

FIX Global Technical Committee

Extension of BeginString for FIX Latest

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# Document History

| **Revision** | **Date** | **Author** | **Revision Comments** |
| --- | --- | --- | --- |
| 0.1 | September 27, 2021 | Hanno Klein, FIX GTC | Initial draft |
| 0.2 | October 25, 2021 | Hanno Klein, FIX GTC | Minor updates based on internal review |
| 0.3 | October 28, 2021 | Hanno Klein, FIX GTC | Clarification of session profile names versus BeginString(8) values |
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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:

r2: 2010-11-13 Revised to support abbreviations, inlined component references

r3: 2011-12-02 Revised to add additional usage clarification

r3.1: 2013-01-04 Revised Copyright year, changed template to Office 2013 .docx version, updated font to Calibri for cleaner look. Added additional template usage clarification.

R3.2 2016-05-23 – revised the copyright date, corrected document references and replaced the FIX logo with the most current graphic.

2016-09-14 – Removed blue highlighting from hidden text content, removed ICR column from 5.1 and 6.1 tables and added “FIX Spec” to the Comments column header of table 6.1 and revised notation of optional elaboration for fields and enums in the data dictionary.

# Introduction

Extension Pack [EP260](https://www.fixtrading.org/packages/ep260-application-version-for-fix-latest/) added FIX Latest as an application version of FIX. Although technically also a version, FIX Latest emphasizes the concept of running a selected subset of FIX messages, components, fields, and values agreed by the counterparties over one of the four session profiles of the FIX Session Layer (see Figure 1 - FIX Technical Standard Stack). This extension proposal incorporates the session profile identifiers FIX.4.2 and FIX4 as values “FIX.4.2” and “FIX.4.4” to the BeginString(8) field in addition to the existing value “FIXT.1.1” representing the session profiles FIXT and LFIXT.



Figure 1 - FIX Technical Standard Stack

# Business Requirements

Counterparties have typically agreed on a single FIX version as part of their Rules of Engagement defining the specific messages, fields and values supported between them. In terms of strict FIX compliance, this would exclude the usage of any elements from higher versions, including the usage of new enumerations for existing fields or new message types.

However, regulatory requirements have more or less forced the FIX community to include user-defined fields, values, or to use new standard elements from higher versions - i.e. the notion of a single “FIX version” no longer applied to the vast majority of FIX connections out there. The usage of elements from higher versions is an official [FIX policy](https://www.fixtrading.org/standards/user-defined-fields/): *The Global Technical Committee (GTC) Governance Board recommends that fields/tags and enumeration values from later versions of FIX which meet the business or implementation requirements of FIX be retro-fitted into the implementation.*

The business requirement is to support the use of FIX session protocols other than FIX Transport (FIXT) that was introduced with FIX 5.0, especially to support the FIX session protocols for FIX 4.2 and FIX 4.4. This removes the barrier of having to change the FIX Session Layer in order to fully benefit from FIX Latest, i.e. to change the value of BeginString(8).

## Extension of BeginString(8)

Initially, FIX did not offer any choices beneath the application layer in the technical stack. Up to and including FIX 4.2, the encoding had to be tag=value. Prior to FIX 5.0, the application and session layer were tightly coupled with a single value of BeginString(8) identifying both of them. The technical stack of FIX generation 4 (FIX 4.x) was monolithic with respect to the FIX Session Layer.



FIX 5.0 changed this paradigm by introducing the concept of Transport Independence and made the session protocol as of FIX 5.0 have its own name (FIX Transport a.k.a. FIXT) and versioning (v1.1). The value of BeginString(8) no longer contained the application layer version. It was replaced with the identification of the session protocol, i.e. “FIXT.1.1”.

As of FIX 5.0, the identification of the application version became optional with either ApplVerID(1128) used on each application message or DefaultApplVerID(1137) used once in the Logon(35=A) message and applying to all messages sent in that session. This has not changed with FIX Latest.

It is proposed to support multiple values for BeginString(8) when using FIX Latest over the FIX Session Layer. It is not proposed to support the of use different values of BeginString(8) in the same session, i.e. the counterparties need to agree on the single value used for all messages of a given session. This value only identifies the session profile and does not limit the use of any messages, components, fields or values from FIX Latest. The following table maps the FIX session profiles to their values in BeginString(8) (source: <https://www.fixtrading.org/standards/fix-session-layer-online#fix-session-profiles>).

|  |  |  |
| --- | --- | --- |
| FIX session profile | BeginString(8) | Description |
| FIX.4.2 | FIX.4.2 | The FIX session profile for use with the FIX 4.2 application layer. |
| FIX4 | FIX.4.4 | The FIX session profile backward compatible with FIX 4.4 recommended when counterparties will only be using a single application version during the FIX session, such as *FIX Latest*. |
| FIXT | FIXT.1.1 | The FIX session profile that must be used when mixing multiple application versions over the same FIX session. May be used with a single application version of FIX such as *FIX Latest*. |
| LFIXT | FIXT.1.1 | Lightweight FIXT restricted session layer message recovery[[1]](#footnote-1) to simplify the protocol while maintaining compatibility with FIXT when using LFIXT compatible model of operation. |

