

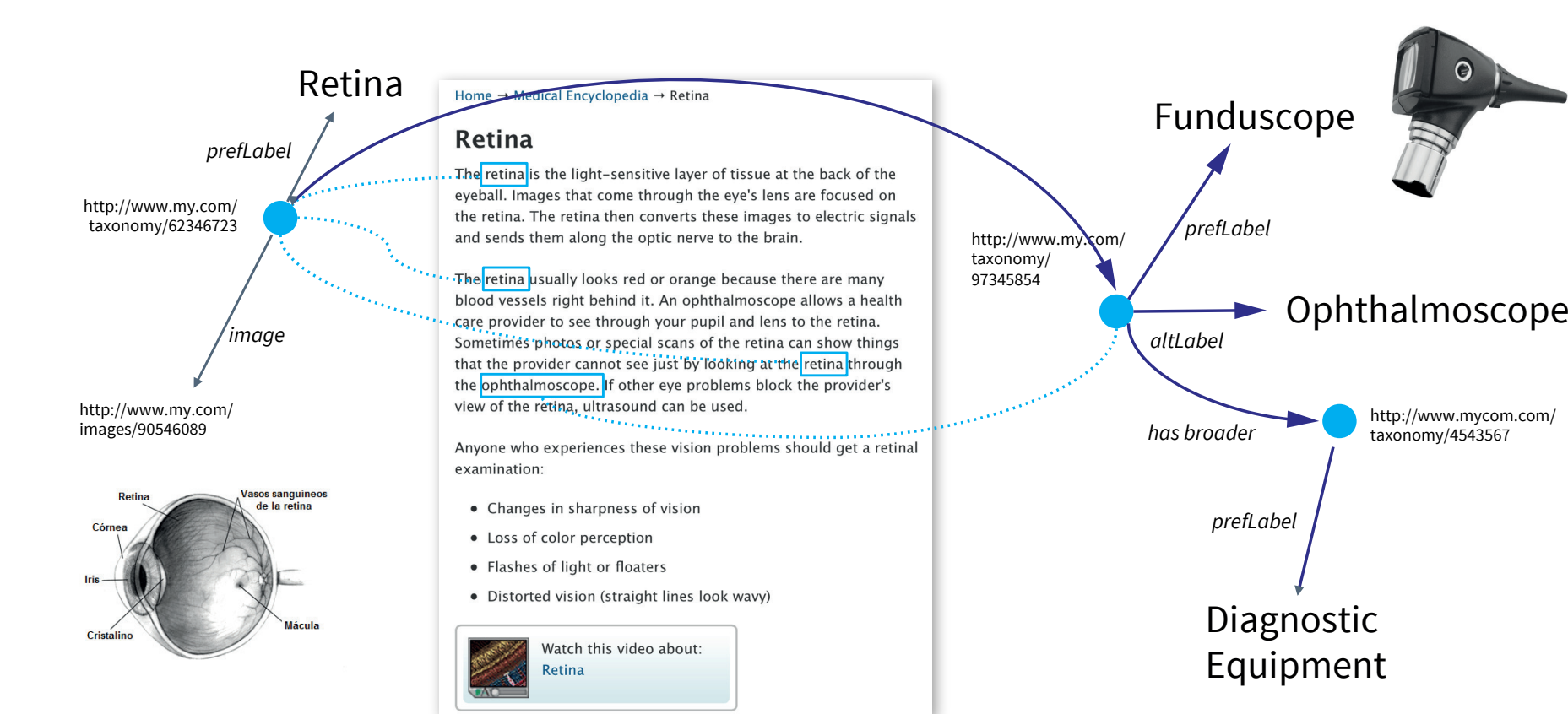
SEMANTIC INTEGRATION FOR HEALTHCARE AND PHARMA ENTERPRISES

Alexis Dimitriadis, Christian Blaschke
Semantic Web Company, Vienna



Data integration with linked data and “semantic web” technologies

- Can integrate data from diverse sources, internal and external.
- Scalable, sustainable and cost-effective.



