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Information technology — Financial information exchange — Simple binary encoding

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Foreword

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This document was prepared by FIX Trading Community [as FIX Simple Binary Encoding (SBE)] and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

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 and www.iec.ch/national-committees.

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Introduction

The Financial Information eXchange Simple Binary Encoding (SBE) targets high performance trading systems. It is optimized for low latency of encoding and decoding while keeping bandwidth utilization reasonably small. For compatibility, it is intended to represent all FIX semantics. SBE is primarily a fixed length wire format but also supports variable length fields and repeating groups with fixed length entries. The wire format does not contain any meta-data other than length information for variable elements. The meta-data is a message schema provided out-of-band as an XML Schema Definition (XSD) file.

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Financial Services – Financial Information eXchange – Simple Binary Encoding

1 Scope

This document provides the normative specification of Simple Binary Encoding (SBE), which is one of the possible syntaxes for FIX messages, but not limited to FIX messages. The scope comprises the encoding (wire format) and the message schema for SBE.

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.

— IETF RFC 2119 – *Key words for use in RFCs to Indicate Requirement Levels* March 1997

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 datatype

field type with its associated encoding attributes

Note 1 to entry: Includes backing primitive types and valid values or range. Some types have additional attributes, e.g. epoch of a date.

3.2 encoding

message format for interchange

Note 1 to entry: The term is commonly used to mean the conversion of one data format to another, such as text to binary. However, SBE strives to use native binary datatypes in order to make conversion unnecessary, or at least trivial.

Note 2 to entry: Encoding also refers to the act of formatting a message, as opposed to decoding.

3.3 field

unit of data contained by a message

3.4 message schema

metadata that specifies messages and their data types and identifiers

Note 1 to entry: Message schemas may be disseminated out of band.

Note 2 to entry: For SBE, message schemas are expressed as an XML document that conforms to an XML schema that is published as part of this standard.

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