Processing Models for Semantic Integration

What to do with a…

— Thing Description

— Resource Directory Entry

— Data Set

➔ Processing Model!

Processing Steps

— Ingestion

— Generation

— Transformation...

Levels of Processing

— Semantic

— Structural

— Lexical (Serialization, Compression)

Example: JSON-LD

— Information model: sea of triples (RDF)

— Data model: JSON tree

— Serialization: JSON

Ingestion

— Usually framed in terms of RDF ingestion

— Could be done on the JSON tree level

Generation

— Needs to map data at the information model level to the data model level

— Tree building

— Possibly combine multiple sources

  — manufacturer (class), installation/configuration (instance), context (foi)

— Prepare next processing step (ingestion)

"Framing"

— Building a tree that is good for the next processing step

— Decide what to include (on what basis?)

— Map some RDF links to JSON subordination

— Generally a hard problem