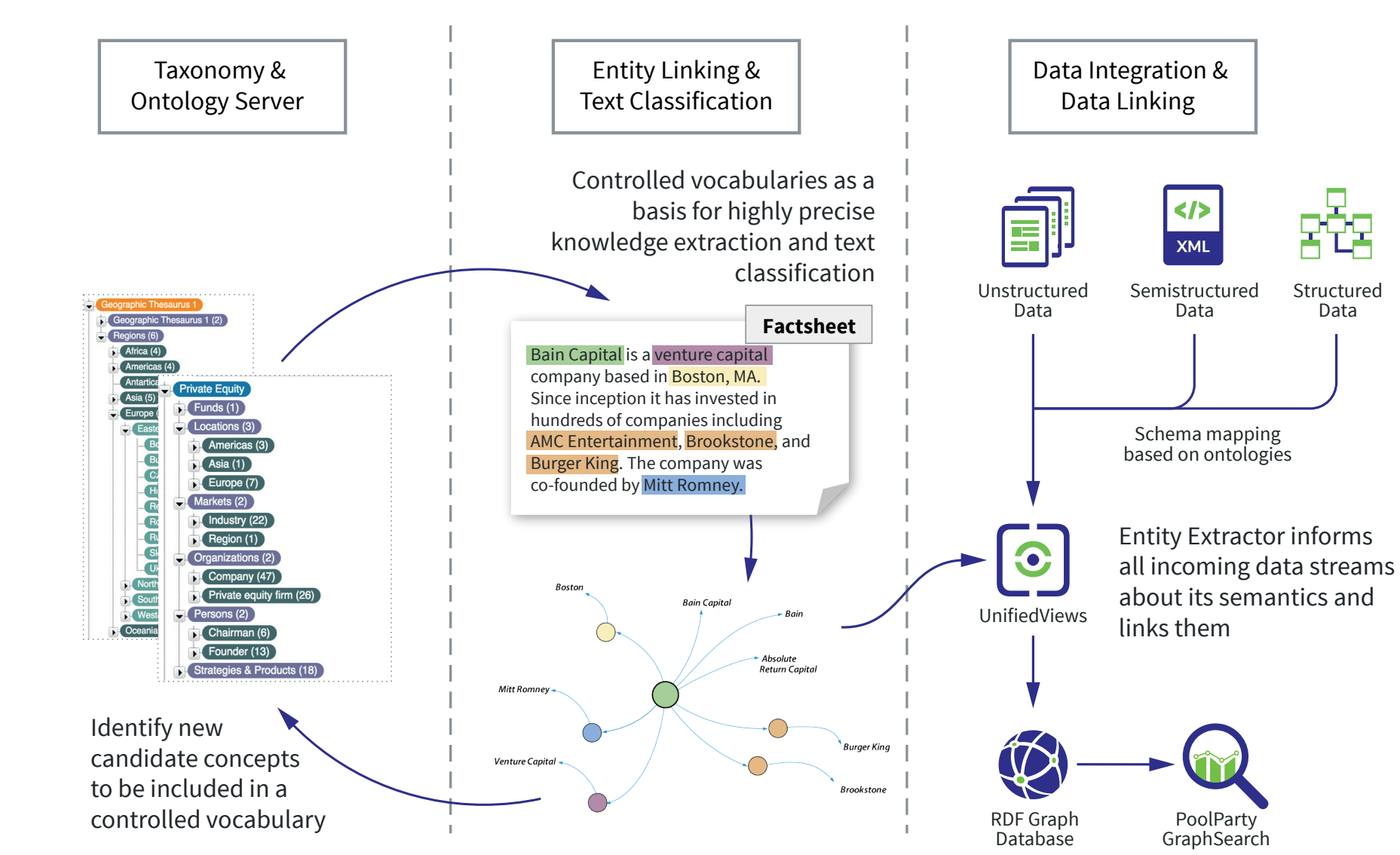
Document enriched with linked data concepts

“THINGS, NOT STRINGS”: SEMANTIC KNOWLEDGE GRAPHS MANAGE RESOURCES, NOT TERMS

- Link together medical and chemical terminology, trade jargon, and end-user query terms for the same concept.
- The structure of the knowledge graph captures relationships between concepts

