



BSI Standards Publication

Financial services — Financial information eXchange session layer

Part 1: FIX tagvalue encoding

National foreword

This British Standard is the UK implementation of ISO 3531-1:2022.

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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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 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).

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).

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.

This document was prepared by FIX Trading Community (as FIX Session Layer Technical Specification) and drafted in accordance with its editorial rules. It was assigned to Technical Committee ISO/TC 68, *Financial services*, Subcommittee SC 9, *Information exchange for financial services*, and adopted under the “fast-track procedure”.

A list of all parts in the ISO 3531 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.

Introduction

FIX session protocol was written to be independent of any specific communications protocol (e.g. X.25, async, TCP/IP) or physical medium (e.g. copper, fibre, satellite) chosen for electronic data delivery. It offers a reliable stream where a message is delivered once and in order. The FIX session layer is designed to survive and resume operation in the event of the loss of transport level connections caused by any type of failure, including network outage, application failure or computer hardware failures.

The session layer is concerned with the ordered delivery of data while the application level defines business-related data content. This document focuses on the ordered delivery of data using the “FIX session protocol”.

The FIX session protocol is implemented using the FIX tagvalue encoding syntax for the standard header, standard trailer and the session level messages which make up the FIX session protocol. It is possible to send messages encoded using other FIX-defined encodings (e.g. FIXML, SBE, JSON, GPB, ASN.1) or other non-FIX-defined encodings (e.g. XML, FpML, ISO 20022 XML, JSON).

The Financial Information eXchange tagvalue encoding is the original encoding used for FIX messages. The tagvalue encoding is the encoding used by the FIX session layer; it corresponds to the Presentation Layer of the ISO Open Systems Interconnection model. The encoding uses an integer number known as a *tag* to identify the field, followed by the “=” character (hexadecimal 0x3D), then the value of that field encoded in the ISO/IEC 8859-1 character set. Each tagvalue pair is separated by the *Start of Heading* control character <SOH> (hexadecimal value 0x01), which is defined by ISO/IEC 6429. The tagvalue encoding also supports the encoding of binary and multibyte character data in certain encoded data fields that are preceded by a Length field.

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Financial services — Financial information eXchange session layer —

Part 1: FIX tagvalue encoding

1 Scope

This document provides the normative specification of the FIX tagvalue encoding, which is one of the possible syntaxes for FIX messages.

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/IEC 11404, *Information technology — General-Purpose Datatypes (GPD)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 11404 and the following apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 field presence

existence or use of a field within a message

Note 1 to entry: FIX specifications and rules of engagement based on FIX should refer to a field as being present in a message.

3.2 component presence

existence or use of a component within a message

Note 1 to entry: FIX specifications and rules of engagement based on FIX should refer to a component as being present in a message.

3.3 repeating group instance

specific record of the group within a repeating group

Note 1 to entry: Records are defined in ISO/IEC 11404.