



# CME Trading System Identification Extensions

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## Document History

Revision	Date	Author	Revision Comments
0.1	January 14, 2010	Matt Simpson	Initial draft
0.2	February 5, 2010	Matt Simpson	Split into two proposals
0.3	March 3, 2010	Jim Northey	Revised per direction from GTC call
0.4	March 9, 2010	Jim Northey, Ryan Pierce	Revised the names of the fields and deferred the Session Level Extension Pack to the next version of the FIX session layer.

## 1 Introduction

CME is requesting changes to allow trading system connecting to the exchange to be identified using a static value in the Logon message.

## 2 Business Requirements

### 2.1 Logon Extensions

CME is planning to capture the client trading system and trading system version that has initiated a session as well as the vendor of that trading system. CME proposes extending the Logon message in order to do this. Three fields would be added to the Logon message for this purpose. These fields could be used bi-directionally so that connected trading systems could be mutually identified at Logon.

The fields being proposed are:

- Application System Vendor – carries a string that identifies the vendor of the connected trading system
- Application System Name – carries a string value that identifies the connected trading system
- Application System Version – carries a string value that identifies the version of the connected trading system

Separate fields are being proposed to avoid the complexities of parsing out version from the trading system name. Trading system vendors rely heavily on versioning when differentiating their software, and it is important to differentiate the version that is being used to route orders. Some examples from the marketplace are:

Application System Vendor	Application System Name	Application System Version
Trading Technologies International, Inc	TT CME Gateway	7.6.0
Trading Technologies International, Inc	TT FIX Adapter	7.5.0
Patsystems	CME iLink	6.3.2
Patsystems	FIX Link	3.3.3
FFastFill	TraderPro	1.5.1

## 3 Issues and Discussion Points

### 3.1 FIXT versioning

The FIX session layer messages are considered distinct from the FIX Applicationlayer messages as of the introduction of FIXT.1.1 and FIX 5.0. The primary issue with making any changes to session layer messages is how to identify the change. The GTC contemplated two approaches:

- Increment the FIXT version. The collective thinking has been to update the minor numbers for field additions and other changes that are not core to the functioning of the FIXT session layer. The major number would only be updated when substantive changes to the FIXT session layer were introduced, such as the proposed addition of new delimiters.
- Create a new concept called Session Extension Packs.

The alternative not to properly identify changes to the session layer was considered inappropriate and problematic for implementers, and therefore abandoned quickly.

The GTC felt that incrementing FIXT.1.1 to FIXT.1.2 for the addition of a few fields to the Logon message would create unnecessary disruption to the FIX community and would leave to further fragmentation in terms of adoption.

However, those needing enhancements to FIXT are not provided a mechanism to do so in a timely manner.

This inability to respond in the a timely manner is reminiscent of issues with the application layer, which led to the creation of Extension Packs (EPs). EPs were introduced to address the problem of timely delivery of officially approved enhancement to FIX, without the need to wait for the next version or Service Pack release. The GTC suggested, during the review of this proposal, a similar mechanism, e.g, a Session level Extension Pack (SEP) process, that should be introduced to allow for rapid approval and deployment of session level changes.

However, the GTC felt that adding support for SEPs would similarly create fragmentation and adoption issues. To balance the needs of the CME to extend the session layer with the desire of delaying adoption of any change that will fragment the standard, the GTC suggested the following:

- An analysis will be conducted of additional requested session level functionality.
- The CME proposal, along with the other similar proposals, will be bundled together in a future unspecified FIXT version.
- This next version of FIX will incorporate SEPs, so that future small changes to the session layer can be accomplished rapidly, without the need for a new FIXT release.
- To accomplish the immediate needs of the CME, FPL will assign field numbers for the fields they have requested, however the FIXT.1.1 Logon message will not be modified in the Repository. Firms may use the assigned fields to implement this new functionality in the Logon message by bilateral consent.

### **3.2 Additional system identifiers**

The primary motivation behind introducing Application System identification was to improve information available for operational support of FIX based communication. In discussions with GTC members, there was a sentiment that, in addition to the Application System identification, it would be quite useful to be able to capture the counterparty's FIX Engine or Gateway system identification. This led to the proposal that a repeating group of system identifiers be provided. This was weighed against creating specific fields for Application System, FIX Engine or Gateway, etc.

The only two scenarios that seemed to have relevancy are the application level system generating the FIX messages, heretofore referred to as ApplicationSystem and the FIX Engine or FIX Gateway that is adjacent to the receiving system, heretofore referred to as FIXEngine.