SEMANTIC KNOWLEDGE GRAPHS MAKE IT POSSIBLE TO

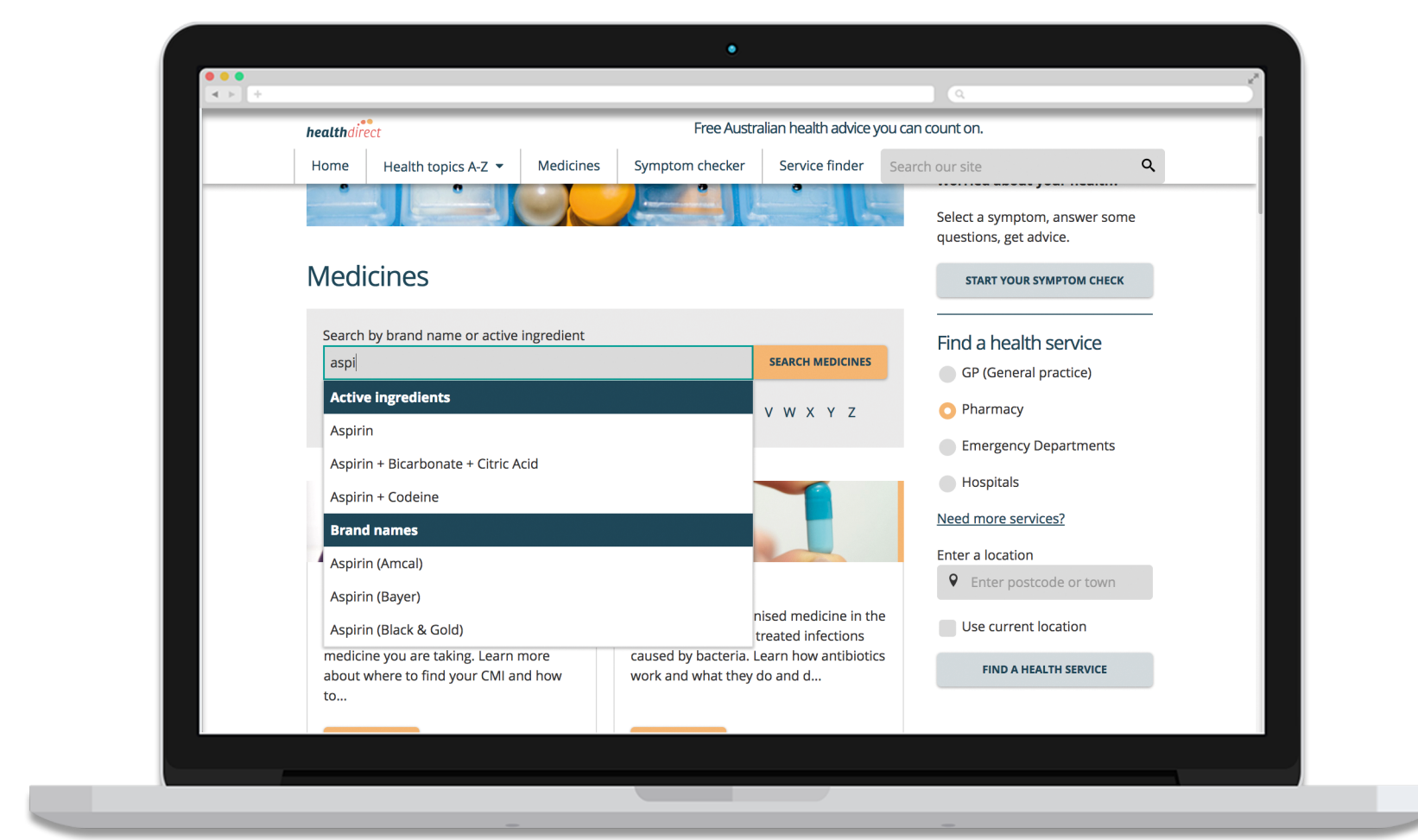
- Support diverse vocabularies, e.g. translate between medical terms and the client’s description.
- Enable inference by generalising to related concepts or categories



