

---

---

**Financial services — Semantic  
technology —**

Part 5:  
**Mapping from FIX Orchestra to the  
common model**



This document is a preview generated by ELS



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

<b>Foreword</b>	<b>iv</b>
<b>Introduction</b>	<b>v</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Mapping FIX Orchestra</b>	<b>2</b>
4.1 FIX Orchestra	2
4.1.1 General	2
4.1.2 Relationship to FIX	2
4.2 ISO 20022 model	2
4.3 Mapping approach	3
4.3.1 General	3
4.3.2 Ecore model creation	3
4.4 Model transformation	3
4.5 Incomplete mappings	4
4.6 Findings	4
4.6.1 General	4
4.6.2 Behavioural model	4
4.6.3 Datatypes	5
4.6.4 Constraints	5
<b>Bibliography</b>	<b>6</b>

## 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 documents 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://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*.

A list of all parts in the ISO 22126 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](http://www.iso.org/members.html).

## Introduction

FIX Orchestra is a standard issued by FIX Trading Community to exchange message structures, workflow choreographies and application behaviours between trading counterparties. FIX Orchestra is currently Version 1.0 Draft Standard and is published as a specification with an XML Schema.

A study was conducted to map FIX message definitions, as encoded in the FIX Orchestra schema, to semantic terms consistent with the ISO 20022 metamodel. The objective was to map multiple financial protocols, including FIX, to ISO 20022, a common model, so that they can be compared, and for commonalities to be identified. Any deficiencies of the model discovered will be rectified so that its capacity to support other financial industry protocols can be improved in future versions.



# Financial services — Semantic technology —

## Part 5: Mapping from FIX Orchestra to the common model

### 1 Scope

This document reports on a study to map messages defined using FIX Orchestra into the ISO 20022 model.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/>

#### 3.1

##### **actor**

peer in a messaging system

#### 3.2

##### **code set**

datatype that constrains message values to one member of a finite set

#### 3.3

##### **component**

predefined part of a message that may be reused in many message types

#### 3.4

##### **datatype**

context-free data domain

#### 3.5

##### **field**

smallest unit of business semantics

#### 3.6

##### **presence**

property that specifies whether the member is required

#### 3.7

##### **repeating group**

group component with many-to-one cardinality