### **3.3 Reducing the impact of change**

The participants on the GTC call felt that it was paramount that disruptions to the session layer be held to a minimum. The proposed approach to minimize disruption is to add fields to identify the originating application and the adjacent FIX Engine or Gateway with specific fields that are not a part of a generic repeating group. It was felt that using a repeating group, albeit somewhat appealing from an extensibility perspective, would be more likely to break FIX Engines or Gateways, as doing so might cause them to fail should they encounter an unexpected repeating group. The addition of six fields to identify application and infrastructure level components would likely be tolerated by FIXT.1.1 compliant FIX processing applications.

### **3.4 Session Level Extension Packs**

Creation of Session Level Extension Packs is not something that will be implemented immediately. However, the approach envisioned is to create a SessionExtensionID (SessExtID) field which will be added to the Logon message to identify the appropriate FIX Session Extension Pack (SEP).

SEPs will be assigned an integer value serially, similar to Extension Packs, The number range of SEPs shall be managed separately from Extension Packs. SEPs, like their EP counterpart, will be collected and, at a point determined by the GTC, released as a new FIXT version.

The FIX Repository infrastructure shall be enhanced to support Session Extension Pack processing. The Repository Working Group shall be responsible for guiding the design and implementation of the Session Extension Pack concept.

The FIXT.1.1 Specification will not be updated to include Session Extensions Packs. This will be added to the next released version of FIXT.

## 4 FIX message tables

### 4.1 Logon

The Logon message is being extended to carry two additional fields related to identification of trading systems

#### Logon

Tag	FieldName		Req'd	Comments	Action	Mapping Usage/ Comments
	StandardHeader		Y	MsgType = A		
98	EncryptMethod		Y	(Always unencrypted)		
108	HeartBtInt		Y	Note same value used by both sides		
95	RawDataLength		N	Required for some authentication methods		
96	RawData		N	Required for some authentication methods		
141	ResetSeqNumFlag		N	Indicates both sides of a FIX session should reset sequence numbers		
789	NextExpectedMsgSeqNum		N	Optional, alternative via counterparty bi-lateral agreement message gap detection and recovery approach (see "Logon Message NextExpectedMsgSeqNum Processing" section)		
383	MaxMessageSize		N	Can be used to specify the maximum number of bytes supported for messages received		
384	NoMsgTypes		N	Specifies the number of repeating RefMsgTypes specified		
à	372	RefMsgType	N	Specifies a specific, supported MsgType. Required if NoMsgTypes is > 0. Should be specified from the point of view of the sender of the Logon message		
à	385	MsgDirection	N	Indicates direction (send vs. receive) of a supported MsgType. Required if NoMsgTypes is > 0. Should be specified from the point of view of the sender of the Logon message		
à	1130	RefApplVerID	N	Specifies the service pack release being applied to a message at the session level. Enumerated field with values assigned at time of service pack release		
à	1131	RefCstmApplVerID	N	Specifies a custom extension to a message being applied at the session level.		
464	TestMessageIndicator		N	Can be used to specify that this FIX session will be sending and receiving "test" vs. "production" messages.		
553	Username		N			
554	Password		N	Note: minimal security exists without transport-		

			level encryption.		
1137	DefaultApplVerID	Y	The default version of FIX being carried over this FIXT session		
1600	FIXEngineName	N	Name of product or system responsible for communicating FIX messages, such as a FIX Engine or FIX Gateway.		
1601	FIXEngineVersion	N	The version of the product or system responsible for communicating FIX messages, such as a FIX Engine or FIX Gateway.		
1602	FIXEngineVendor	N	The version of the product or system responsible for communicating FIX messages, such as a FIX Engine or FIX Gateway.		
1603	ApplicationSystemName	N	Provides the name of the application system being used to create application level messages.	Add	
1604	ApplicationSystemVersion	N	Provides the version of the application system.	Add	
1605	ApplicationSystemVendor	N	Provides the vendor of the application system.	Add	
	StandardTrailer	Y			

## 5 FIX component blocks



## 6 Appendix A - Data Dictionary Extensions

Tag	Field Name	Action	Data type	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
1600	FIXEngineName	Add	String	Provides the name of the infrastructure component being used for session level communication. Normally this would be the FIX Engine or FIX Gateway product name.		Add to Logon
1601	FIXEngineVersion	Add	String	Provides the version of the infrastructure component.		Add to Logon
1602	FIXEngineVendor	Add	String	Provides the name of the vendor providing the infrastructure component.		Add to Logon
1603	ApplicationSystemName	Add	String	Provides the name of the application system being used to generate FIX application messages. This will normally be a trading system, OMS, or EMS.		Add to Logon
1604	ApplicationSystemVersion	Add	String	Provides the version of the application system being used to initiate FIX application messages.		Add to Logon
1605	ApplicationSystemVendor	Add	String	Provides the vendor of the application system.		Add to Logon

## 7 Appendix B - Glossary Entries

Term	Definition	Field where used

## 8 Appendix C - Usage Examples