A linked data workflow

Use case: Medical information portal

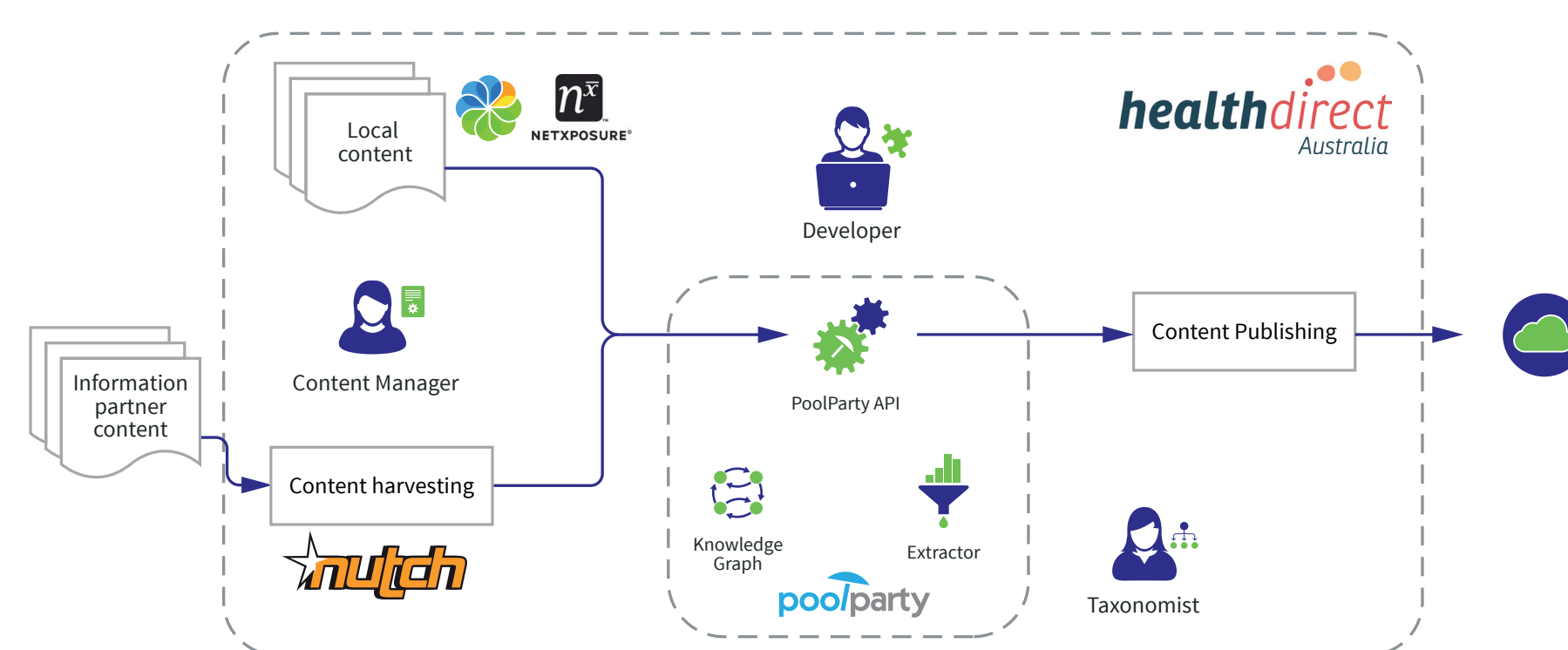
- The healthdirect Australia platform bundles content from over 140 specialised information providers.
- Medical information for end-users who may live very far from direct medical services.
- health topics library
- interactive symptom checker
- medical service finder



