Compliance with metadata
Corporate compliance

- Policy on reporting & Notification
- Data access policies & global data handling
- Rights management
- Client relation management
- Global skills management
- Provenance
- Data quality
Expected complexity

Data Subject
- Resource Store
- Card Store
- Card Handler
- PDP
- Preference Store
- DH Matching

Data Controller
- Obligation Enforcem't
- Resource Store
- Card Store
- Card Handler
- Context Handler
- PDP
- Policy Store
- DH Matching

PEP
- Context Handler
- PAP

ERCTMI
Actual complexity

DB Data

URI

DB Meta Data

API
How?
Data collection points
Linked data

Rigo: mailto:rigo@wenning.org

www.wenning.org

Has homepage

Has set

Do not Track: w3.org/DNT
example.com/Rigo

Inform upon
W3.org/POE/re-use

Erase after
W3.org:ns/time
7,776Ms
Semantic Lifting

On the fly Semantic Data

Semantic Lifting

Mappings

Semantic Data

Sem-Annnotated Data

Non-Sem Data

\(S_{s1} \quad S_{s2} \quad S_{s3}\)

\(S_{a1} \quad S_{a2} \quad S_{a3}\)

\(S_{n1} \quad S_{n2} \quad S_{n3}\)
The SPECIAL model
Corporation Transborder Flow
Legal blessing Art.21 (5) GDPR

• In the context of the use of information society services, and notwithstanding Directive 2002/58/EC, the data subject may exercise his or her right to object by automated means using technical specifications.
Questions

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Keywords to continue: Prime-project.org primelife.eu Permissions & Obligations Do-Not-Track DCAT
How? Governance with Metadata

- Semantify legacy data
- Acquire data with their context
- Data handling for Privacy and Access control
- Context dependent data handling
- Rights management
- Obligation management
- Provenance
Semantify data at collection time

• At collection time, the collection policy is known.

• At collection time, necessary permissions are given.

• Compliance policy under which data is acquired.

• Retention times etc.
Big data integration

- https://www.big-data-europe.eu/
- Lambda Architecture
- Docker swarm
- SANSA semantification
- Runs out of the box
Semantic Analytics Stack (SANSA)

• Abundant machine readable structured information is available (e.g. in RDF)
  - Across SCs, e.g. Life Science Data (OpenPhacts)
  - General: DBpedia, Google knowledge graph
  - Social graphs: Facebook, Twitter

• Need for Scalable structured analysis
  - Link prediction
  - Knowledge base completion
  - Predictive analytics
SANSA Stack

- ML
  - Tensor Factorization
  - Spatiotemporal Analytics
  - Clustering
  - Decision Trees
  - Association Rules

- Inference
- Querying
- Read / Load RDF / OWL

- APIs / Libraries
- Knowledge Processing
- Framework
  - Spark
  - Flink
Semantify Legacy data

- Adding a scheme to identify each record with a URI
- Register pointer with Metadata DB
- Assess compliance against Metadata DB
- Execute into legacy DB
Concept can be extended

• Payment conditions in eInvoicing (e.g. ZUGFeRD) and object association
• Legal obligations (e.g. Notifications)
• Guarantee
• Environmental restrictions
• Data pooling and Cooperation
• Virtual cooperation environments