

Maintenance of the FIX Protocol

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FIX Background

On April 23rd, 1999, FIX Protocol Limited was established. As a private company limited by guarantee and formed in the United Kingdom under the Companies Acts of 1985 and 1989, FIX Protocol Limited acts as the global umbrella for all FIX Protocol activities.

Structurally, FIX is run by a Global Steering Committee that contains the co-chairs of regional steering committees in the U.S., Europe and Tokyo.

On the technical side, there is a Global Technical Committee that reports to the Global Steering Committee. The Global Technical Committee is responsible for maintaining the FIX specification and the FIX web-site. The committee is composed of buy and sell side representatives from member firms whose responsibility is to ensure that the protocol supports the needs and requirements of the industry by leveraging their firm's specific implementation experiences. A buy-side co-chairman and sell-side co-chairman head the FIX Technical Committee.

Membership in FIX Committees is generally reserved for members of buy and sell side firms. However, specific technical and business working groups, which address unique needs and new work items are open to all interested parties. Technical working groups report their recommendations to the Global Technical Committee and business working groups report to the steering committees.

The FIX Committee's stated mission is "To improve the global trading process by defining, managing, and promoting an open protocol for real-time, electronic communication between industry participants, while complementing industry standards."

Complementing industry standards is important to the FIX Committee and they have worked hard to maintain relationships with other standards bodies like SWIFT for ISO 15022 or the GSTPA.

The FIX Protocol is basically a stream of ASCII characters, which is sent between two counter-parties.

It is actually two protocols in one, Session and Application. The Session Layer handles administrative messages like logon and logoff and also ensures message delivery. The Application Layer focuses on the content and processing of business-level messages like Indications of Interest, Orders, Execution Reports and Allocations. All of the Application Layer messages have to be delivered via the Session Layer.

FIX is currently designed for point-to-point communication between two FIX systems with optional support to handle one system representing multiple firms via the same FIX connection. FIX currently does not support the sending of broadcast-style information.

A FIX message consists of three parts, Header, Body, and Trailer. A Header identifies message type, length and addressing information. The Body contains the content of the actual business level message and the Trailer contains an optional digital signature and the required check sum. The Header, Body and Trailer sections contain FIX Fields that are composed of four parts, the tag, an equal sign, the value and a delimiter, which is the non-printing ASCII character with the value of one.

FIX Protocol Change History

July, 1994 - FIX 2.7

August, 1995 - FIX 3.0

January, 1996 - FIX 4.0

April, 1998 - FIX 4.1

All of the latest versions of the FIX Protocol Specification are freely available via the FIX web-site.

Since 1994, there have been four releases of the FIX Protocol and the current version is FIX 4.1. For 1999, it was decided that the FIX Committee would not release any new versions. This decision allowed implementers to focus on Y2K issues and also catch up to the latest version of the protocol.

Web-site

The FIX web-site, www.fixprotocol.org, contains, along with the latest version of the FIX Specification, a Discussion section which enables users to post questions and issues on a variety of topics. For instance, there are currently Discussion Groups on "General Q/A", "Allocations", "International", "4.0 Session", "Fixed Income", "4.1 Changes", "Exchanges", "Encryption", "FIXML", "Options", "List Trading", and "Japanese FIX". Users can register to receive updates to any of the discussion groups via e-mails and post their responses via the web-site.

FIX Technical Committee members regularly respond to questions posted on the web-site and also maintain a list of any discussion related changes or additions to the protocol.

Working Groups

A FIX Working Group is generally established to solve a technical or business issue currently not being properly addressed by the protocol.

For example, as of FIX version 3.0, the Allocation message was not being widely used so a working group was established to improve it. The goal was to provide the institution a vendor independent way of sending trade allocation details to the broker and also leverage off of existing investment in FIX. The Allocation working group prepared a proposal for the required changes and in FIX 4.0 the FIX US Allocation model was adopted.

Some of our current work items relate to extensions for the Japanese market place, Book messages for the ECNs, and FIXML.

Working Group Steps

- Business or technical issue is identified
- Working group is established and leader is chosen.
- Working group has periodic meetings to discuss the issue
- Working group prepares proposal for changes required to specification
- Proposal is vetted and discussed by working group
- Draft is circulated for wider distribution via the working group section of the web-site
- Final Proposal is presented to the FIX Technical Committee for adoption
- FIX Technical Committee votes on the required changes
- Approved changes are added by the co-chairs to the "Proposed Changes" document for adoption in the next version of the specification.

FIX Technical Co-chairs

The technical co-chairs responsibilities include:

- Maintaining two documents (Errata and Proposed Changes) related to changes to the FIX Protocol.
- Assigning reserved tag numbers to allow for development of new work items.
- Scheduling and running FIX Technical Meetings
- Maintaining FIX web-site
- Providing the Steering Committees updates on the status of the FIX Working Groups.
- Preparing and distributing new versions of the FIX Specification

Changes to the FIX Protocol

Proposed changes and clarifications maintained by technical co-chairs are discussed at FIX technical meetings held approximately every two months.

Changes to the FIX specification come in two forms:

- Clarifications
- Proposed Changes
 - Modifying field values
 - Modifying message types
 - Adding new message types

Clarifications

The Global FIX Technical Committee maintains an Errata that contains a list of minor adjustments to the latest FIX specification. Specifically, this document comprises corrections of typographical errors and clarification of protocol ambiguities.

Items listed in the Errata do not introduce new functionality, new field values or messages. The FIX Technical Committee reviews and approves the items and ensures that they will be incorporated into the next version of the specification.

It is suggested that implementers will use the Errata along with the latest version of the specification to ensure the most consistent implementation and clearest understanding of the FIX protocol.

Proposed Changes

Proposed changes generally progress through different states (i.e. proposed, recommended, and approved) towards adoption and implementation.

Prior to release of a new version of the FIX specification, a Proposed Changes document is maintained to:

- Track additions/modification/subtractions to valid values of current FIX fields.
- List additions/modification/subtractions to FIX fields in existing message types.
- Document new message types.

The information contained in the Proposed Changes document is added based on web-site discussions, new work items, or questions posed directly to the FIX Technical Committee.

Producing the next version of the FIX Protocol Specification

Generally once a year, the Global Technical Committee will release a new version of the FIX specification.

Basic Steps

- A vote is held to determine whether the changes warrant a full point change versus a sub-point change (For example FIX 3.0 to FIX 4.0 versus FIX 4.0 to FIX 4.1).
- The current FIX specification is modified to incorporate the contents of the Errata and Proposed Changes documents.
- The specification is then sent to members of the Global Technical Committee for pre-draft review and comment.
- After review and modification by the Global Technical Committee, an announcement is made on the FIX web-site that the first draft of the latest specification is available to the general public. The announcement outlines the draft process which entails the following:
 - public review of draft #1 - six weeks
 - editing to incorporate feedback from draft #1 - one week
 - public review of draft #2 - six weeks

- editing to incorporate feedback from draft #2 - one week
- public review of draft #3 for correction of typographical errors only - one week
- final release
- A web-site discussion forum is the primary vehicle for feedback and comments on public release and review of the drafts.