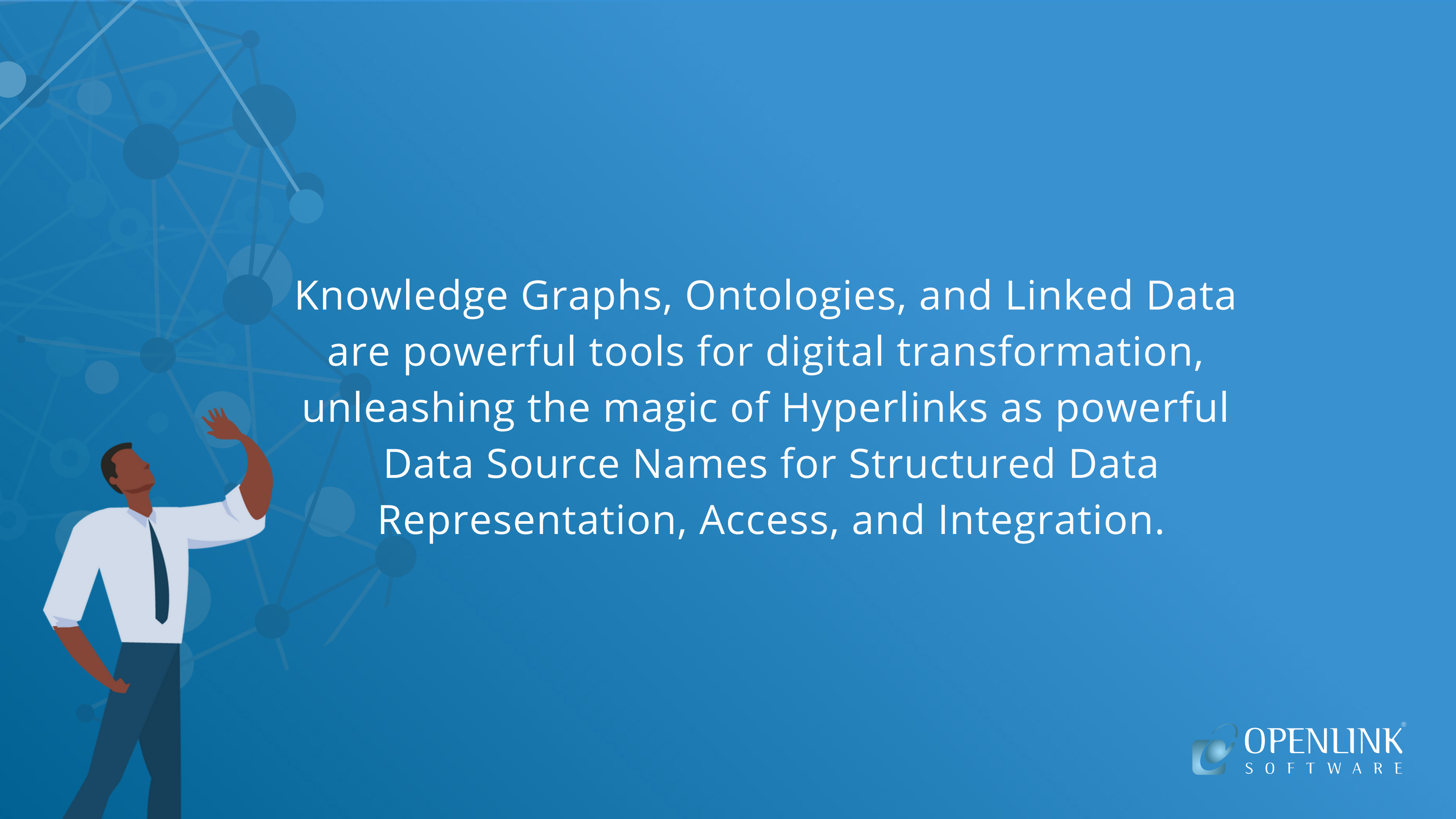


Knowledge Graphs, Ontologies, and Linked Data, Explained



Knowledge Graphs, Ontologies, and Linked Data are powerful tools for digital transformation, unleashing the magic of Hyperlinks as powerful Data Source Names for Structured Data Representation, Access, and Integration.

What is Linked Data?

