



**FINANCIAL INFORMATION
EXCHANGE PROTOCOL
(FIX)**

Version 5.0 Release Notes

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FIX 5.0 Release Package Overview

The FIX Protocol Version 5.0 release is a culmination of over 20 Extension Packs (EP) reviewed and approved by the GTC since the publication of FIX Protocol Version 4.4 with Errata in June 2006. These release notes provides a concise summary of the features that have been added to the FIX Protocol. The features described here support new or augmented business processes which have been formally incorporated in the specification through individual extension packs. Extension packs represent a set of discreet functionality that has been requested by a working group, committee or member and approved by the Global Technical Committee (GTC) for inclusion into the protocol.

With this release the FIX Global Technical Committee has introduced a new framework called Transport Independence (TI). Under the TI framework the FIX Session Protocol and the FIX Protocol (the application layer messages) have been separated. This allows the FIX Protocol messages to sent via any appropriate session transport technology (e.g. MQ, WS-RX, message bus) in addition to the FIX Session Protocol.

This release included 8 new message types, 183 new tags, and 8 new component blocks.

The documentation for FIX Protocol Version 5.0 and these release notes are available on the FIX website at <http://www.fixprotocol.org/specifications>.

FIX Specification Volumes

The specification volumes have been updated to include new and revised message tables where appropriate as well as text describing the new features. Volumes 1 through 7 continue to make up the core of the specification with the most significant change being made to Volume 2 to represent the Transport Independence capability and the fact that the FIX session layer is now one of several transport options. Volume 2 will now address any viable transport which can be used to send FIX messages and contain references to detailed specifications for each transport. The FIX session layer is now be contained in a separate FIX Transport Specification document which provides the same complete elaboration on the FIX session layer.

FIXimate

FIXimate continues to be a core part of the specification suite as a reference tool. It has been updated to contain the new fields, component blocks and messages. The format of FIXimate has changed to make it easier to use. Message categories can now be collapsed and expanded to suit the users' needs and allows more information to be displayed in the window. The DTD syntax, no longer relevant, has been removed to make space for more helpful information and the a "where used" cross-reference for component blocks has been added. For FIXML users, the XML attribute name has been added to the lower frame and is useful in providing quick lookups for FIXML syntax.

FIXML Schema

The FIXML Schema 5.0 is also available as part of the release and continues to be fully compatible with the tag/value syntax. Improved descriptions of the schema design rules and schema structure have been included in Volume 1.

