

UDAL: Uniform Data Access Layer

The **Uniform Data Access Layer (UDAL)**, a central component within the FAIR-EASE project, is designed to revolutionize how researchers access, integrate, and utilize diverse scientific datasets. FAIR-EASE prioritizes **FAIR** (Findable, Accessible, Interoperable, Reusable) principles to ensure that data becomes a powerful enabler of scientific discovery and informed decision-making.

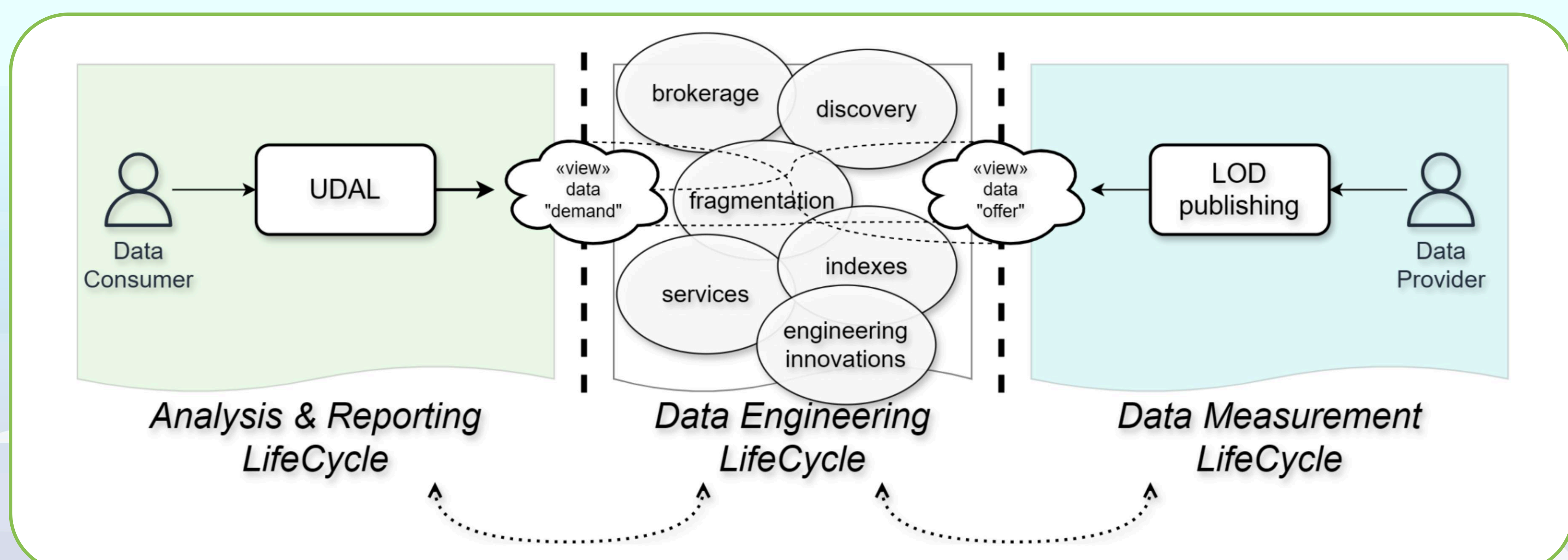
The **UDAL** concept brings a modular and re-usable approach to choosing and using data in data processing workflows. It materializes as a software package that users can use in their pipelines. UDAL serves as a middleware layer, offering a standardized, user-centric framework for data access. By bridging the gap between complex infrastructures and researchers, UDAL simplifies data retrieval, integration, and usage.

Addressing Key Challenges in Data Management

- UDAL introduces a standardised, user-friendly approach to data access. It decouples data usage from access complexities.
- UDAL establishes explicit agreements between data providers and users. The system's flexibility supports a wide array of access protocols, including REST, SPARQL, and OGC, making it compatible with both established and emerging technologies.
- One standout feature of UDAL is its "named query" mechanism, which allows users to define and reuse specific data demands.

Beneficiaries of the result

- Developers
- Data Providers
- Data Scientists
- Policy makers



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The Uniform Data Access Layer (UDAL) can be downplayed to a basic systems engineering trick. Still it adds value: the decoupling it introduces, guarantees an increases sustainability (increased lifecycle) on both ends.

