



# eduGAIN: The Next Generation?

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TNC26, Helsinki 2026

Public (PU)

GN5-2



# Rethinking eduGAIN



**REFEDS**

Baseline Expectations



Identify key issues with current eduGAIN service



Review the governance model

## Whitepaper: eduGAIN Futures WG recommendations

*Version 1.0 - final submission to eduGAIN SG*

*09 December 2022*

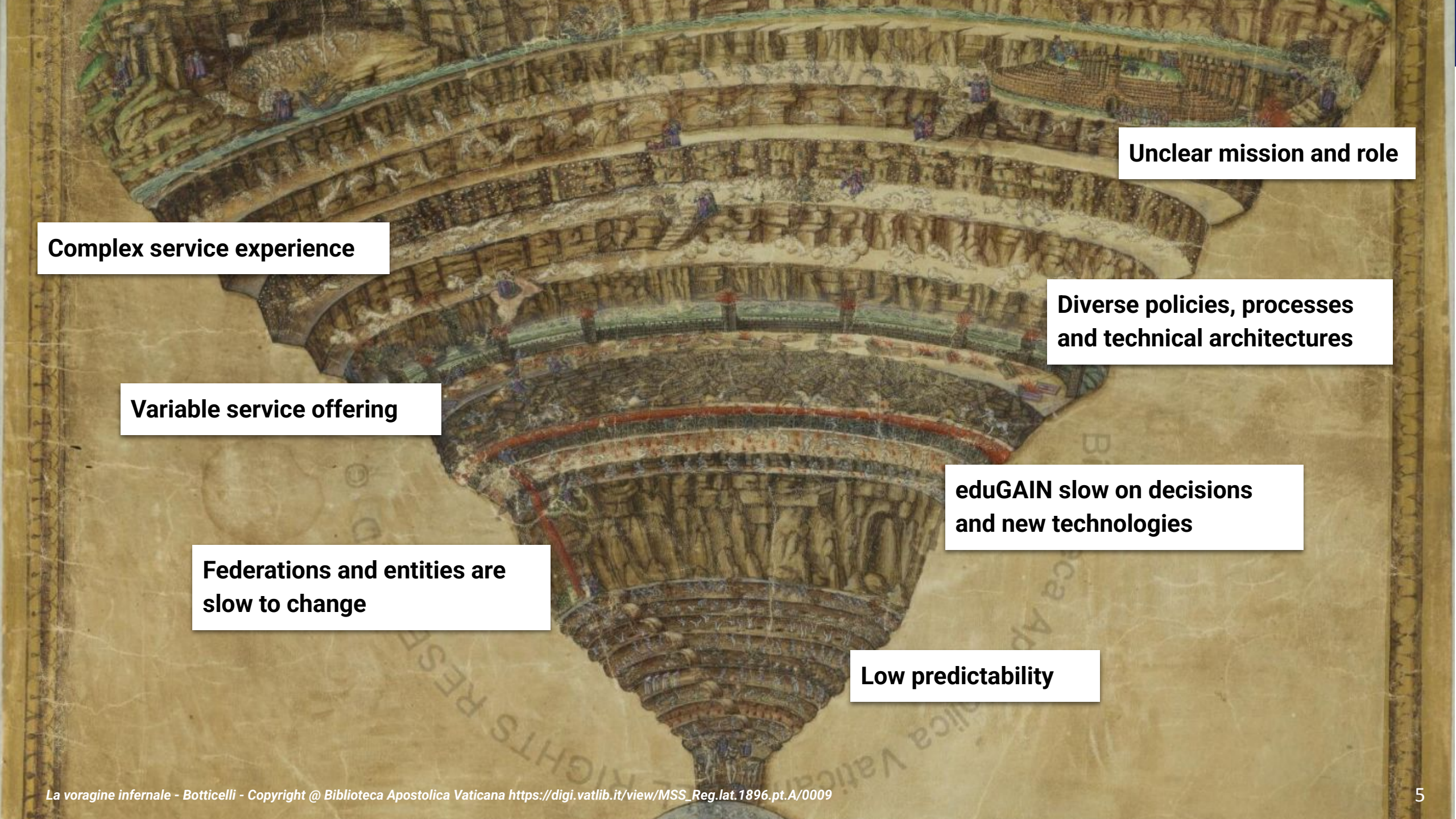
*Authors: eduGAIN Futures Working Group*