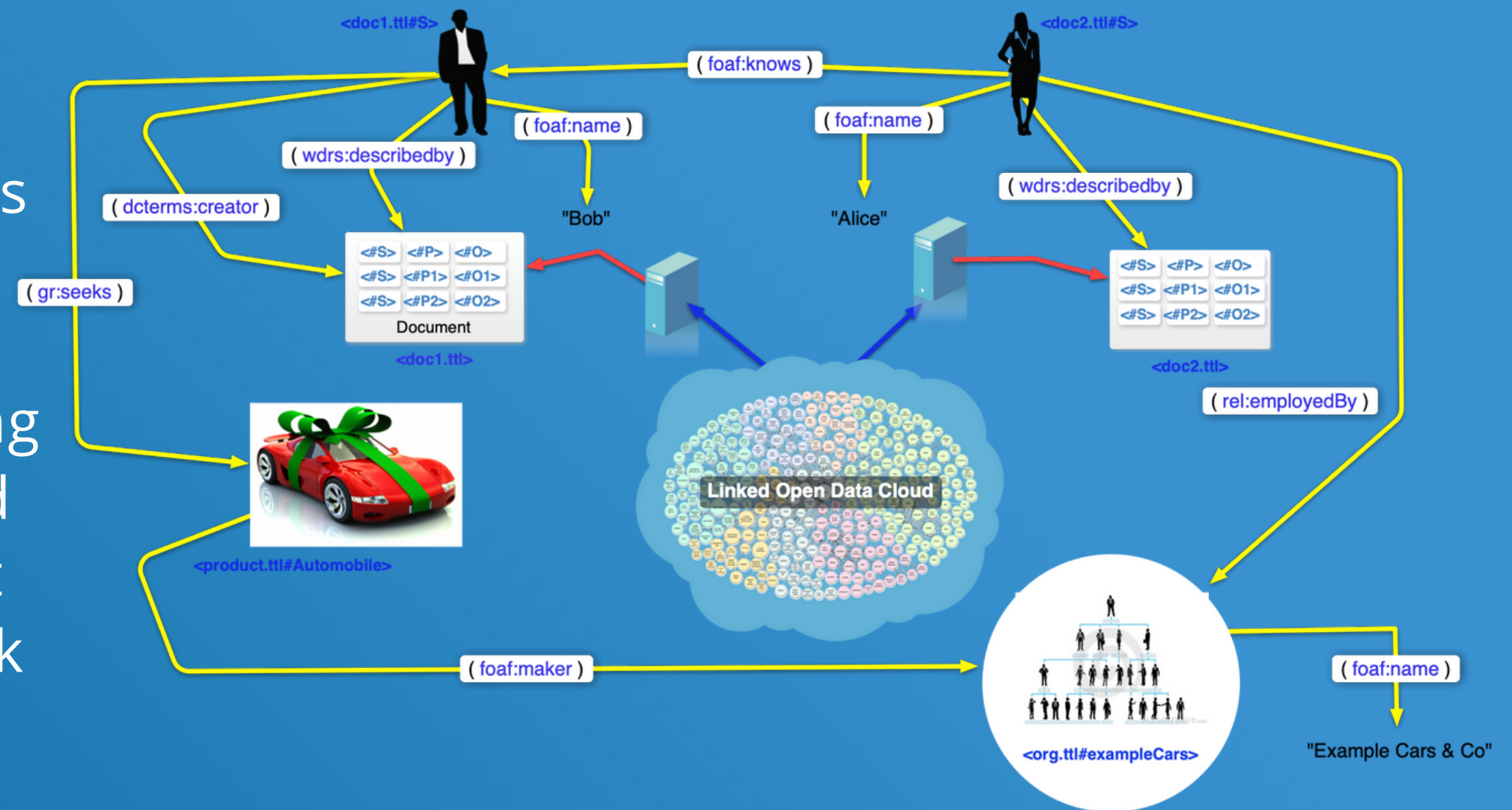
Linked Data is a principled approach to structured data representation that manifests as a Web of Data, courtesy of the following:

- Naming Entities using Hyperlinks
- Describing Entities using structured sentences, comprising a subject and predicate denoted using a Hyperlink, and an object denoted using either a Hyperlink or a Literal (which may be typed or untyped)

Linked Data Network (e.g., Linked Open Data Cloud)

1. Entity Names (HTTP URIs) are Data Source Names (DSNs)
2. Computer (DNS CNAMEs) & Document Names (HTTP URLs) become irrelevant
3. Actual Data Model and Representation Notations are loosely coupled.

