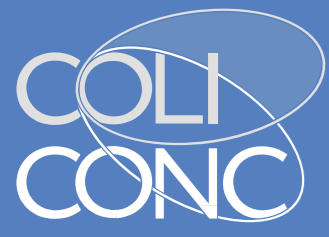


Terminology Registries and Services

Jakob Voß, Jana Maria Agne, Uma Balakrishnan, Morsheda Akter

{voss,agne,balakrishnan,akter}@gbv.de



Verbundzentrale des GBV (VZG), Göttingen



Terminologies

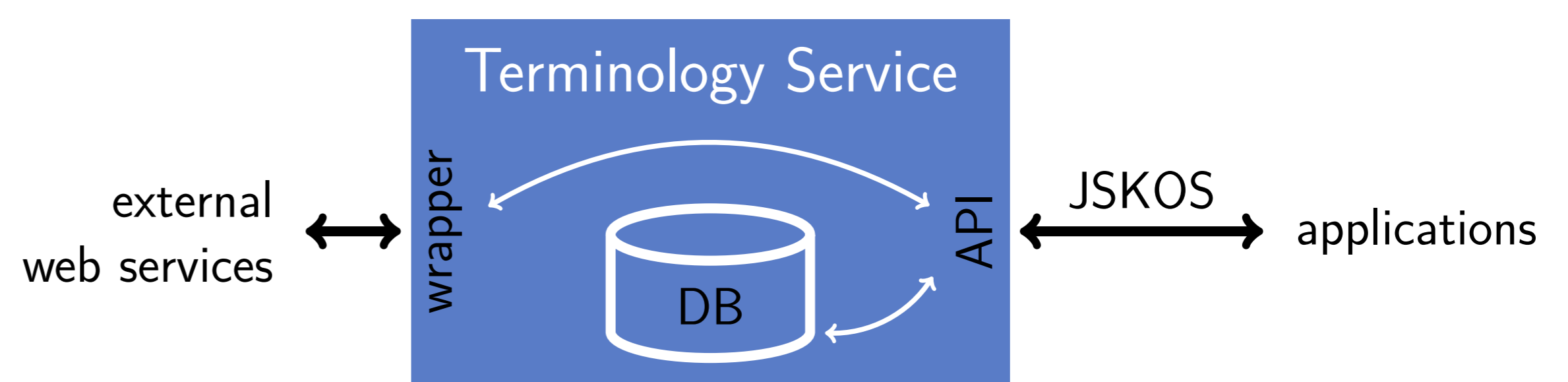
Terminologies, also known as Knowledge Organization Systems or vocabularies, help to agree on common concepts in data. Many types of terminologies exist [4] such as simple concept lists (e.g. Dublin Core Element Set), authority files (ORCID), classification systems (DDC), Thesauri (EuroVoc), and ontologies (Gene Ontology).

<http://bartoc.org/>
lists > 2.500 terminologies

Terminology Services

Query capabilities and APIs differ largely among Terminology Services. We developed the JSKOS format for Knowledge Organization Systems [5] based on SKOS and JSON-LD to unify access to terminologies and registries especially for web applications [3, 6].

Most APIs are "RESTful" web service: applications can access terminology data via HTTP on any platform and language. Typical content types include SKOS/RDF and JSON based formats such as JSKOS. Queries are either responded from a local database or via wrapping an external web service.