<https://u.garr.it/rwvci>



# eduGAIN Futures WG Problem Statement



**Unclear mission and role**

**Complex service experience**

**Diverse policies, processes and technical architectures**

**Variable service offering**

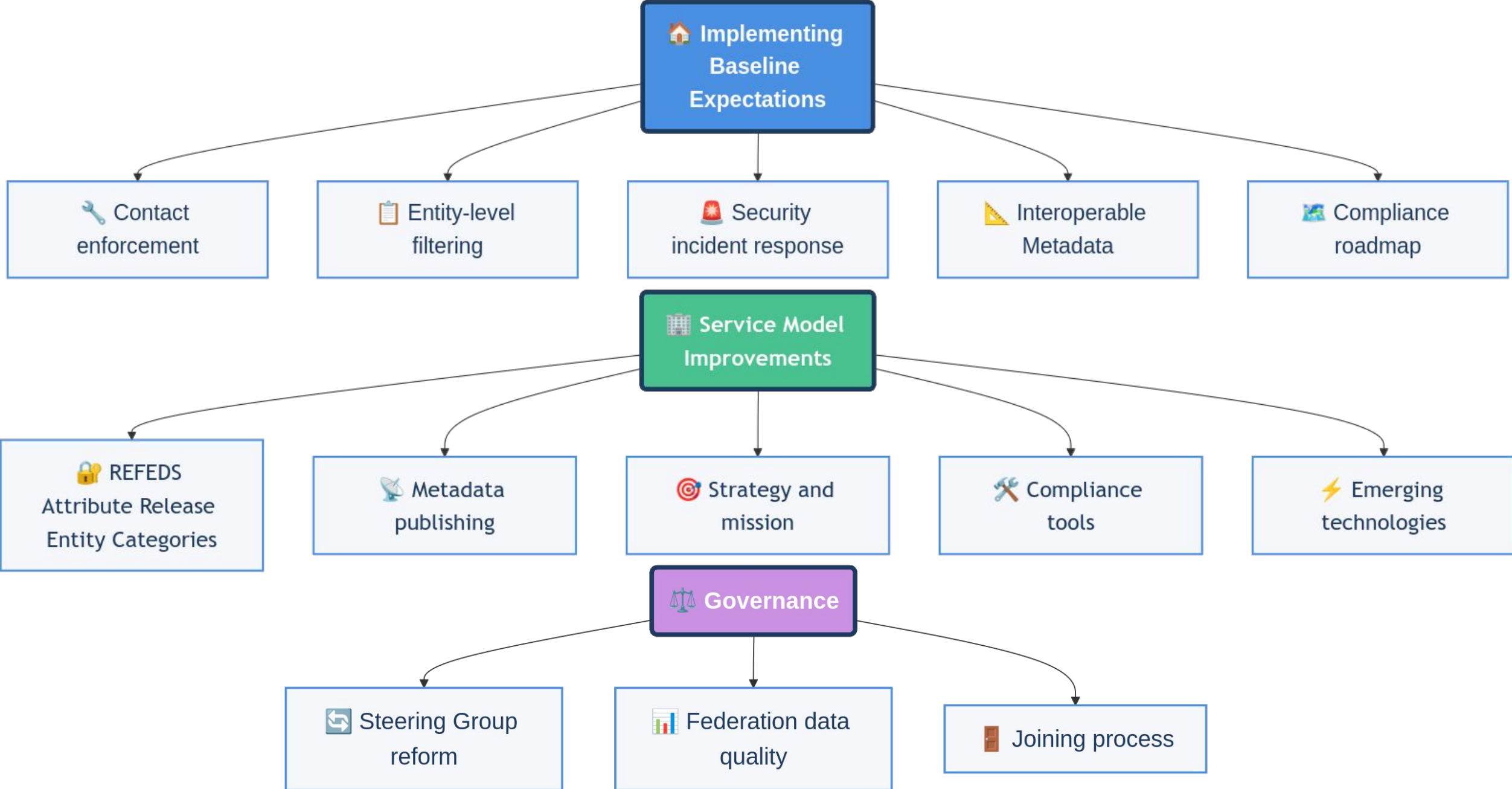
**eduGAIN slow on decisions and new technologies**

