

FIX Orchestra Technical Standard Proposal

Version 1.0 Technical Standard

Feb. 18, 2021

V0.1

Proposal Status: Submitted

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# Document History

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| Revision | Date | Author | Revision Comments |
| V0.1 | Feb. 3, 2021 | Hanno Klein, GTC | Initial draft |
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The above document history section, including date, author, and comments, is required to track editing changes to the document. List revisions in **ascending order**. Please insert additional rows in the table as needed.

Template version information:

r0.0: 2013-03-13 Initial draft

r0.1: 2013-03-27

r0.2: 2013-08-16 Clarified Section 2, provided subsections for "Business Requirements" and "Technical Requirements". Updated instructions.

# Introduction

Provide an introduction to the content, purpose, or impetus of the proposal; the business need / problem being solved; and the scope. Include and label any references, supporting documentation, and related proposals. If the proposal is based on existing implementations, describe them here in the appropriate subsections. It is recommended that a "Summary of Proposed Changes" sub-section be provided within this section.

FIX Orchestra was conceived as **machine readable rules of engagement** between counterparties. As such, it is a standard for exchange of metadata about the behavior of FIX applications. Orchestra is intended to cut time to onboard counterparties and improve accuracy of implementations.

Orchestra does not change the FIX Protocol itself in any way, nor does it obsolete existing FIX engines or tools.

## Roadmap

The working group believes that Orchestra version 1.0 Technical Standard is ready for production use. No changes have been made to the Technical Specification of the Draft Standard other than to correct lexical errors. Minor changes have been made to the interfaces schemas to increase its quality (see Section *2.2 Technical Requirements*).

## Authors

Provide list of authors of technical standard, their company or organizational affiliation, public email and or telephone number, and role in drafting the standard.

|  |  |  |  |
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# Requirements

## Business Requirements

No new business requirements have been recognized since the Draft Standard was published.

## Technical Requirements

This section describes enhancements or changes to the Orchestra standard since the Draft Standard was published.

### Provide ContentType attribute to interfaces schema

This change was documented under GitHub issue #100 and affected the XSD file for interfaces. It lacked the ContentType attribute.

### Prevent duplicate interface names in interfaces schema

This change was documented under GitHub issue #101 and affected the XSD file for interfaces. It enforces the uniqueness of interface names.

# Issues and Discussion Points

None

# References

Authors should list references used in created the technical standard proposal

* Reference – reference used to create the standard or related to the proposed technical standard.
* Version – version of reference
* Relevance – Relevance of specification to standard.
* Relationship – relationship of the related standard to the technical standard being proposed. Can be: **Extends** the related standard, **Overlaps** with related standard, **Incorporates** related standard, **Inspiration** fromrelated standard, **Uses** related standard, **Replaces** related standard.
* Normative – Yes – this reference contains provisions incorporated into this specification.

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| Reference | Version | Relevance | Normative |
| None |  |  |  |
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# Relevant and Related Standards

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| --- | --- | --- | --- | --- |
| Related Standard | Version | Reference location | Relationship | Normative |
| Dublin Core XML Schemas | 2008-02-11 | http://dublincore.org/schemas/xmls/ | Dependency | Yes |
| XML Schema for FIX | 2016 |  | Technical guide | Yes |
| XML Schema | 2012 | https://www.w3.org/TR/xmlschema11-1/ | Dependency | Yes |
| Namespaces | 2006 | https://www.w3.org/TR/xml-names11/ | Dependency | Yes |

# Intellectual Property Disclosure

Authors should provide a list of any intellectual property

* Related Standard – name of related standard (can be an acronym if widely known).
* Version – version of related standard being referenced
* Reference location – URL or document publication information
* Relationship – relationship of the related standard to the technical standard being proposed. Can be: **Extends** the related standard, **Overlaps** with related standard, **Incorporates** related standard, **Inspiration** fromrelated standard, **Uses** related standard, **Replaces** related standard.
* Normative – Yes – this reference contains provisions incorporated into this specification.

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# Definitions

|  |  |
| --- | --- |
| Term | Definition |
| Pedigree | The recorded history of an artifact |
| Provenance | A record of ownership of an artifact |
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# FIX Orchestra

## Project milestones

Since Orchestra has many facets, features have been delivered in several release candidates rather than attempting a big-bang approach.

### Version 1.0 Technical Standard deliverables

These artifacts will be delivered as v1.0 Technical Standard:

* The technical specification is a separate document “FIX Orchestra Technical Specification”. The document will be displayed in the Tech/Specs section of FIX Trading Community website (<https://www.fixtrading.org/standards/fix-orchestra-online/>) as well as in GitHub project [FIXTradingCommunity/fix-orchestra-spec](https://github.com/FIXTradingCommunity/fix-orchestra-spec).

These resources have been published in GitHub project [FIXTradingCommunity/fix-orchestra](https://github.com/FIXTradingCommunity/fix-orchestra):

* XML schema (XSD) for repository of message definitions and workflow plus documentation of the schema
* XML schema (XSD) for interfaces and session configuration plus documentation of the schema
* Grammar and implementation of the Score DSL
* Scripts to populate Orchestra from the Unified Repository and vice versa (message structure only)
* Example Orchestra files
* Demonstration projects:
  + Documentation generator
  + QuickFIX data dictionary and code generators (<https://github.com/FIXTradingCommunity/fix-orchestra-quickfix>)
  + QuickFIX session configuration   
    (<https://github.com/FIXTradingCommunity/fix-orchestra-quickfix>)
  + Test generator

## Plan for EP production

In addition to standard development, a plan will be created to migrate the building of Extension Packs from Unified Repository to Orchestra. In addition to modernizing build facilities, this plan will need to account for the tools that consume Repository, including FIXimate, FIXML schema generation, and so forth.

# Appendix A - Usage Examples

This is a required section where the sub-committee or working group can provide whole or fragments of example FIX messages with actual or dummy data. These examples are useful for illustrating usage or rules specific to the business domain covered in the proposal.

These example Orchestra files are posted in GitHub.

Example order entry file developed by MilleniumIT

fix-orchestra/repository/src/test/resources/examples/

Sample interface file

https://github.com/FIXTradingCommunity/fix-orchestra/blob/master/interfaces/src/test/resources/SampleInterfaces.xml

A non-FIX exchange API interpreted in Orchestra

https://github.com/FIXTradingCommunity/orchestrations/tree/master/NYSE%20Pillar

# Appendix B – Compliance Strategy

The technical standard must include some plan for measuring compliance with the standard. This will either be test suites, a validation tool (such as an XML Schema document as an example).

The first level of compliance will be provided by existing XML tools that verify conformity of a file to its schema. A test is provided to validate that isolated DSL expressions conform to the grammar. However, a comprehensive compliance test has not yet been developed.