Enabling Governance in Decentralized Data Spaces Through Technology: A Comparison of Solution Approaches

Date: June 24
Format: Virtual, 1.5 hours
Target Group: Technical experts with experience in data spaces, governance, or cloud-native infrastructure.

Background & Purpose

Decentralized data spaces enhance data sovereignty and resilience, but the lack of a central authority creates significant governance challenges. Tasks like onboarding participants, revoking credentials, synchronizing policies, and removing participants become more complex in these environments.

To address this, various technical frameworks—such as Gaia-X Federation Services, IDS, OPA, SOLID, and blockchain-based components—have emerged. These approaches differ in architecture and assumptions, making them better suited to some data spaces than others.

My research aims to support software architects in comparing these technologies by identifying technical patterns and trade-offs. The goal of the workshop is to validate and refine these patterns through expert feedback, focusing on clarity, completeness, contextual relevance, and opportunities for improvement.

Workshop Structure

1. **Welcome & Consent (5–10 min)**
   Introductions and overview of the session's goals. Consent for recording will be requested, and the purpose and use of collected data will be explained.
   Input: Verbal intros & consent *Output:* Documented consent & participant alignment

2. **Context & Scope (5-10 min)**
   Brief technical overview and the IDSA definition of decentralized data spaces.
   Input: Slides *Output:* Shared understanding of technical scope

3. **Governance Challenges & Solution Patterns (10 min)**
   Presentation of governance challenges and associated technical solution patterns. Participants will assess the clarity, relevance, and completeness of the material.
   Input: Handout (PDF) *Output:* Initial validation and mapping feedback

4. **Breakout Sessions (40 min)**
   Small groups map patterns to governance challenges, discussing trade-offs, assumptions, and missing elements.
   Input: Miro board, handout *Output:* Annotated mappings & improvement suggestions

5. **Group Presentations & Discussion (20 min)**
   Breakout groups present findings, followed by a moderated discussion to consolidate feedback.
   Input: Group summaries *Output:* Consolidated insights and refinement direction

6. **Wrap-Up & Next Steps (5 min)**
   Summary of key insights and explanation of how feedback will be integrated into the thesis.
   Input: Recap *Output:* Clear next steps

Preparation & Logistics

No formal preparation is required. A few days before the workshop, participants will receive:

- Workshop slides and a brief handout summarizing the solution patterns (optional reading)
- A short, anonymous pre-workshop survey (to contextualize participant input)

The session will be recorded for academic purposes. Participation is voluntary, and all contributions will be anonymized in the final documentation. A brief summary report will be shared post-workshop. Participants may be invited to a follow-up session to review refined patterns or provide additional feedback.

Thank you in advance for your time and willingness to share your valuable expertise.

I look forward to an engaging and insightful workshop!

Best regards,
Yusuf Erbas