**Federations and entities are slow to change**

**Low predictability**

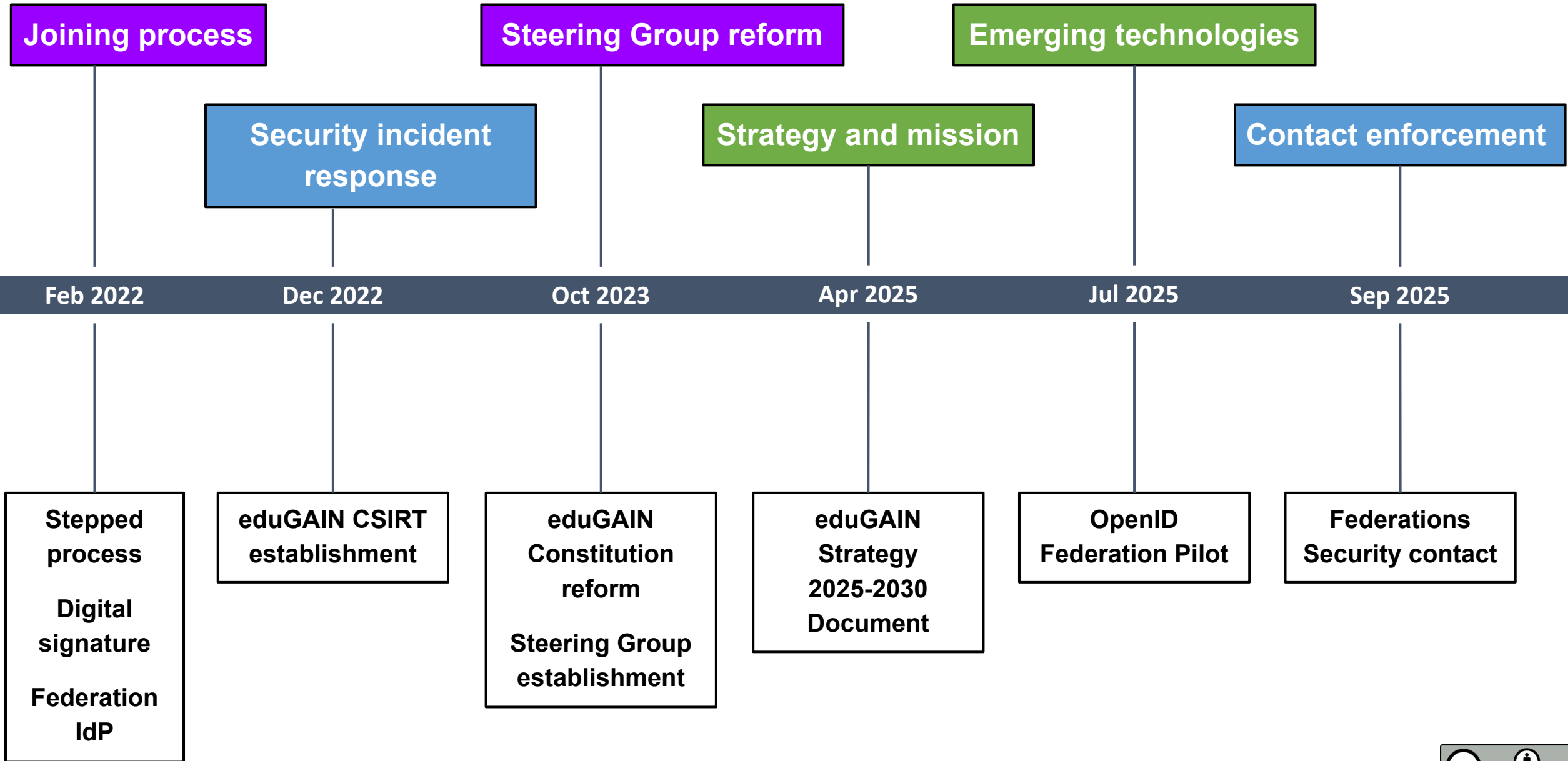


# eduGAIN Futures WG Recommendations





# What has been done





# What still need to be done

Compliance roadmap (Sirtfi/Assurance/Privacy)

