

Group 3: Infrastructure

Group members:

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“Underlying foundation or basic framework”

Data Infrastructure “ a digital infrastructure promoting data sharing and consumption

What are the primary challenges of a federated materials infrastructure in terms of different platforms and diverse stakeholders?

Key Points

- Intercommunication between the systems
- Many types of standards
- Need Common Representation
- Access Mechanism
- Need Early Adaptors
- Terminology Representation
- Data provider can provide connecting translators
- Quality of data and resources
- Trusted data sources
- Connect to and adapt to translator services
- Proprietary and Historical formats
- Uptime (SLA), single point of failures, and redundancy
- Storage and scalability
- Ownership of data and management of that data
- Infrastructure components: Interface, Storage, Data Ownership and Quality, Service Level Agreement (SLA), P

Group's proposed low barrier activity

- Learn/Survey the landscape through Wikipedia and similar existing discovery websites/services
- Open infrastructures (ex: via REST API)
- Categorization of the data
- Participate in the “Eco system” envisioned
- Download and make use of existing open source software such as the MDCS, scikit-learn.
- Adhere to interoperable protocols via existing modules and plugins (in Python, Java, etc.)

Requirements/needs/collaborations to accomplish Group 3 activity

- Support for various Agreements
 - Templates, SLA, ownership, licensing, etc.
- Collaborations between existing activities/projects
- Technical Knowledge (software developers)
- Domain Expertise (Materials scientists, etc.)
- Implement secure access protocols
- Agree on a business model
- Funding