

# Position Paper Semantic Summit 2011

Application/Industry/Domain: Application challenges that may be amenable to semantic technology solutions

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## **LOD is a great vision but limited for industry solutions**

### **Limited to standardized RDF data**

Companies have today huge a amount of existing data in various formats and silos, which has to be used. This does not match with the limitation of LOD on a specific data format.

### **Limited to standardized URIs for links**

An essential value of LOD are links between distributed data items. But they require a convention for identifiers, which are not practicable for distributed industry data silos.

### **Limited scalability for corporate solutions**

LOD requires a migration of existing data into RDF and aggregation into a triple store, that multiplies the amount of data in a company.

### **Limited to read access of data**

LOD allows mainly read access of data and not data production, modification, data processing or transaction in real time. This disqualifies LOD for most industry application

### **Shifting the problem of heterogeneity**

LOD does not solve the challenge of data integration for industry application. It shifts the problem of heterogeneity of data formats to the heterogeneity of identifier and ontologies.

## **Extended approach to build smart industry solutions**

### **Extension to any data by efficient semantic integration**

The benefit an potential of LOD will be used by mixing up LOD with existing data sources in any format and silo by an efficient bottom-up approach.

### **Extension to dynamic links by semantic analysis**

Distributed LOD could be productively used and enriched by creating dynamic links between data objects cross different sources beyond RDF and URIs.

### **Extension to linked actions including graph manipulation**

LOD could be productively used by linking data objects with actions, which could be potentially performed on the data objects. It opens even a door for business models.

### **Extension to scalable persistency concepts**

A scalable, lean persistency layer without federated queries or data migration in a huge triple store makes LOD practicable in an industry context.

### **Extension to uniform information layer**

A uniform information layer makes make LOD easily accessible in the context of existing data silos and formats and simplifies the adaption of domain ontologies.

## **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 gab 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.