

IAM4NFDI and Federated Identities in the EOSC Ecosystem

Or: About the Power of Proxies that shall not be named as such

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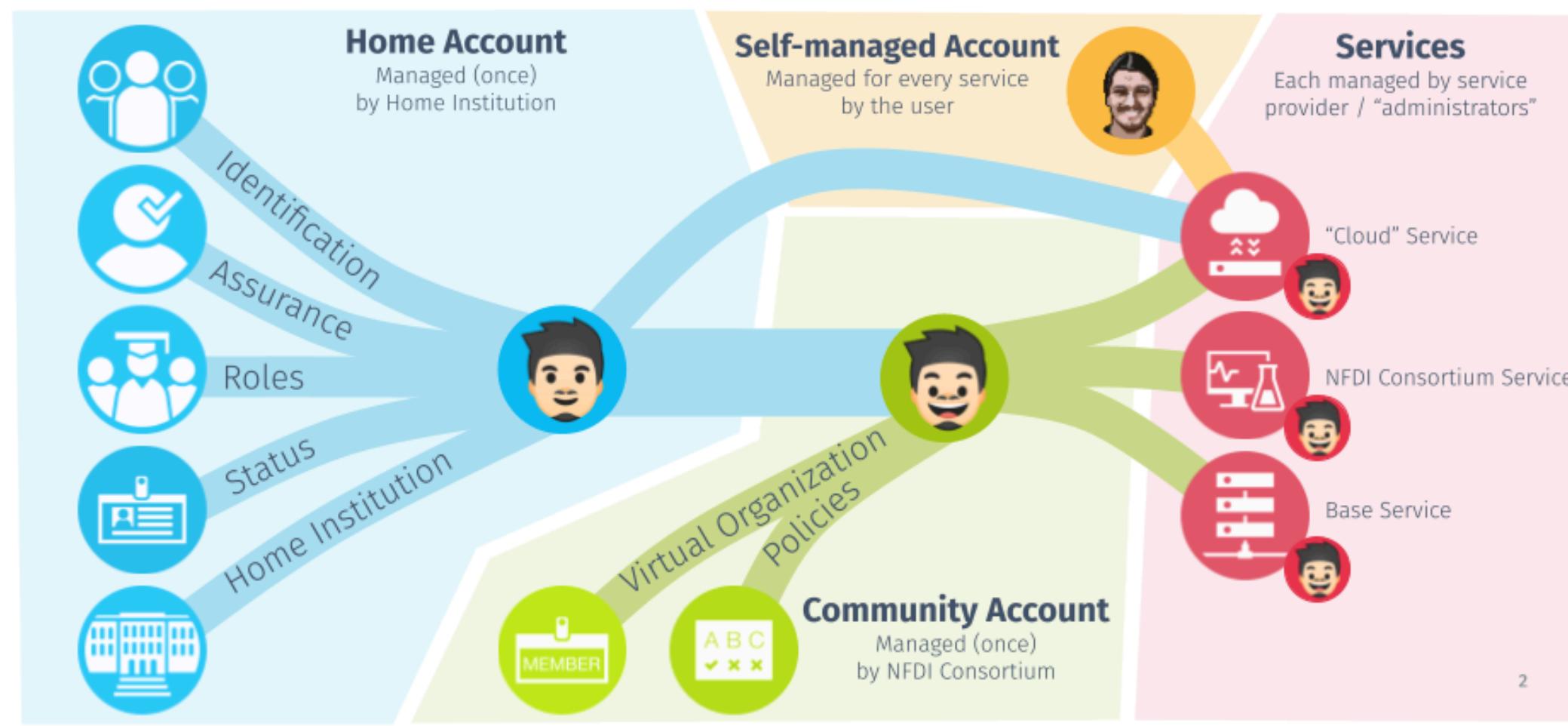
Project Overview

The **IAM4NFDI Basic Service** establishes an Authentication and Authorisation Infrastructure (AAI) for the NFDI, based on AARC Blueprint Architecture. It provides community-managed access to resources with comprehensive policies for Virtual Organisations (VOs), data protection, and security incident response.

Key Goals & Architecture Foundation

- **Community-Managed Access:** Technical framework enabling community-managed access to all relevant resources
- **Comprehensive Policies** for communities, data protection, and security
- **AARC Blueprint Architecture:** Common Attribute Profile
- **EOSC Integration:** Compatible with EOSC AAI Federation
- **German Expertise:** Unity, AcademicID, didmos, RegApp

Three-Tier Architecture



Community AAI Layer

IAM4NFDI operates **Community AAI** for each NFDI Consortium:

- Interface to discipline-specific services
- Tool for managing community-specific access
- Four available solutions: AcademicID, didmos, RegApp, Unity
- Handles authentication processes and guest accounts

NFDI-AAI Infrastructure Proxy: The Central Hub

Connector for cross-disciplinary services and EOSC integration:

- **Universal Access:** Cross-disciplinary services, available for NFDI users
- **EOSC:** Bridge to Central Hub of EOSC AAI
- **Unified Attributes:** Combine identity and authorisation info for services

DFN edu-ID System: The Identity Backbone

- **Life-Long Persistent Identity for Researchers**
- **EOSC Connection:** Support establishing NFDI National EOSC Node
- **Authentication Flexibility**
 - Home organisation via eduGAIN/DFN-AAI
 - Guest accounts
 - Academic Accounts (ORCID, MyAccessID, ...)