Taxonomy-assisted search completion

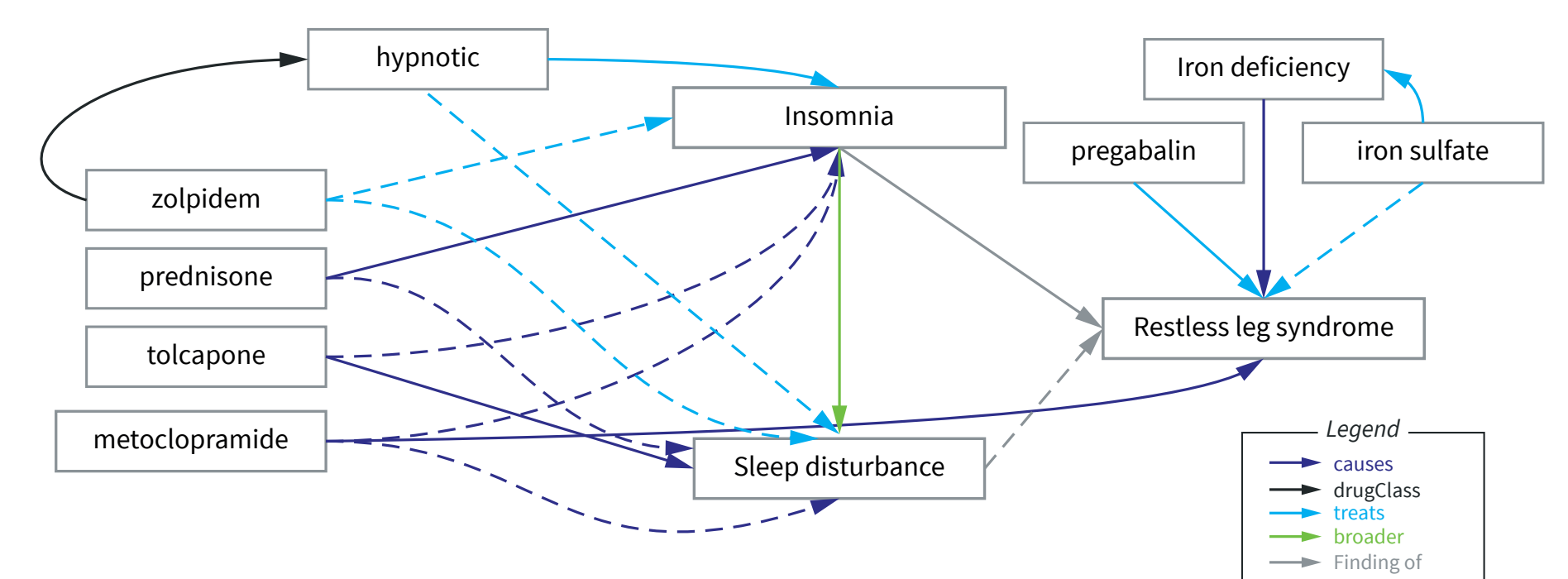
HOW IT’S DONE:

- The “vocabulary hub” harmonises metadata repositories
- users are shown multi-media content recommendations even when the actual search term is completely different.
- Manual and automation-supported vocabulary management
- Extract-transform-load pipeline links “information partner” data to the knowledge graph
- Search interface suggests completions based on full vocabulary: transparently matches alternative labels, common misspellings, etc.
- Back-end semantic functions are provided by PoolParty, a world-class semantic technology suite for knowledge organisation and content management.



