the draft REFEDS Strategic Plan, the major changes in the direction of R&S 2.0 (now the Personalized Entity Category), and identifier reassignment. ACAMP, the unconference meeting, saw sessions on SIRTFI as well as identifier reassignment:
https://spaces.at.internet2.edu/display/ACAMP/ACAMP+2021+Home.

The REFEDS Slack channel (found in the eduGAIN Slack space) continues to be used by the community for conversation, support, and outreach. 153 individuals subscribe to that channel (an increase from 139 in 2020). The REFEDS mailing list itself has 428 subscribers (an increase of 1 from 2020).

4.4. REF21-4: Standards and Specifications

AIM: to provide support for the development of standards and specifications under the REFEDS banner, including coordination for pilot specification work to support implementation requirements and creating structures to ensure specification and schema sustainability.

Three new specifications were published in 2021:
- Personalized Entity Category: https://refeds.org/category/personalized
- Baseline Expectations: https://refeds.org/baseline-expectations
- eduPerson (202111): https://wiki.refeds.org/display/STAN/eduPerson

The REFEDS Schema Editorial Board (SEB) hosted two subcommittees: the eduPersonAnalyticsCode subcommittee which resulted in a new eduPerson attribute, eduPersonAnalyticsTag; and voPerson2.0. The eduPerson subcommittee closed at the conclusion of the consultation process. The voPerson 2.0

committee remains lightly active as members update the original voPerson schema.

The SEB has also spent considerable time on rethinking how to manage attribute schema. Work is underway to split existing schema into base attribute definitions and protocol-specific profiles (e.g., SAML, LDAP, OIDC). This work is expected to conclude sometime in 2022.

4.4.1. Consultations

REFEDS conducted six consultations in 2021:

- Federation 2.0 Report - https://wiki.refeds.org/display/CON/Consultation+-+Federation+2.0+Report
- Baseline Expectations (consultation opened in 2020, closed in 2021) - https://wiki.refeds.org/display/CON/Consultation%3A+Baseline+Expectations
- Personalized Entity Category - https://wiki.refeds.org/display/CON/Entity+Category+Consultation+-+Personalized+Entity+Category
- Code of Conduct (consultation opened in 2021, closed in 2022) - https://wiki.refeds.org/display/CON/Code+of+Conduct+Consultation
- REFEDS Strategy - https://wiki.refeds.org/display/CON/Consultation+-+REFEDS+Strategy
- eduPersonAnalyticsID - https://wiki.refeds.org/display/CON/Consultation%3A+eduPersonAnalyticsID

4.5. REF21-5: REFEDS Services

AIM: to continue to support the operation and maintenance of MET.

2021 saw the MET codebase brought back up to full operation. An RFQ went out in February 2021, and the contract was ultimately awarded to Z1. The updated codebase is available in the REFEDS GitHub repository: https://github.com/REFEDS/met

5. Finances

The costs for running REFEDS in 2021 are shown below.

Description	Cost (EUR)

Consultant fees	57,366
GÉANT manpower	18,244
Travel and meetings	0
Miscellaneous	15
VAT on GÉANT invoices (21%)	15,881
	91,506

Description	Amount (EUR)
Starting Balance	44,242
Income	70,000
Expenditure	91,506
Closing Balance	22,736