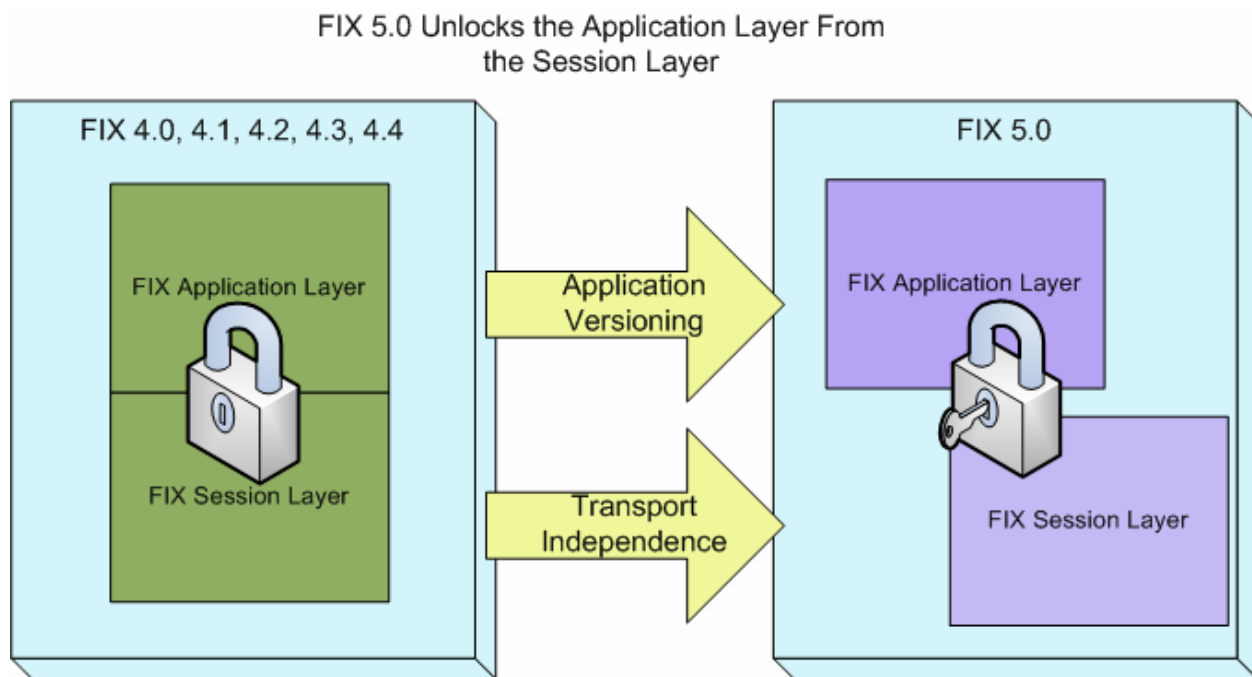
FIX Repository

The Repository continues to be available as part of the FIX 5.0 release and reflects all updates and changes.

Overview of Transport Independence and Release Management in FIX 5.0

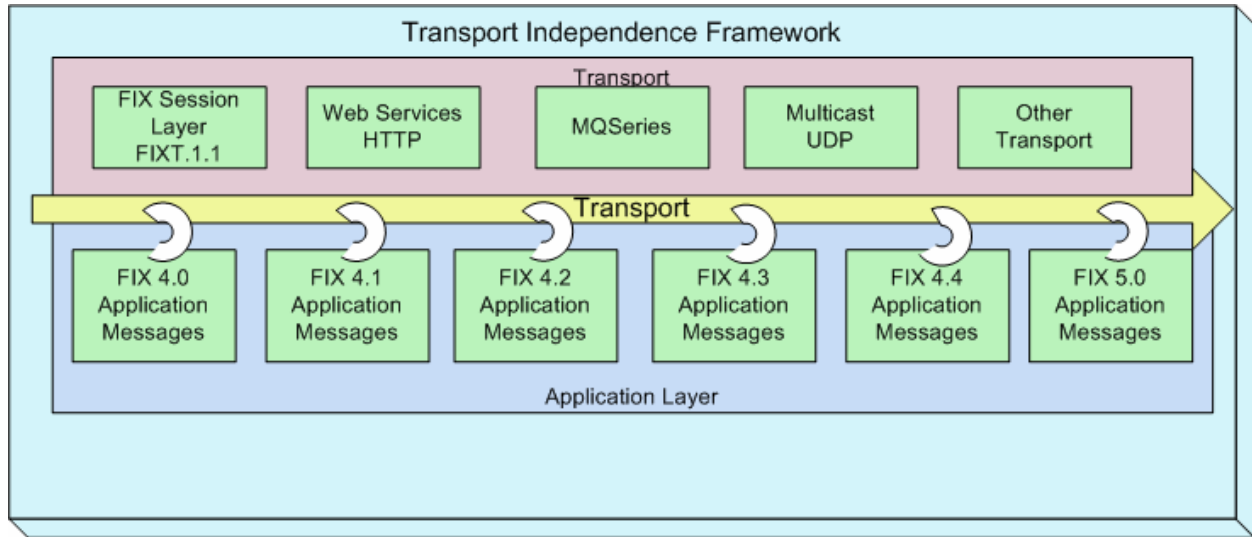
With the release of FIX 5.0 in October 2006, the FPL Global Technical Committee (GTC) introduced a new framework, the transport independence (TI) framework, which separated the FIX Session Protocol from the FIX Application Protocol. Under the TI framework the application protocol messages can be sent over any suitable session transport technology (e.g. WS-RX, MQ, publish/subscribe message bus), where the FIX Session Protocol is one of the available options as a session transport for FIX application messages. From this release forward the FIX Application layer and the FIX Session layer will have their own versioning moniker. The FIX Application layer will retain the traditional version moniker of "FIX x.y" while the FIX Session layer will utilize a new version moniker of "FIXT x.y" (note that the version numbers will be independent of each other). The diagram below illustrates how previously the FIX Session layer was tightly coupled to the Application layer. With the advent of Application Versioning and Transport Independence, the FIX Session and Application layers have been decoupled and are now independent.

This Volume of the FIX Protocol Specification will not discuss any particular session protocol, but will provide pointers to documents that describe the various transport protocols that the GTC has investigated and provided recommendation on how they should be used within the TI framework.