Terminology Registries

Terminology registries [1] can broadly be classified into

Registries list and describe terminologies

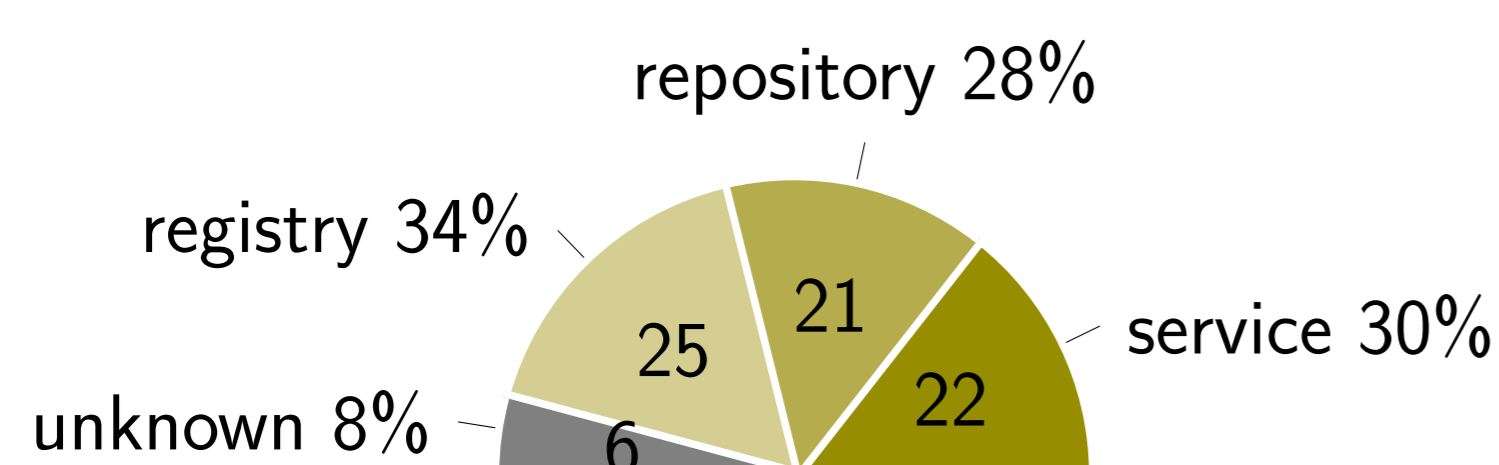
Repositories contain full terminologies

Services provide access to terminologies via an API

Examples: BARTOC [3, 6], GFBio Terminology Service [2]

<http://bartoc.org/en/terminology-registries>
lists 74 registries, repositories, and services

Survey of registries, repositories and services listed in BARTOC



Five have already been closed in the last three years and several have never been more than a prototype!

Topic repositories collect terminologies from one subject area. Around a third (25) are topic registries/repositories/services. The most frequent topics are:

- **medicine & health** (9): METeOR, HeTOP, DIMDI...
- **biology and life sciences** (7): GFBio, BioPortal, AberOWL...
- **earth sciences and geography** (3): NERC, Marine Metadata, DGIWG
- **language** (2): ISOcat, CLARIN
- **arts** (2): KulturNav, museumsvocabular.de

References

- [1] Koraljka Golub et al. "Terminology registries for knowledge organization systems: Functionality, use, and attributes". en. In: *Journal of the Association for Information Science and Technology* 65.9 (Sept. 2014), pp. 1901–1916. DOI: [10.1002/asi.23090](https://doi.org/10.1002/asi.23090).
- [2] Naouel Karam et al. "A Terminology Service Supporting Semantic Annotation, Integration, Discovery and Analysis of Interdisciplinary Research Data". en. In: *Datenbank-Spektrum* 16.3 (Nov. 2016), pp. 195–205. DOI: [10.1007/s13222-016-0231-8](https://doi.org/10.1007/s13222-016-0231-8).
- [3] Andreas Ledl and Jakob Voß. "Describing Knowledge Organization Systems in BARTOC and JSKOS". In: *Proceedings of International Conference on Terminology and Knowledge Engineering (TKE 2016)*, pp. 168–178. URL: <http://hdl.handle.net/10760/29366>.
- [4] Jakob Voß. "Classification of Knowledge Organization Systems with Wikidata". In: *Proceedings of the 15th European Networked Knowledge Organization Systems Workshop*. 2016. URL: <http://ceur-ws.org/Vol-1676/paper2.pdf>.
- [5] Jakob Voß. *JSKOS data format for Knowledge Organization Systems*. Tech. rep. Version 0.1.3. 2016. URL: <http://gbv.github.io/jskos/>.
- [6] Jakob Voß, Andreas Ledl, and Uma Balakrishnan. "Uniform description and access to Knowledge Organization Systems with BARTOC and JSKOS". In: *Proceedings of TOTH conference*. 2016.

What to do next?

- Put terminologies into a Terminology Service
- Register terminologies/registries in BARTOC
- Express terminologies/services with JSKOS
- Use existing terminology services
- Think about registry persistence
- Join RDA Vocabulary Services Interest Group