IAM4NFDI Incubator Programme

Community-Driven Innovation in Identity Management:

- Demonstrates the broad applicability of federated identity solutions across all research disciplines
- Over **30 projects** integrated services with AAI technologies
- 6-month cycles using agile methodology
- Example applications include **RDMO** (Research Data), **SimpleVM** (cloud computing), **NOMAD** (materials science), and **Jupyter4NFDI**

Technical Excellence

Creating the Bridge to European Research:

- **National NFDI EOSC Node:** Direct connection to EOSC AAI Federation
- **Protocol Support:** SAML and OpenID Connect (OIDC) compatibility
- **Multi-Source Authentication:** eduGAIN, ORCID, social providers, EOSC
- **Authorisation Framework:** Multi-layered access control based on:
 - **Home Organisation:** Institutional affiliation and roles
 - **RAF Levels of Assurance:** Identity confidence levels
 - **Community Attributes:** VO memberships and community entitlements
- **Future Proof:** OpenID Federation + Identity Wallets (e.g. EUDI)

User Experience: Seamless Research Access

For Researchers

- **Single Sign-On:** One login for NFDI and EOSC resources
- **Persistent Identity:** Life-long research identity via edu-ID
- **No Account Proliferation:** Institution login works across all services

For Communities & Service Providers

- **Membership Management:** Self service portal for PIs
- **Cross-Disciplinary Reach:** InfraProxy enables broad service accessibility
- **Reduced Complexity:** Automated federation connections
- **Enhanced Security:** Verified institutional and community affiliations

Impact: European Research Cooperation

The Foundation for EOSC Integration:

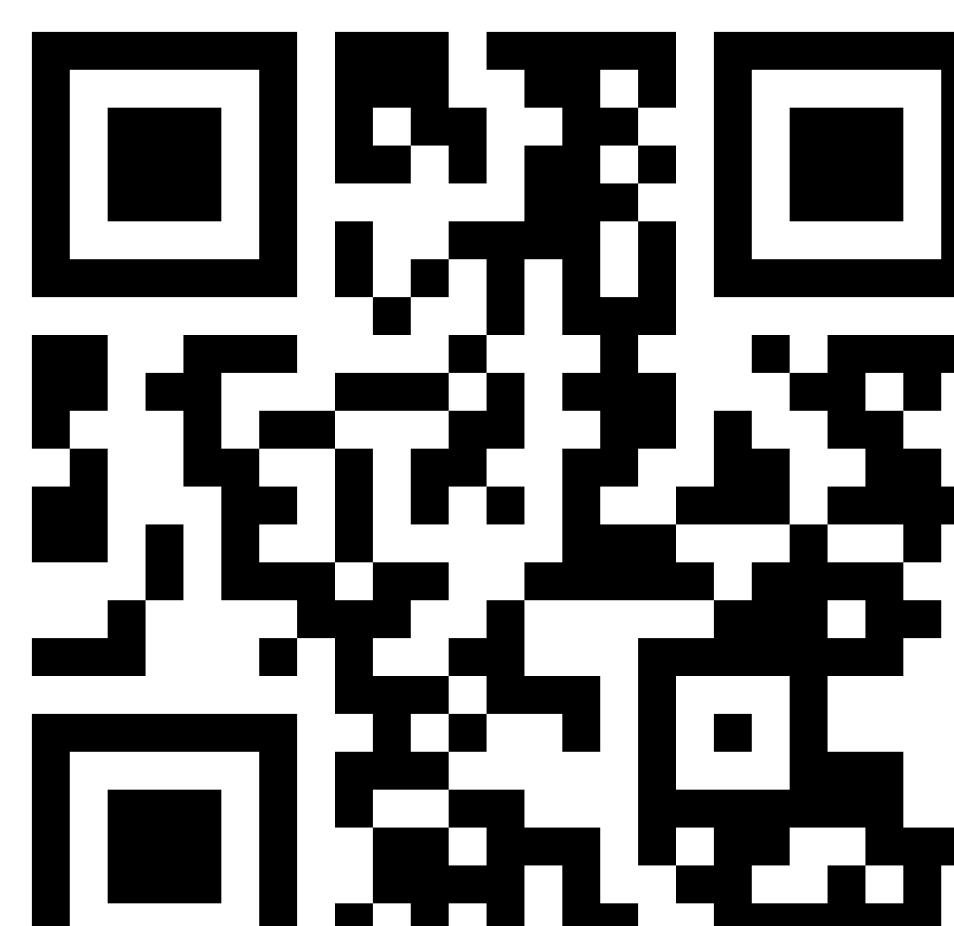
NFDI-AAI Infrastructure Proxy and DFN edu-ID System are essential for:

- **Smooth Access:** German researchers can seamlessly use **EOSC**
- **Bidirectional Integration:** EOSC users can access NFDI resources
- **Research Data Management:** Enhanced European cooperation

Global Reach & Current Usage:

- 24 NFDI Consortia across all research disciplines
- Full integration with global federated identity ecosystem
- Standards-based approach ensuring long-term interoperability

Contact & Resources



IAM4NFDI Website



Link to this Poster

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