Real World Use of Ontologies: Future Directions

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Perspective

- How *are* ontologies being used?
- How *can* ontologies be used?

Semantic Integration: Success?

Information Integration

- Multiple information resources are combined using ontologies to match concepts with similar meaning
- Examples: web service composition, mashups, information aggregation, data fusion, linked data

Software Interoperability

- Software systems exchange sentences that are written using ontologies.
  Each software software uses an ontology (either its own or a set of shared ontology) to translate the exchanged sentences.
- Dream: seamless exchange of information among the software systems.

Proactive Computing

- Information systems act in anticipation of future problems, needs, or changes of the user.
- Truly proactive systems need to be able to predict possible future behaviours.
- By analysing data and events in real-time, objects become self-directing, processes become self-managing, and the supply chain becomes self-correcting.

Proactive Computing

Figure:
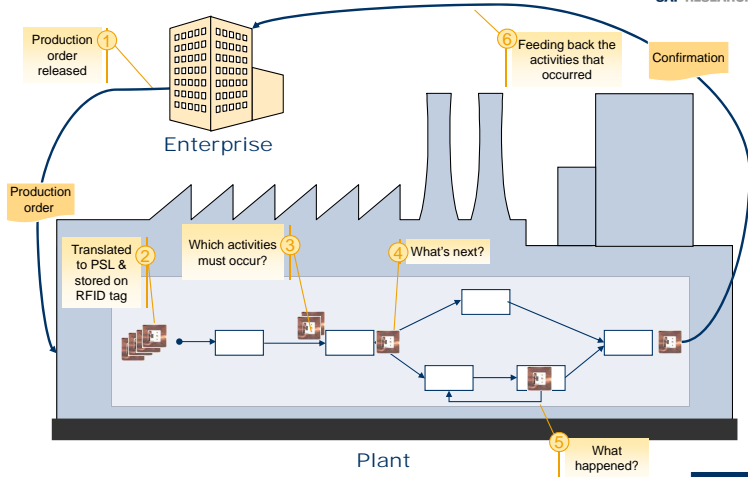
What is the Bottleneck?

- We need high-quality sharable and reusable expressive ontologies.
- We need efficient reasoners for expressive ontologies.