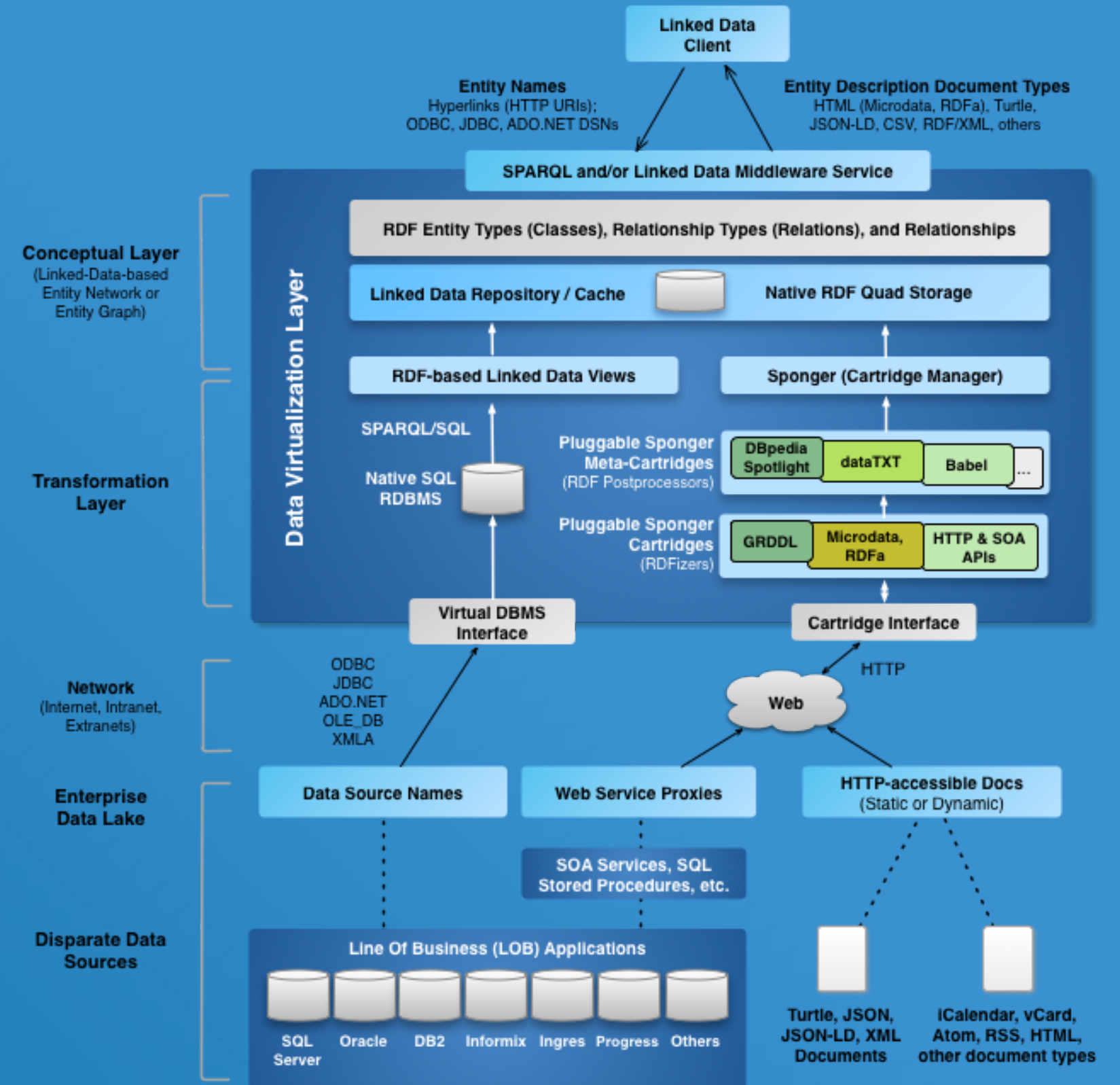
Linked Data
World Wide Web
Internet



Why is Linked Data Important?

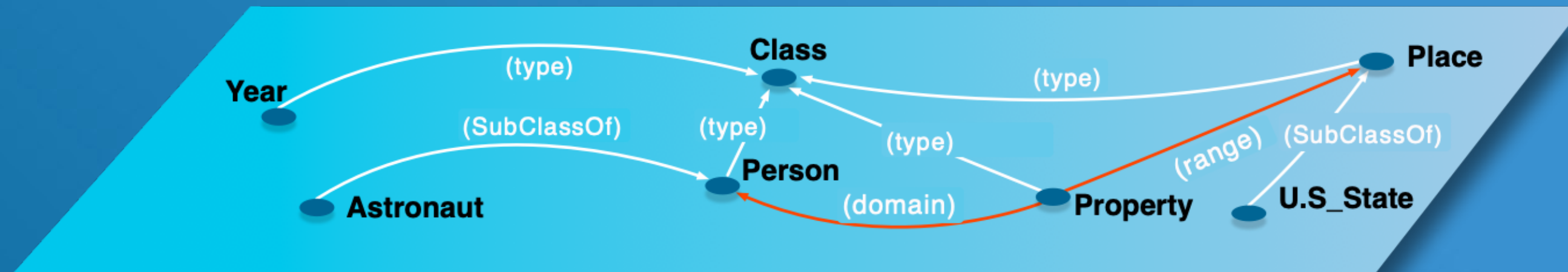
Linked Data enables the construction of a "Web of Data" providing Data Connectivity that empowers individuals and enterprises alike by enabling the following:

