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Financial services — Semantic technology —

Part 3: Semantic enrichment of the ISO 20022 conceptual model



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Foreword

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Introduction

This document contains information on the perceived state of the art of semantic technology as it pertains to information exchange in financial services. It is informative, not normative.

This document reports on semantic enrichment of the ISO 20022 conceptual model.

The ISO 20022 series defines a scalable, methodical process to ensure consistent descriptions of messages throughout the financial services industry.

Beyond its primary purpose of providing an operational model of elements, messages and their associated workflows, there is a further requirement for metadata to add an understanding of the meaning of their content and context.

The advent of semantic technology enables the enrichment of an ISO 20022 model repository:

- in a repository, annotating repository concepts with metadata using semantic markup or constraints;
- outside a repository, using references to repository concepts.

This is illustrated by demonstrating how the provenance of changes to a model repository can be tracked using the W3C PROV-O ontology specification^[10].

In a repository, each concept can be annotated with semantic markup to indicate it is a synonym of a concept in another model or that it is an external code set. Semantic markup can also be used for tagging of names and definitions in other languages. Constraints enable the formal specification in logical languages of relationships between concepts.

Outside a repository, the resource description framework (RDF) can be used to reference repository concepts with internationalised resource identifiers (IRIs) constructed from object identifiers (OIDs), universally unique identifiers (UUIDs) or their names with the namespace of the schema, model, metamodel or registration authority website. This is illustrated with the provenance ontology (Prov-O), which can be used to track changes to concepts in a repository.