

NFDI AAI

Handling the login for 30 scientific disciplines

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NFDI

NFDI Background

- NFDI: National Research Data Initiative
- <https://nfdi.de>
- Three rounds of calls
- 27 Consortia (call 1 + call 2 + call 3)
 - To span many different scientific disciplines (social, humanities, engineering, earth, chemistry, physics, ...)
- ~ 90 M€ /a
- 5a + (potential extension: 5a)



NFDI Background

- NFDI first focussed on consortia
 - Later: Basic Services, useful for many consortia:
 - Basic services: Persistent Identifiers (PID), Metadata, Multicloud, IAM, Accounting
 - Lifecycle: Initialisation, Integration, Ramp-Up
- Identity and Access Management
 - Ramp-Up Phase officially starts on Feb 1st 2024
 - ~~Funding 6FTE until Jan 2026~~
 - Funding extended via “Ramp-Up Phase until Jan 2028



IAM4NFDI Project

IAM4NFDI Goals

- Provide state of the art IAM to all NFDI Consortia
- Use home organisation identity
- Enable delegated group management (Virtual Organisations)
- Open for NFDI and beyond
- Compatible with AARC / EOSC
- Community AAI as a Service!

Project status

- We have
 - Architecture
 - Defined set of attributes

What did we do since 2024?

<https://doc.nfdi-aai.de>

Documentation

<https://doc.nfdi-aai.de>



NFDI AAI Documentation

About

Goals

Background Information

The Target Audience

How can NFDI Consortia join?

How can Services be connected?

Architecture

Component Implementations >

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NFDI AAI Documentation

Welcome to the [IAM4NFDI project](#)! As a Base4NFDI project we provide an Authentication and Authorization Infrastructure (AAI) for the NFDI. If you need a short introduction take a look at our video [IAM4NFDI quickly explained](#). For a deeper inside look at our [video from the last Base Roadshow](#).

