Limits and Extension of LOD

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1. Limits and Extension of LOD

LOD is a great vision but limited for industry solutions

- **Limited to standardized RDF data**
  Today’s companies distributed data in various formats and silos

- **Limited to standardized URIs for links**
  Convention for identifiers are not practicable for distributed corporate data silos

- **Limited scalability for corporate solutions**
  Migration of existing data into a triple store multiplies the amount of data

- **Limited to read access of data**
  No data production, processing or transactions in real time disqualifies LOD

- **Shifting the problem of heterogeneity**
  LOD shifts the problem to the heterogeneity of identifier and ontologies
Limits and Extension of LOD

Extended approach to build smart industry solutions

- **Extension to any data by efficient semantic integration**
  Real benefit an potential by mixing up LOD with any existing data with bottom-up-approach

- **Extension to dynamic links by semantic analysis**
  Productively used and enriched LOD by dynamic links of any data beyond RDF and URIs.

- **Extension to linked actions including graph manipulation**
  Productively used LOD by linking data with actions to enable new business models.

- **Extension to scalable persistency concepts**
  Industry ready by a scalable, lean persistency layer without federation or migration

- **Extension to uniform information layer**
  Simplifies access of LOD for existing data silos and formats and adaption of ontologies
3.

Limits and Extension of LOD

Bottom-up versus top-down-approach

**Conventional: Top-down**
- Manual Mapping

**iQser: Bottom-up**
- Automatically derived

- Ontologies
- Data models
- Data Model (Ontology)
- Concept Graph (Linked Concept Graph)
- Object Graph (Linked Data Graph)

- DB
- Files
- Web
- DB
4. Limits and Extension of LOD

Potential research activities

- **SPARQL endpoint for uniform information layer**
  Using a query language standard to query graphs in a complex way to benefit from the real potential of aggregated and linked data beyond LOD and RDF.

- **Performing ontologies on data sets generically**
  Bridging the gap between abstract domain knowledge and real data by automatically performed ontologies in an analyzer chain.

- **Consuming and producing LOD generically**
  Benefit from mixing up LOD to enrich internal company data and publish internal data to the LOD cloud for new business models in an automatically process.
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