It is proposed that BeginString(8) supports the following values:

* “FIX.4.2”, i.e. session profile FIX.4.2
* “FIX.4.4”, i.e. session profile FIX4
* “FIXT.1.1”, i.e. session profiles FIXT and LFIXT

## Usage of ApplVerID(1128) and CstmApplVerID(1129)

It is possible to explicitly identify the standard application version by using ApplVerID(1128) and ApplExtID(1156) in the StandardHeader component. This does not mean that all messages, components, fields, and values of this version are supported. The supported subset still needs to be agreed between the counterparties.

Note that only the use of BeginString(8)=“FIXT.1.1” together with ApplVerID(1128) continues to support the use of different application versions within a single session. For example, NewOrderSingle(35=D) and ExecutionReport(35=8) messages may use ApplVerID(1128)=4 (FIX42) while TradeCaptureReport(35=AE) uses ApplVerID(1128)=9 (FIX50SP2).

However, it is recommended to rather exchange [FIX Orchestra](https://www.fixtrading.org/standards/fix-orchestra-online/) XML files out-of-band to define the supported messages, components, fields, and values.

The <repository> element of a FIX Orchestra XML file contains the attribute “version” that can be used to define the one's own version of the meta-data used for the given interface. This value can then be conveyed in the field CstmApplVerID(1129) to identify the correct meta-data file.

Linking CstmApplVerID(1129) to Orchestra meta-data file is also an option to support backward compatibility by allowing two different values (e.g. current and previous interface version) in application messages. The message recipient can then draw upon the correct Orchestra XML file to validate the message content. Furthermore, the Orchestra pedigree attributes (e.g. added, updated, deprecated) may be used to reflect the changes in your interface.

# Issues and Discussion Points

The information in this section can be presented in table or numbered list format or sub-sections of descriptive text. Include issues and important discussion points that arose during the sub-committee or working group's effort to develop the gap analysis proposal. Also include resolutions of the issues and discussion points. The items will aid in understanding the thought process and tracks for the decisions made.

*There are no issues or discussion points.*

# Proposed Message Flow

*There are no changes to existing FIX message flows.*

# FIX Message Tables

*There are no changes to existing FIX message tables.*

# FIX Component Blocks

*There are no changes to existing FIX component blocks.*

# Category Changes

 *There are no changes to existing categories.*

# Appendix A - Data Dictionary

The Data Dictionary table must be filled in for all new fields being proposed and all existing fields where changes are being proposed. Each row, representing a field, must identify the requested action of “new”, "add", "change", or "deprecate" for each field.

For new fields provide the data type for each field, the field definition, along with any enumerations related to the field. New fields will use "TBD" in the Tag column. For existing fields, document the proposed additions and changes and highlighting the change (e.g. to the description, new enumerations being added, etc.).

List new fields at the top of the table, followed by fields to be deprecated, and then fields to be changed.

* **Tag** - Order all new fields at the top of the table. The "Tag" column should be "TBD" for the new fields. For existing fields include the official tag number.
* **FieldName** – Field name – required for all fields including existing fields being changed and proposed.
* **Action** - indicates whether the field is to be added, changed, or deprecated in the data dictionary:

 **NEW** - A new proposed field. Use "TBD" in Tag column. Identified in the "Add to/ Deprecate from Message type or Component block" column the message or component the new field is to be added to.

 **ADD** - An existing field to be added to the component or message type identified in the "Add to/ Deprecate from Message type or Component block" column.

 **DEPRECATE** - An existing field to be deprecated. If the deprecation is message specific (as oppose to deprecating the field from the entire specification), identify in the "Add to/ Deprecate from Message type or Component block" column the component or message from which the field is to be deprecated.

 **CHANGE** - An existing field to be modified – modifications are limited to changing the Data Dictionary description or changing or adding new enumerations. A data type change requires strong business requirements justification to be documented as part of the proposal and will be reviewed in detail by the GTC.

* **Datatype** - The data type, e.g. int, Price, Boolean, etc. (See FIXimate for the complete list of FIX datatypes). Required for new fields; not required for existing fields, unless the proposal is to change the data type. See the list of data types in Volume 1 of the FIX Protocol specification.
* **Description -** A definition of the field. The description of the field should be sufficiently descriptive and meaningful but should be generic enough that the field can be reused. For specific message or component context based usage rules these should be described as field usage text within the message or component in which the field is included.

 **Enumerations** - When a field requires enumerations, these are included within the **Description** column of the Data Dictionary table. When enumerations are to be defined for a new field, the field should be of *int* data type and the enumerated values be integers starting at 0 (zero). If the field is to have a default enumeration value that is implied by the omission of the field, the default value must be assigned the value 0 (zero). All enumerations must have a short description included that provides sufficient meaning for the enumeration value. A longer elaboration or description for the enumeration may also be included.

