Semantic

Return to Terms and Definitions

Discussion

Semantics addresses meaning within a defined context. In financial systems, semantics applies to terms, fields, relationships, classifications, values, assertions, model elements, data items, rules, statements, events, messages, and constraints.

Semantics remains distinct from Structure and interpretation. Structure provides form, such as a field, datatype, schema, message, topic, table, class, or model element. Semantics explains what the structure means. Interpretation applies rules, calculations, classifications, policies, or reasoning to data using semantic context.

For example, a field named 'settlementDate' has a structure because it has a name and a data type. The field has semantics only when the architecture defines what settlement means, which event establishes the date, which party relies on the date, and which rules constrain the date.

Semantics does not depend on a single implementation technology. Controlled vocabularies, glossaries, taxonomies, ontologies, schemas, type systems, state machines, business rules, policies, conformance tests, and executable logic express semantic content when they constrain interpretation in a repeatable way.

RDF provides a graph-based framework for representing information. OWL provides an Ontology Language for the Semantic Web. An ontology captures selected semantic commitments for a defined domain. These artefacts and technologies support semantic work, but they do not define the full scope of semantics.

Definition

meaning of a designation, expression, model element, data item, rule, or statement within a defined context

Source

Informed by SIP-RA separation of structure, semantics, and interpretation; aligned with FDIS-RA treatment of semantic interpretation and governed meaning; generalised from terminology, model-theoretic, software architecture, and standards usage; specialised for use in the FX Demo Reference Architecture.

Note

Semantics is not equivalent to Ontology, Resource Description Framework (RDF), OWL, or reasoning. Those artefacts and technologies express or process semantic content, but they do not define the full scope of semantics.

Example

The terms `tradeDate`, `settlementDate`, `effectiveDate`, and `terminationDate` use the same date datatype. Each term has different semantics because each date plays a different role in the lifecycle of a financial transaction.
