Ontologising Standards – the low hanging fruit

Matthew West

Identification

- Problem: For many common things, multiple identifiers for the same standard objects can be found in different systems. This can cause problems when sharing between systems, even when they nominally use the same standards

- Solution: Persuade organizations who are authoritative sources to provide identifiers for all to use for the concepts they define (i.e. URIs)

- Examples: Country Codes, Units of Measure, Currencies, periodic table,…

Rules and Constraints

- Problem: Standards usually include rules that need to be conformed to. However, their statement in natural language often leads to ambiguity. Especially where these are supposed to be computer interpretable this leads to problems
- Solution: Encourage the definition of rules and constraints in standards formally (i.e. using a computer interpretable form of logic), to reduce the ambiguity that is possible with natural language alone.

Richer Ontologies

- Problem: ISO TC184/SC4 – Industrial Data is recognising that most of the value it has created is in the knowledge it has captured, rather than the technology that has been used to capture or implement that knowledge and that it is necessary to be able to migrate this knowledge to new technologies. Much of the knowledge is in natural language form.

- Solution: Moving towards richer more fully axiomatised ontologies would enable more of the knowledge to be captured in a formal form that could be automatically migrated to new implementation technologies.

- Example: ISO 15926, ISO 10303, ...