* **FIXML Abbreviation** - The abbreviation for the field when used in FIXML Schema. The submitter is not required to supply the abbreviation, but it will need to be entered in conjunction with the GTC before ratification of the proposal. If the submitter is familiar with the abbreviation rules or convention, the submitter is encouraged to supply a proposed FIXML abbreviation; however, this is subject to review and change by the GTC. If new terms require abbreviation, propose the abbreviation for the new term(s) in Appendix C.
* **Add to / Deprecate from Message type or Component block** - Identify the message types or component blocks in which to apply the Action for the field.

| **Tag** | **FieldName** | **Action** | **Datatype** | **Description** | **FIXML Abbreviation** | **Add to / Deprecate from Message type or Component block** |
| --- | --- | --- | --- | --- | --- | --- |
| 8 | BeginString | CHANGE | String | Identifies beginning of new message and session protocol version by means of a session profile identifier (see [FIX Session Layer](https://www.fixtrading.org/standards/fix-session-layer-online/) for details). ALWAYS FIRST FIELD IN MESSAGE. (Always unencrypted).Valid values:FIX.4.2 = Session profile FIX.4.2FIX.4.4 = Session profile FIX4FIXT.1.1 = Session profile FIXT or LFXIT [Elaboration: The choice between FIXT and LFIXT is subject to counterparty agreement.] | @BeginString |  |
| 1128 | ApplVerID | CHANGE | String | Specifies the ~~service pack release~~ application layer version being applied at message level. ~~Enumerated field with values assigned at time of service pack release~~ | @ApplVerID |  |

# Appendix B - Glossary Entries

This section, if included, should contain a table with terminology to be included in the FIX specification Glossary in Volume 1. These are usually business terms that are defined to help readers understand the relevant space for the proposal.

* **Term** - The business term.
* **Definition** - The definition of the term. If a term has different definitions in different contexts or for different asset types, include and identify fully these differing definitions. If the definition is copied or paraphrased from a source, identify the source in parentheses after the definition.
* **Field where used** - Identifies the FIX field name for the field where this term is used.

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| **Term** | **Definition** | **Field where used** |
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# Appendix C - Abbreviations

When new fields, components, and messages are added to the FIX Specification, an abbreviated name that is primarily used for FIXML (at this time) must be created for them. Abbreviations are standardized within the FIX Specification. A list of abbreviations is maintained in the FIX Repository. You can access the current list of abbreviations via FIXimate on the FPL website. If abbreviations do not exist, use this table to define additional abbreviations required for your proposal. New abbreviations are subject to final approval of and may be changed by the GTC.

If you are not comfortable proposing new abbreviations, the "Proposed Abbreviations" can be omitted and the GTC will assign new abbreviations.

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| **Term** | **Proposed Abbreviation** | **Proposed Messages, Components, Fields where used** |
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# Appendix D - Usage Examples

This is an optional 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.

**Example 1: New enumeration value**

* FIX session runs FIX 4.2 (BeginString(8)=“FIX.4.2”)
* Business requirement to support SEC rule change (SR-FINRA-2012-026) relating to the handling of stop and stop limit orders
* A stop order that is triggered by a bid or offer price movement (quote) at which point the stopped order becomes a market/limit order, also known as “stop [limit] on quote” in the US
* FIX Latest is to use new values of OrdType(40) that were added by EP166
	+ BeginString(8)=“FIX.4.2”
	+ OrdType(40)=R (Stop on Bid or Offer) a.k.a. “stop on quote” in the US
	+ OrdType(40)=S (Stop Limit on Bid or Offer) a.k.a. “stop limit on quote” in the US

**Example 2: Repeating group structure**

* FIX session runs FIX 4.2 (BeginString(8)=“FIX.4.2”)
* Application currently uses ExecBroker(76) to identify the executing firm
* MiFID II requirement to convey LEI of the executing firm as well as the investment decision maker
* FIX Latest is to move away from ExecBroker(76) and use the Parties component instead
	+ BeginString(8)=“FIX.4.2”
	+ NoPartyIDs(453)=2
	+ PartyRole(452)=1 (Executing firm), PartyIDSource(447)=N (LEI)
	+ PartyRole(452)=122 (Investment decision maker)

**Example 3: New message type**

* FIX session runs FIX 4.2 (BeginString(8)=“FIX.4.2”)
* Business requirement to support trade reports in addition to execution reports
* Choices
	+ Use a user-defined message TradeCaptureReport(35=UAE)
	+ Use the standard message TradeCaptureReport(35=AE) with its required fields and values
* FIX Latest is to use the TradeCaptureReport(35=AE) message as-is
	+ BeginString(8)=“FIX.4.2” in both ExecutionReport(35=8) and TradeCaptureReport(35=AE)
1. The LFIXT session profile uses the same BeginString(8) value as the FIXT session profile. The use of LFIXT and its mode of operation must be agreed upon out-of-band by counterparty agreement. [↑](#footnote-ref-1)