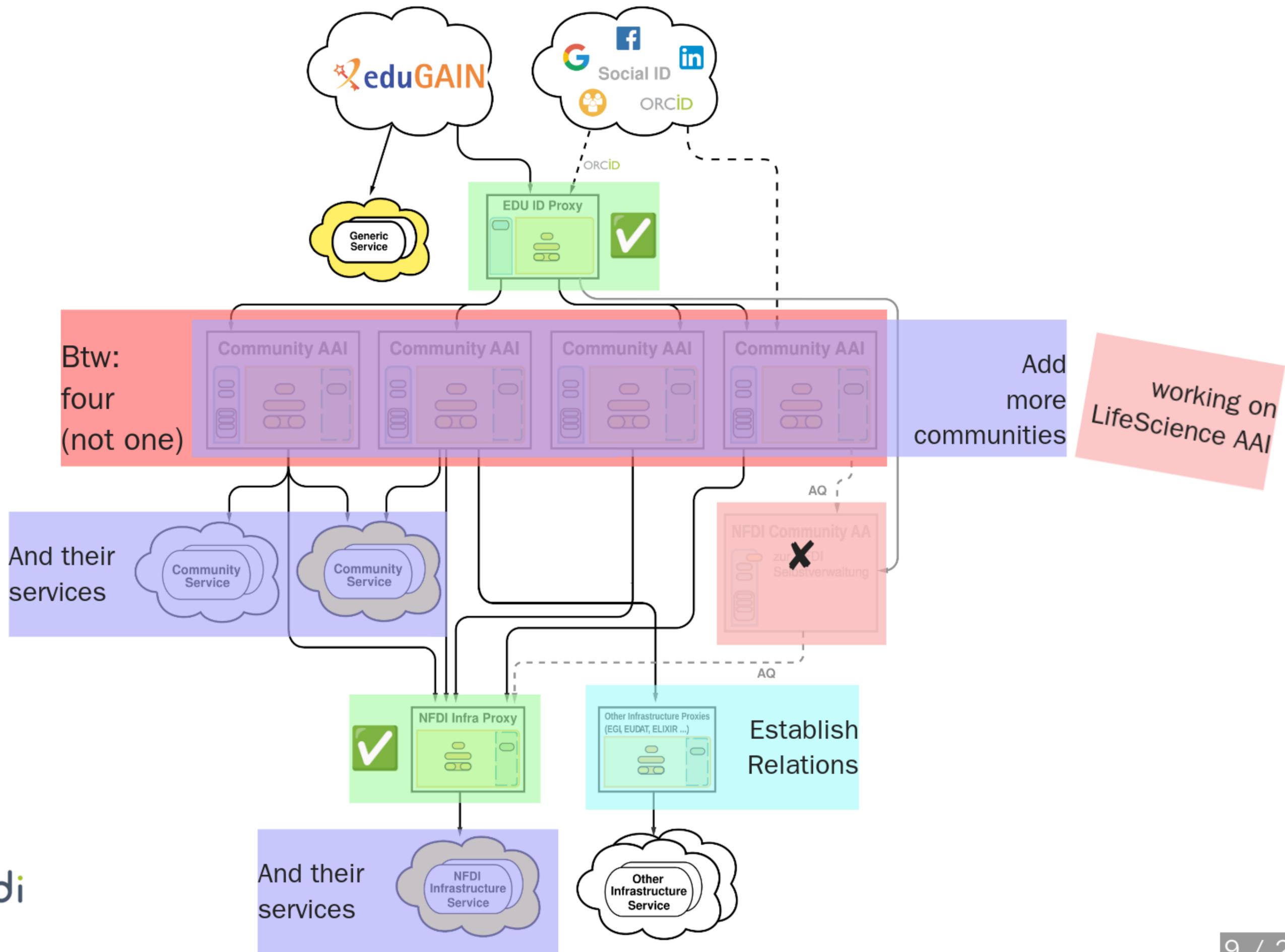
Goals

NFDI AAI Architecture addresses three key goals:

1. Architecture that provides a solution for organisation of individual NFDI consortia and the whole of NFDI
2. Ensure compatibility with external / international partners
 - Follow the [AARC](#) Blueprint Architecture
 - Be compatible with the [EOSC AAI](#)
3. Provide an initial Proof of Concept installation

Background Information

The NFDI AAI (architecture, policies, attributes, etc.) described in this context, is based on the work, the experience, and standardisation made in previous projects.





NFDI AAI Documentation

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Implementations

Consortia Coverage

[Consortia Map](#)

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NFDI Consortia: Overview Community AAI Usage

Here we list the decisions of each NFDI Consortia, which Community AAI to use.

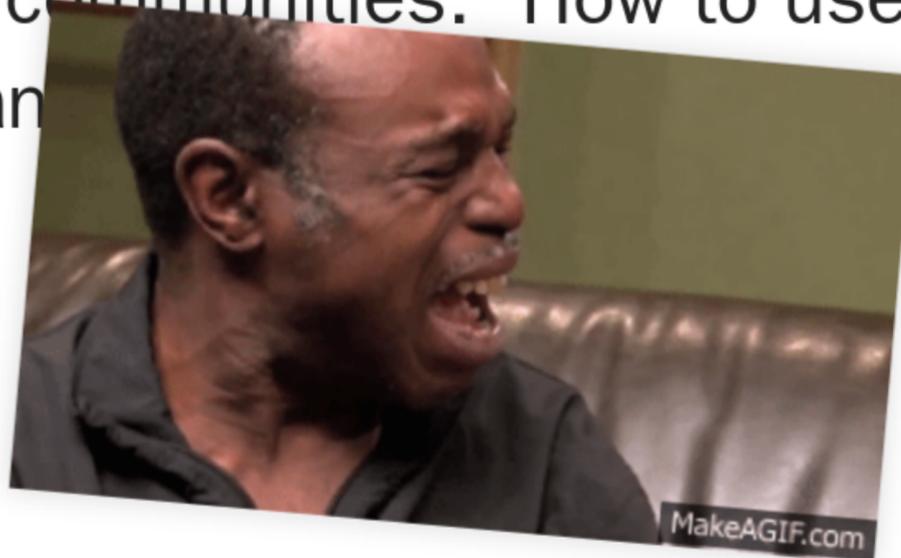
Consortium	Academic ID	didmos	RegApp	unity	other	InfraProxy	Incubator
BERD@NFDI						x	x
DAPHNE4NFDI				x			
DataPLANT					x		x
FAIRagro					x		x
FAIRmat				x			x
GHGA					x		
KonsortSWD	x						x
MaRDI		x					x
NFDI4Biodiversity	x					x	x
NFDI4BIOIMAGE							
NFDI4Cat			x				x
NFDI4Chem			x			x	x
NFDI4Culture		x					x
NFDI4DataScience			x				x
NFDI4Earth	x						x
NFDI4Energy			x				x
NFDI4Health							x
NFDI4Immuno				x			
NFDI4ING			x				x
NFDI4Memory							
NFDI4Microbiota					x	x	x
NFDI4Objects		x					x
NFDI-MatWerk			x				



Incubators

A wonderful success story

- Before Incubators
 - Website documentation ready
 - Several presentations to communities: “How to use AAI”
 - Consortia didn’t understand



Incubators

A wonderful success story

- The Incubator effect
 - Consortia wrote proposals for working with us
 - Despite there was no funding
 - Regular catchup calls
 - Some even asked where to send deliverables
- Great success!
 - Following the GEANT Incubator concept
 - And the presentation of the results

Thanks Niels!

