Adding Semantics to RosettaNet Specifications
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Extract of RosettaNet in WSML

```
... concept productIdentification
nonFunctionalProperties
dc#description hasValue "Collection of business properties describing identifiers."
endNonFunctionalProperties
productIdentifier ofType (1 1) string
qualificationAgency ofType (1 1) string
revision ofType (0 1) string
 axiom qualificationAgencyConstraint
nonFunctionalProperties
dc#description hasValue "The valid list of agencies who define product identifiers."
endNonFunctionalProperties
 definedBy !(?x[qualificationAgency hasValue ?type]
and (?type = "GTIN" or ?type = "Manufacturer"
or ?type = "Buyer" or ?type = "Seller" or ?type = "EN" or ?type = "BP").
...```

Benefits of Adding Semantics to RosettaNet

- Ontologies enable semi-automated semantic discovery and composition of services.
- The ontology language WSML can represent constraints not possible with DTD or XML Schema used in PIPs.
- Interoperability can be better supported by enabling flexibility between accepted definitions. Working with different standards, such as EDI, can be supported easier.
- The use of formal ontologies enables using common conversion functions to mediate some differences with logical dependencies – e.g. RosettaNet Global Product Unit Of Measure Codes “Gram” and “Ounce” have a logical relation but this is not specified in RosettaNet specifications.
- (Semi) automated mediation of message differences can help to make the process of integrating partners quicker.

RosettaNet

- RosettaNet is a widely used XML-based standard for B2B integration. Partner Interface Processes (PIP) specifications define message semantics and sequence.
- Considerable effort is required when implementing B2B integration based on RosettaNet PIPs.

Semantic Web Services

- Semantic Web Services are emerging technologies to facilitate (semi) automated discovery, selection, composition, mediation and invocation of services.
- Semantic Web Services in combination with RosettaNet can introduce more dynamics to the B2B integration process.
- Semantics can be “added” to RosettaNet specification by lifting RosettaNet PIPs to a formal ontology language (e.g. WSML).

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