healthdirect Australia: Overview of technologies and content workflow

Use case: Enabling inference through graph structure

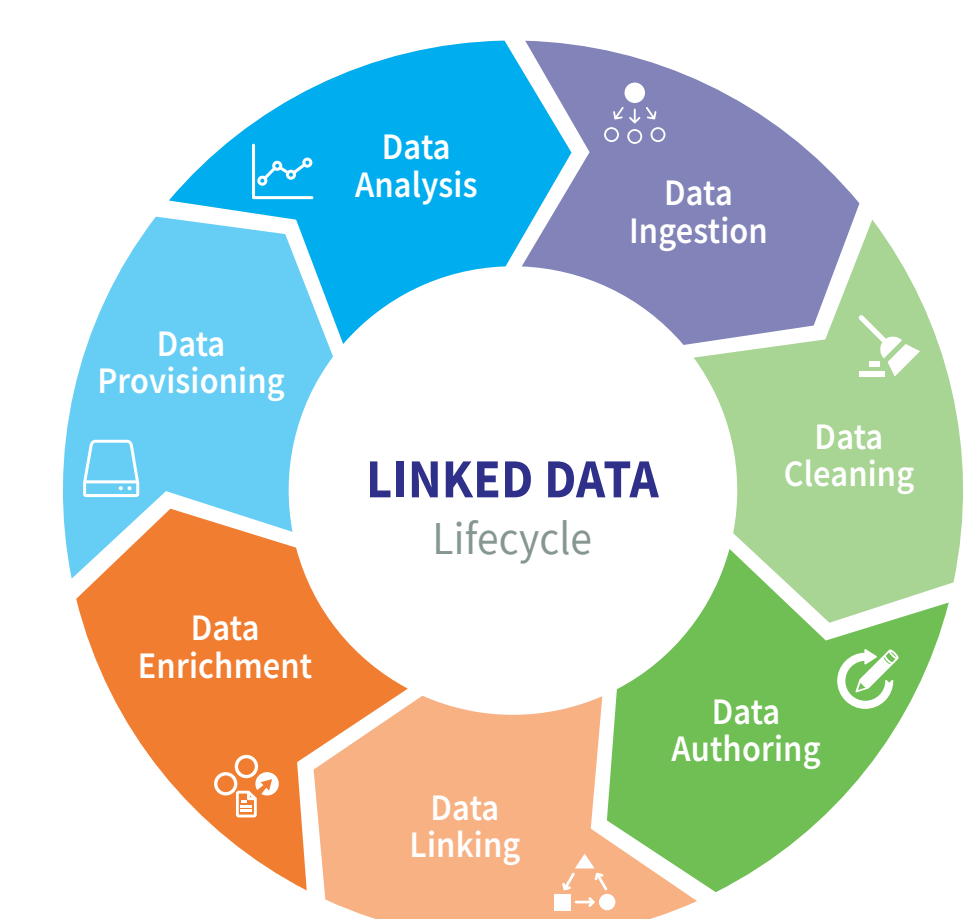


Inferring from linked data

- “Since insomnia is a sleep disturbance and tolcapone treats sleep disturbances, it may be useful as a treatment of insomnia.”
- “Since zolpidem is a hypnotic, and other hypnotics are used to treat insomnia, maybe zolpidem can treat insomnia as well.”

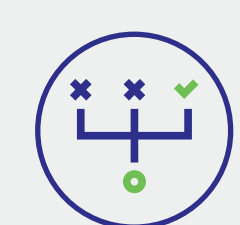
Benefits of knowledge graphs and linked data orchestration

- Ingestion: make data semantic
- Cleansing: make data consistent, reliable and usable
- Authoring: bring in the whole knowledge of your organisation
- Linking: increase the context of data
- Enrichment: make data actionable
- Provisioning: make content and data management workflows smarter and more dynamic
- Analysis: get insights from linked data



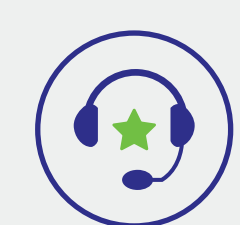
Linked data lifecycle

Solutions based on PoolParty



Process Automation

- Enhanced Machine Learning
- Text Mining & NLP
- Document Classification



Enhanced Customer Experience

- Recommender Systems
- Search Engine Optimization
- Smart Helpdesk Solutions
- Chatbots and Q&A engines



Knowledge Management

- Semantic Search
- Personalization
- Knowledge Discovery Portals



Information Management

- Semantic Content Management
- Metadata Management
- Masterdata Management



Agile Data Integration

- Linked Data
- Integrating heterogeneous data
- Entity Linking



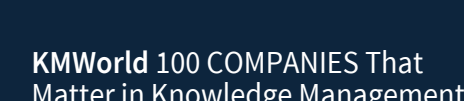
Knowledge Engineering

- Taxonomy Management
- Ontology Management
- Knowledge Graph Management
- Data Visualization

150 + customers trust us.

We are also recognized as one of the 100 companies that matter in Knowledge Management.

Featured Customers



Awards and Recognitions

Semantic Web Company is the leading provider of graph-based knowledge technologies. It is also the vendor of PoolParty Semantic Suite, the industry’s most complete semantic middleware platform on the global market. PoolParty Semantic Suite uses innovative means to help organizations build and manage knowledge graphs as a basis for various AI applications.

According to KMWorld, Semantic Web Company has been named as the company that matters in Knowledge Management. With Credit Suisse, Roche, Philips and Asian Development Bank (ADB) among their customer base of Global 2000 companies, Semantic Web Company is continually helping their customers scale their AI strategy and extend it to fit their organizations.

Semantic Web Company has offices in Austria and the UK. To learn more, visit <https://semantic-web.com/> and <https://www.poolparty.biz/>