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Financial services — UNIversal Financial Industry message scheme —

Part 4: ISO 20022 XML design rules

Services financiers — Schéma universel de messages pour l'industrie financière —

Partie 4: Règles conceptuelles ISO 20022 XML

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 20022-4 was prepared by Technical Committee ISO/TC 68 to complement ISO 20022-1, Overall methodology and format specifications for inputs to and outputs from the ISO 20022 Repository, with the XML syntax design rules to be applied by the ISO 20022 Registration Authority to translate an ISO 20022 compliant message definition into an ISO 20022 XML message schema for the production of ISO 20022 XML message instances. This Technical Specification should be reviewed and considered for publication as an International Standard once further experience has been gained in using these guidelines and the use of the underlying technology has further stabilized.

ISO 20022 consists of the following parts, under the general title *Financial services — UNIversal Financial Industry message scheme*:

— *Part 1: Overall methodology and format specifications for inputs to and outputs from the ISO 20022 Repository*

— *Part 2: Roles and responsibilities of the registration bodies*

— *Part 3: ISO 20022 modelling guidelines* [Technical Specification]

— *Part 4: ISO 20022 XML design rules* [Technical Specification]

— *Part 5: ISO 20022 reverse engineering* [Technical Specification]

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1 Introduction

XML is a technical standard defined by W3C (the World Wide Web Consortium) that can be used for the physical representation (i.e. the syntax) of standardized ISO 20022 Messages. XML leaves a lot of freedom for the exact way it is used in a particular application. Therefore, merely stating that XML is used is not sufficient to guarantee predictability, one must also explain HOW it will be used.

This Technical Specification contains a set of XML design rules, called ISO 20022 XML. These design rules define how a standardized Message – described by a Message Definition in UML[1] according to the Modelling Guidelines of ISO/TS 20022-3 must be represented as a valid ISO 20022 compliant XML document.

A **valid XML document** (referred to hereafter as 'XML instance' or 'instance') as defined by W3C is any XML document that has an associated description and that complies with the constraints expressed in that description. The associated description in this case is derived from the Message Definition, which is originally described in UML.

This Technical Specification also describes how (a part of) the UML Message Definition can be converted into a W3C XML Schema. This XML schema will then make it possible to use a validating XML schema parser to automatically verify that a given XML instance complies with (a subset of) the constraints described in the Message Definition.

DTDs (Document Type Definitions) could also be used to validate partial compliance of an XML instance to its corresponding Message Definition. However, because of the limited validation functionality DTDs offer, this document does NOT cover XML DTDs.

Note that this document merely explains how a given Message Definition Diagram will be mapped into XML. It doesn't explain how to create a Message Definition Diagram. This information can be found in ISO/TS 20022-3 Modelling guidelines.

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2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 20022-1, *Financial services — UNIversal Financial Industry message scheme — Part 1: Overall methodology and format specifications for inputs to and outputs from the ISO 20022 Repository*

URN namespace for ISO documents.

[1] More information about UML (Unified Modelling Language) is available on the Object Management Group website at: http://www.omg.org/uml

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