Incubators



IAM4.nfdi

Incubator Dashboard - Overview & Activities



26

Completed activities



6

Ongoing activities



0

Pending ideas

Incubator

Topics

Incubator Howto

Vision & Mission

Process Methodology

Community Engagement

The IAM4NFDI Incubator aims to develop, foster and mature new ideas in the field of identity and access management. The incubator will investigate new technologies that currently have no place (yet) in the services ecosystem of the [IAM4NFDI project](#). This may include to test and experiment with potential new features for existing CAAI solutions. You can find more information about IAM4NFDI in our [documentation](#).

Activities

Filter by topic

Filter by Incubator Status

Filter by cycle

Filter by NFDI Consortium

Search activity



NFDI4ING



Data
Literacy
Alliance



Attributes

Basic Attribute Profile

Attribute definitions:

<https://doc.nfdi-aai.de/attributes>

NEW

Identifier (created by CAAI)

- EduID assigns life-long persistent identifier: [SubjectID|sub]
- Community-AAIs pass it on in **voperson_external_id**
 - Infrastructure Proxy can sort things, if required

- Name information
- Email information
- Home Organisation information
- Affiliation within the community
- Affiliation at the Home-Organisation
- Assurance (REFEDS Assurance Framework)

Extended Attribute Profile

- Groups and roles: **eduPersonEntitlement**
- Capabilities **eduPersonEntitlement**
- Agreement to policies
- ORCID identifier
- Supplemental Name Information
- Authentication Profiles
- External Identifier
- SSH-Keys

Authorisation by the Services

- Group based
- Resource Capabilities
 - Parametric scopes via information from external attribute authority
- Home-org based
 - Dynamic groups to reflect
 - Helmholtz-member
 - Home Organisation
 - Affiliation
 - Assurance
- Resource entitlements
- Parametric Scopes

Authorisation Examples

- Service is not useable for social logins
- Service is only for members of a specific group
 - aka Virtual Organisation (VO)
 - aka Computing Project (e.g. in HPC)
 - aka Collaboration
- Service is only for a particular group, based on their role at the Home-Organisation
 - Service is only for students
 - Service is only for employees
 - (faculty)?
- Resource capabilities
 - What is the holder of the token allowed to do
 - Start VM
 - Read specific file

Policies

Policies

- Essential: Concept of Policy Frameworks
 - SIRTFI
 - SNCTFI
 - REFEDS Data Protection Code of Conduct
 - REFEDS Assurance Framework
 - AARC I051: Guide to Federated Security Incident Response for Research
- Actual policies need to follow the Policy Frameworks
 - Top Level Infrastructure Policy (TLP)
 - Security Incident Response Policy (SIRP)
 - Policy on the Processing of Personal Data (PPPD)
 - Virtual Organisation (VO) Membership Management Policy (VOMMP)
 - Virtual Organisation (VO) Life Cycle Management (VOLCM)
 - Service Access Policy (SAP)
 - Privacy Policy Template (PP (per VO / per Service))
 - Acceptable Use Policy Template (AUP (per VO / per Service))

Policies

<https://doc.nfdi-aa1.de/policies>

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- NFDI Policy Templates
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Policies and Templates

Our policy table gives an overview who needs to read or write which policy

complies with policy

	Infrastructure Management	Infrastructure Security Contact	VO Management	Service Provider	SP-IdP Proxy	Identity Provider	User
<i>defines policy</i>	Infrastructure Management	Top Level Infrastructure Policy					
		SIRP					
			PPPD				
			IAP				CAAI AUP
			VOMMP				
	VO Management			VO PP			VO AUP
SP-IdP Proxy (CAAI)					Proxy PP		
Service Provider			SAP	SPP	SAP	SAUP	

Key:

Existing Policy (Modifications are not encouraged)
Optional Policy (Template available)
Existing Policy (Few Additions necessary)
Required Policy (Template available)

NFDI Policies

Policies: Take Away

- Policies are not difficult to realise
 - Work is already done
- Policies do not contain surprises
- One single policy is required to be written (by law: GDPR)
 - Service Privacy Policy
 - Template here: <https://doc.nfdi-aa1.de/policies>
- Policy uptake in the communities:

“Les



Final Words

- IAM4NFDI is
 - a wonderful collaboration
 - (though underfunded)
 - a unique opportunity to build on “green grass”
 - (we were late to the party)
 - very well received in the german research landscape
 - contacts from outside NFDI and outside Germany
 - full of surprises
 - a brainchild of AARC, and with this: FIM4R
- [There's also an awesome AAI explainer Video here!!!](#)

Thank you!!

Questions?