Interoperable metadata

Entity-level filtering

REFEDS Attribute Release Entity Categories

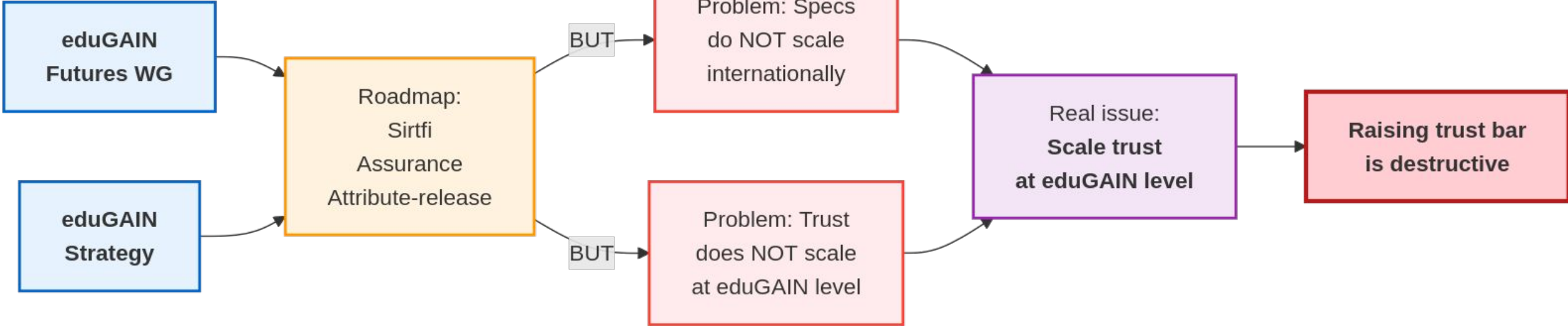
Metadata publishing

Compliance tools

Federation data quality



# What is hard



## PROBLEM

*eduGAIN trust works only with participating federations, no verification on correct implementation of REFED specifications*

