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Financial services — Universal financial industry message scheme —

Part 3: Modelling

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

Partie 3: Modélisation

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 68, *Financial services*, Subcommittee SC 9, *Information exchange for financial services*.

This second edition cancels and replaces the first edition (ISO 20022-3:2013), which has been technically revised.

The main changes are as follows:

— changes:
  — updated all figures to reflect the workflow changes as a result of the revised ISO 20022-1;
  — updated Clauses 5, 6, 7 and 8;
— clarifications:
  — 7.4.4 MessageGranularity included minor version and draft;
— additions:
  — minor version properties (revision, variation) and draft were added to MessageDefinition;
  — InterfaceDefinitions comprising of Operations with Parameters;
  — version relationships amongst RepositoryConcept.

A list of all parts in the ISO 20022 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

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

The purpose of the ISO 20022 series is to describe precisely and completely the externally observable aspects of financial services messaging in a way that can be verified independently against operational messaging.

The trigger for the creation of the ISO 20022 series was the rapid growth in the scale and sophistication of messaging within financial services during the 1990s using the ISO 15022 series. The financial services industry (from here on referred to as "the industry") created the first version of the ISO 20022 series as the successor to the ISO 15022 series in response to that trigger. Since the ISO 15022 series, the industry has broadened the scope from securities to the entire industry for the ISO 20022 series.

The ISO 20022 series is based on open technology standards, which historically have evolved more rapidly than the industry itself. Consequently, the ISO 20022 series adopted a model-driven approach where the model of the industry's messaging can evolve separately from the evolution of the messaging technology standards. The period during which the ISO 20022 series has emerged followed the widespread adoption of the internet for business. The eXtensible Mark-up Language (XML) emerged as the de facto standard for document representation on the internet and it became the first syntax for the ISO 20022 series.

The modelling process is further refined into three levels which, in addition to the messaging technology standard, is why the ISO 20022 series is based on four levels: the scope level, the conceptual level, the logical level and the physical level. This four-level approach is based on the first four levels of the Zachman Framework.[4] The remaining two levels of the Zachman Framework are equivalent to the implementations and the operational levels, respectively.

This document defines a process by which these models can be created and maintained by the modellers.

The model artefacts are stored in an ISO 20022 Repository (hereafter referred to as "the Repository"). The Repository and physical level artefacts are exposed in a publicly accessible location, such as a website, serviced by a Registration Authority. The name and contact information of the Registration Authority for the ISO 20022 series can be found at www.iso.org/maintenance_agencies.

The Repository is organized into two areas:

— a DataDictionary containing the industry model elements likely to have further or repeated use;

— a BusinessProcessCatalogue that contains models describing specific message definitions and business processes, and physical syntax implementations.

The ISO 20022 series is organized into the following parts:

— ISO 20022-1 describes the metamodel of all the models and the Repository according to ISO/IEC 19502:2005 (MOF).

— ISO 20022-2 covers the UML profile, a grounding of general UML into a specific subset defined for the ISO 20022 series (to be used when UML is selected to define the models).

— This document describes a modelling method to produce models for the ISO 20022 series.

— ISO 20022-4 covers XML schema generation rules to transform a logical level model into a physical level description in the syntaxes.

— ISO 20022-5 covers business concept model interoperability, and logical model alignment and reverse engineering.

— ISO 20022-6 covers message transport characteristics that define the quality of service required by the business process definitions so that they can operate successfully.

— ISO 20022-7 describes the process of managing the registration of models and physical syntax implementations.

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— ISO 20022-8 gives ASN.1 syntax generation rules to transform a logical level model into a physical level description in ASN.1.

— ISO 20022-9 describes generic guidelines which are used to define schema generation rules for any specific syntax.

The defined terms of this document are in PascalCase and will use PascalCase throughout the document.

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Financial services — Universal financial industry message scheme —

Part 3: Modelling

1 Scope

This document describes the modelling workflow, complementing ISO 20022-1 and ISO 20022-2. The modelling workflow describes the required steps a modeller follows in order to develop and maintain standardized BusinessTransactions and InterfaceDefinitions/MessageSets.

This document does not describe the permissible artefacts and/or documents to be submitted to the Registration Authority (this information is contained in ISO 20022-7).

Examples are provided only to illustrate the modelling methodology and are not normative.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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: Metamodel*

ISO 20022-2, *Financial services — Universal financial industry message scheme — Part 2: UML profile*

ISO 20022-9, *Financial services — Universal financial industry message scheme — Part 9: Syntax Generation Requirements and Rules*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20022-1 and ISO 20022-2 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org

4 Workflow activities overview

The objective of a standardized BusinessTransaction is to define a commonly agreed solution for communication problems existing among different organizations within the context of a given BusinessProcess.

For a given communication problem in each business context, several solutions can be developed. The purpose of this document is to explain the different steps a modeller should follow to ensure that all ISO 20022 items such as BusinessComponents and BusinessElements, MessageComponentTypes and MessageElements, BusinessTransactions and MessageDefinitions are defined in a consistent way.

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