- Integration of data across disparate Data Silos (a/k/a Data De-Silo-Fication)
- Developing future innovations without "ripping & replacing" existing investments in data-centric tools and/or operational infrastructure



What is an Ontology?

An Ontology is a collection of Entity Type (Class or Category) and Entity Relationship Type (Property or Attribute) definitions that make structured data representation readable by humans and computable by machines.



Ontologies are loosely-coupled, shareable, and remix-friendly when constructed using Linked Data Principles.

Why are Ontologies Important?

They enable reasoning and inference, performed as an important part of structured data creation and integration across disparate data sources.

For maximum connectivity and interoperability, ontologies can be created using RDF sentences deployed using Linked Data principles:

- Name Entity Types & Relationship Types using a Hyperlink
- Describe Entity Types and Relationship Types using structured sentences where hyperlinks denote the subjects and predicates, and hyperlinks or literals denote the objects

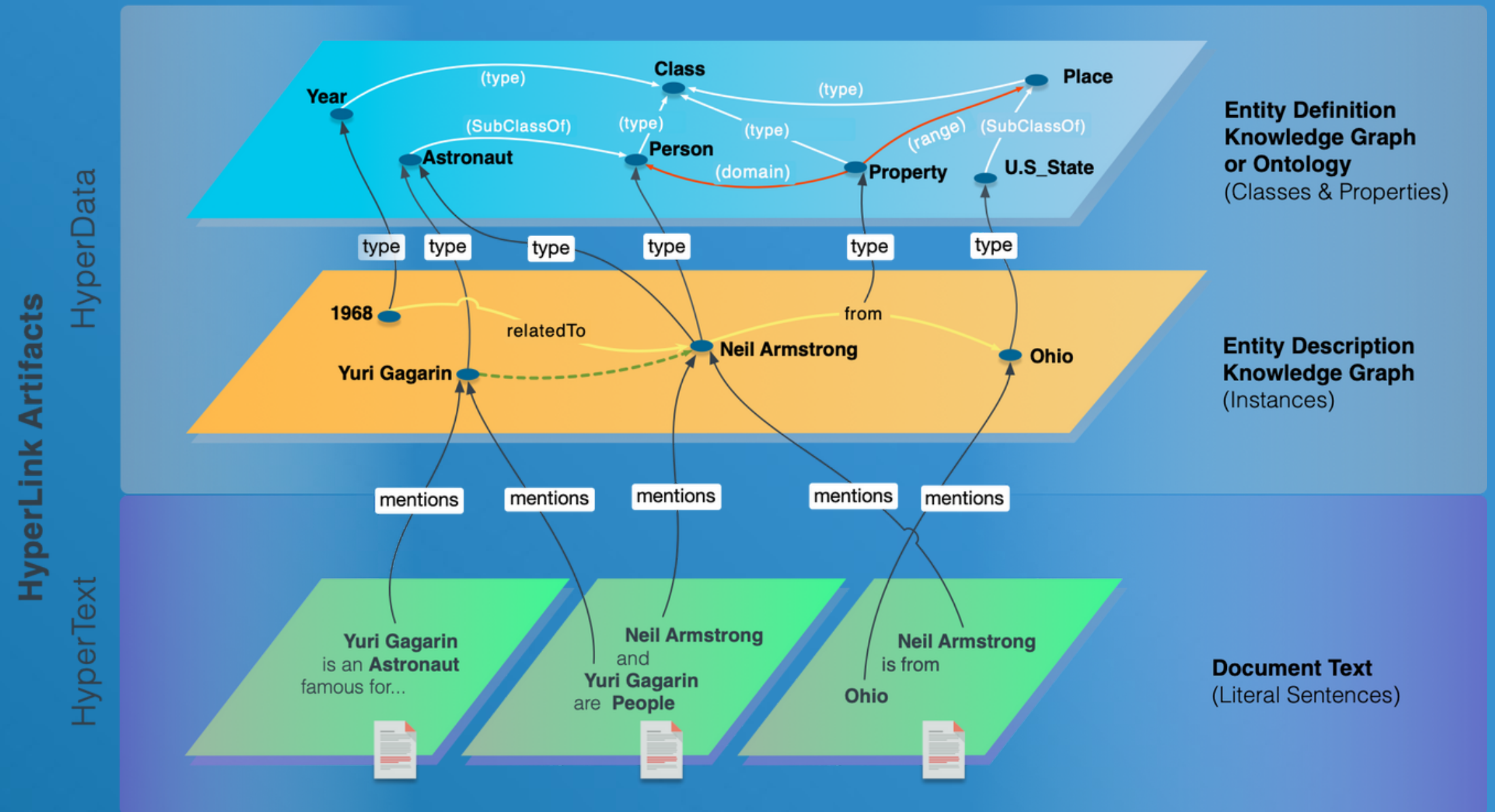


What is a Knowledge Graph?

A Knowledge Graph is a collection of Entities, Entity Types, and Entity Relationship Types that manifests as an intelligible Web of Data informed by an Ontology



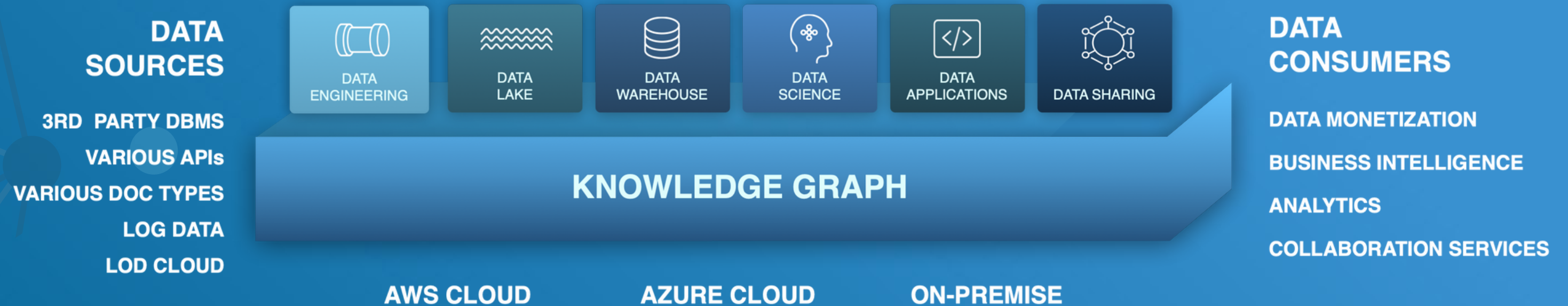
Knowledge Graph — for General Knowledge



Why are Knowledge Graphs important?

Knowledge Graphs provide a powerful foundation for creating a System-Of-Intelligence derived from existing Systems-Of-Record and Systems-Of-Engagement.

KNOWLEDGE GRAPH PLATFORM



How are Knowledge Graphs created?