**Poor Attribute Release**

**Limited interoperability**

**Cross-border access issues**

## GOAL

*Extend trust across eduGAIN*

**Federations consistently support trusted specifications**

**IdPs and SPs can rely on verified compliance**

**Users experience seamless federated access internationally**

## TRUST SIGNALING

### Filtering

Simpler for IdPs/SPs

Strong implementation incentive

Risk of interoperability gaps

### Signaling

More transparent

Potentially better interoperability

Higher implementation complexity

## PROPOSED APPROACH

*eduGAIN should*

**Define minimum common requirements for each spec**

**Verify registrar/specification compliance**

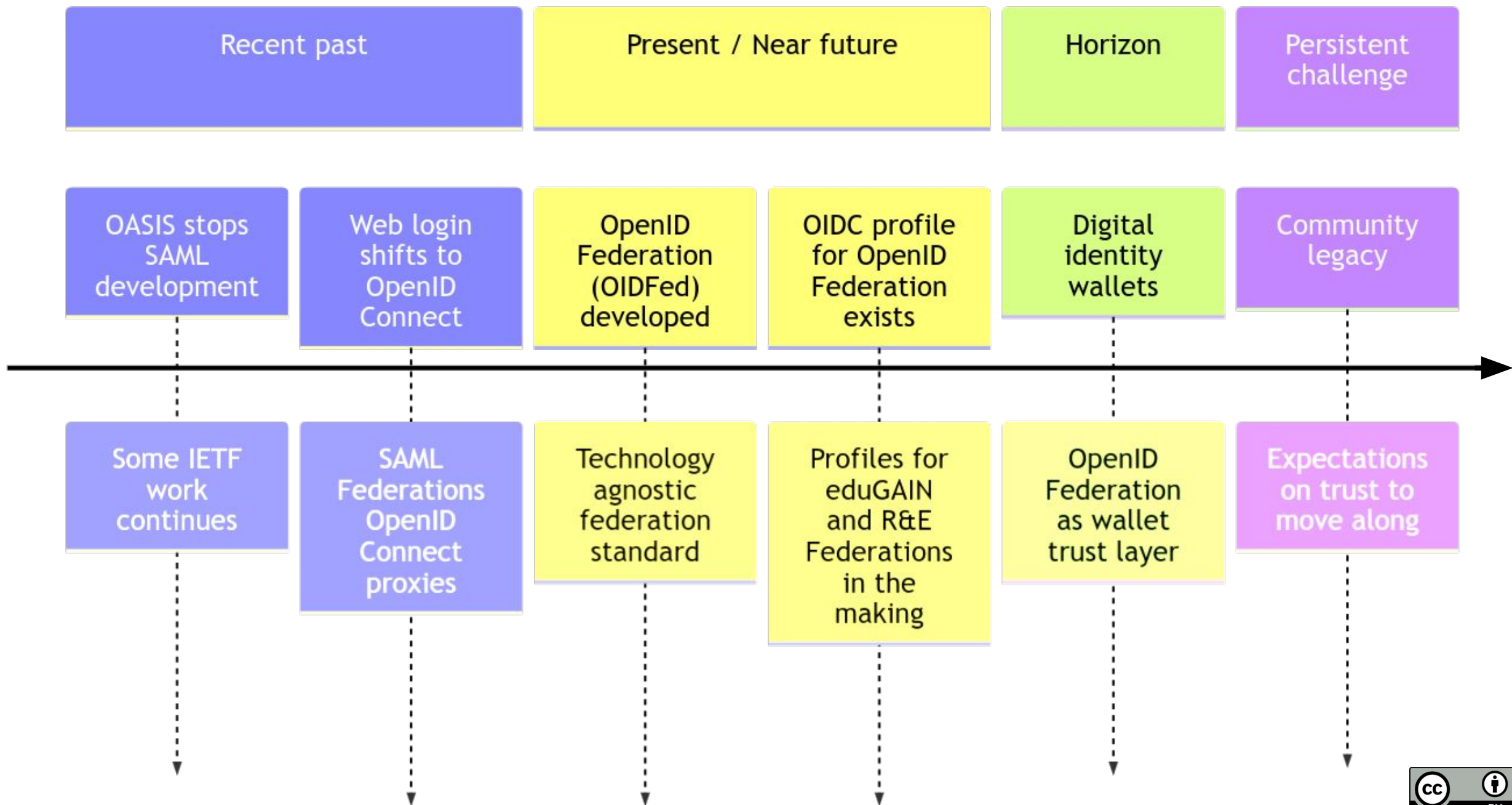
**Implement trust signaling**

## DESIRED OUTCOME

*A more trustworthy, scalable, and interoperable international research & education federation ecosystem.*



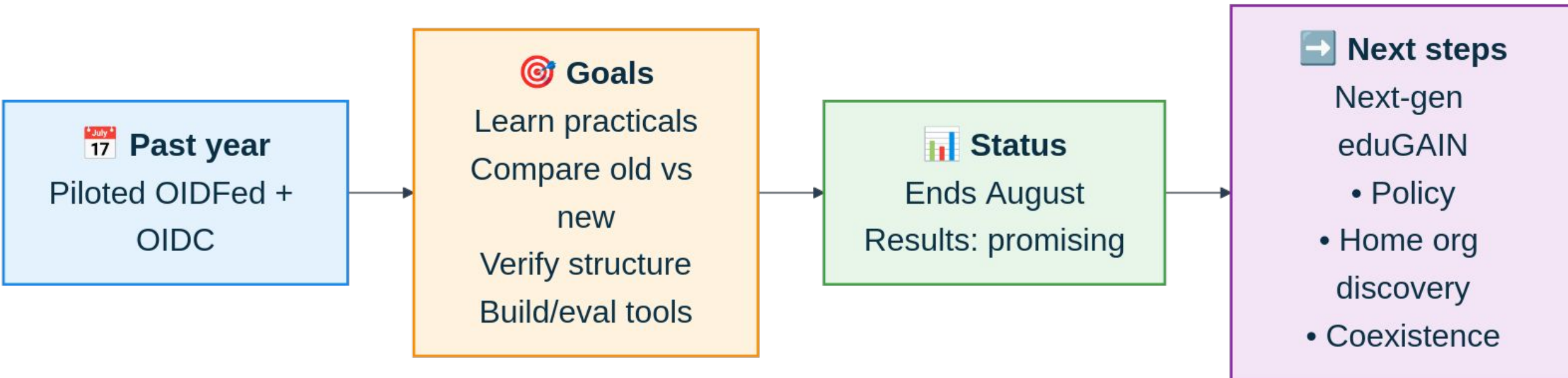
# New Technologies



- **A Trust Framework for Federations:** Defines a way to establish and manage trust between organizations.
- **Hierarchical Trust Model:** Trust flows through chains of signed JSON Web Token (like PKI).
- **Signed Metadata Distribution:** All critical configuration data (endpoints, keys, capabilities, policies) is published as signed JSON metadata statements that are fetched and validated from federation's entities.
- **Extended Trust by Trustmarks:** A trusted third party issues signed trust statements about endpoints to enhance trust

Aspect	SAML Federation of Federations	OpenID Federation
<b>Complexity</b>	Less standardized - but well established	More complex – <b>but more standardized</b>
<b>Trust model</b> (like Certificate Authority)	Collect, re-sign, and publish member federation metadata	Multi-layer hierarchical tree – all trust a superordinate parent
<b>Discovery</b> (like DNS)	Central managed repositories – static lookups (like host files)	Dynamic, cacheable discovery – exactly like <b>modern DNS</b>

## eduGAIN OIDFed Pilot



*eduGAIN is successful but needs to evolve  
to be more useful — and that evolution  
depends entirely on continuous community  
support*



# Thank You

[www.geant.org](http://www.geant.org)



Co-funded by  
the European Union