Data Processing Challenges: Interoperability and Data Abstraction and Virtualization

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Position in the platform

- Platform Service Gateway
  - IDS Connector
- Data Governance Services
  - Clearing House
  - IDS Broker
  - Data Governance Rules
  - Identity Management
- Analytics Services
  - Auto Model Training Engine
  - Process-Based Analytics
- Data Processing Services
  - Semantic Interoperability
  - Data Access
  - Data Abstraction & Virtualization
  - Data Sources
  - Blockchain Network 4 Data Sharing
The **Semantic Interoperability component** provides a common API and data model to access the available data and metadata.

The **Data Abstraction and Virtualization component** is responsible for correctly preparing data input from different sources, maintaining metadata from all feeds and making available the cleaned and processed datasets to any eventual client.
Goal of the components

- Data Access Mechanisms
- Data Model and Interoperability API
- Data Processing Mechanisms
- Data Management
- Metadata Extraction
- Data Transformation
- Data Analytics integration
- Data Governance Integration
Components at a glance

- **Semantic Interoperability component:**
  - Collects and distributes the data and metadata obtained by the agents to the different components of the platform
  - Provides a common API and data model to access the available data and metadata
Components at a glance

- Data Model Overview
  - Domain and subjects of the common Data Model
Subjects and entity types of the common Data Model
Components at a glance

- **Data Abstraction and Virtualization:**
  - Cleanses and pre-processes the input data from different sources
  - Exposes metadata from all feeds
  - Three sub-components
    - (Pre)Processing and Filtering Software (PaFS)
    - Virtual Data Repository (VDR)
    - Virtual Data Container (VDC)
Target users

- Data sharing
  - Data providers and Data Owners
  - Data Consumers
- System administration
  - Admin Users
- System Integrators
  - Agent developers
- Organization
  - Internal Platform Components
  - Data Users
Benefits

- **Interoperability**
  - Allowing the connection of heterogeneous Data Sources.
  - Offering a System of systems and Common Data Models.

- **Ease of use and deploy**
  - Making the access to the available data and metadata simpler.
  - The components can be deployed faster in a PC, Server, Cloud Infrastructure or in a Raspberry.

- **Modular and Scalable**
  - Adapted to the User needs.
  - It could be extended with added value tools and it is possible to scale the components on demand.

- **Less development effort**
  - Reduce the effort in creating new applications.

- **Fully compatible with Fiware Ecosystem and common OpenSource Software**
  - Joint adoption and contribution to standards. Use of common components and shared Open Source code.
Thank you!

Find more: https://dataports-project.eu/

iotweek.org