Knowledge Graphs are created by describing entities and entity relationship types using RDF-based structured sentences that are deployed using Linked Data principles.

This approach is both flexible and progressive, ensuring that your Knowledge Graph is an evolving projection of enterprise potential and agility.



How can we help?

As leading experts in the fields of standards-compliant Multi-Model Database Management, Data Connectivity Middleware, Knowledge Graphs, and Linked Open Data (LOD), OpenLink Software delivers a unique collection of knowledge and experience to you through a variety of products and services that help you unlock the power of Data Connectivity!

Everything we build is an expression of what's possible using existing open standards — ensuring that you retain a perpetual freedom to mix and match "best of class" technologies when developing and deploying solutions.

What Next?

- *Email sales@openlinksw.com to set up a discussion about your requirements*
- *Engage via Social Media platforms such as Twitter (by mentioning [@OpenLink](#)) or LinkedIn (by mentioning [@OpenLink Software](#))*
- *Post a question or explore our [Community Forum](#) to learn more about how we can help*
- *[Download a FREE Trial](#) of any of our products today!*

ADDITIONAL INFORMATION

- [OpenLink Software Home Page](#)
- [OpenLink Community Forum](#)
- [Linked Data Ontology and Knowledge Graph Explainer](#)
- [Understanding Data](#)
- [What is Small Data, and Why is it Important?](#)
- [What is the LOD Cloud Knowledge Graph, and Why is it Important](#)
- [OpenLink Glossary](#) — Yet Another Knowledge Graph, in its own right