Transport Independence (TI) Framework

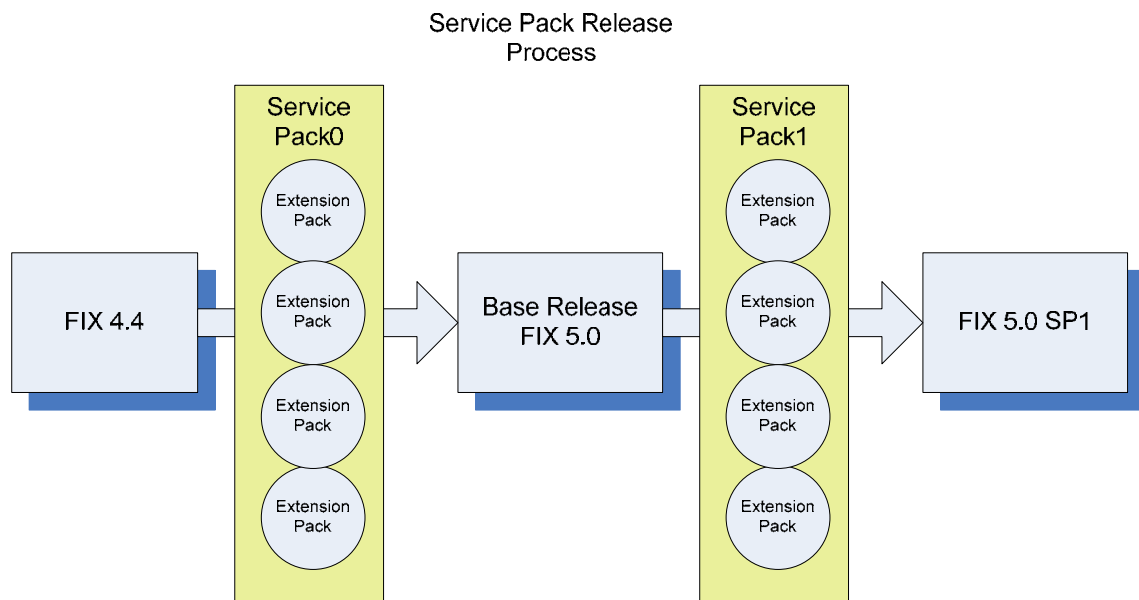
The transport independence (TI) framework separates the previously coupled FIX Session layer from the FIX Application layer. Under this framework the FIX Application Protocol can use any transport technology in addition to the FIX Session Protocol. The diagram below illustrates how various transport mechanisms, including the FIX Session layer, can be used to carry the full suite of FIX Application versions.



To support this framework a key new field has been added called *AppVerID* (application version ID, tag 1128). Depending on the use case *AppVerID* may be optional or required. Additionally, the FIX field *BeginString* will no longer identify the FIX application version, but identifies the FIX Session Protocol version. The sections below discuss the four main use cases supported by the TI framework.

Application Versioning

Application Versioning allows extensions to the current base application version to be applied using a formal release process. Extension Packs represent the individual gap analysis proposals submitted to the GTC for review and approval. Extension Packs are grouped into Service Packs and are applied to the base application version, usually the most current FIX application version. A new application version is formed when a new Service Pack is applied to a base version. In the diagram below, FIX 4.4 has been extended via Service Pack 0, forming a new application version called FIX 5.0. As new Extension Packs are approved they will be grouped into Service Pack 1 which is then released to form the next application version identified as FIX 5.0 SP1. These application versions are expressed using the new tag *AppVerID*.



Service Pack Management

ApplVerID is an enumerated field. These enumerations are used to express prior versions of FIX inclusive of FIX 4.0, 4.1, 4.2, 4.3 and 4.4 as well as the most recent version, FIX 5.0. Going forward, service packs will be applied to the base version, in this case FIX 5.0, and will be identified as FIX Version + Service Pack . This means that FIX 5.0 will be represented as an enumeration (7) rather than as an actual value in the ApplVerID field. Service Pack identifiers will consist of the base FIX version, the service pack number for that version, and the date the service pack was released. For example, the assigned value for service pack 1 may be “FIX 5.0 SP1 June 30, 2007”.

Extension Pack Management

Extension Packs are the building blocks of a Service Pack and represent specific functional proposals that have been presented to the GTC. Prior to the release of a Service Pack, Extension Packs are applied to the most recent version of the repository so that they can be used at the point they become available. Extension Packs are applied to the repository in a cumulative manner and will at some point culminate in a Service Pack release. Extension Packs management will be conducted as follows:

1. Extension Packs will be assigned a unique, sequential number at the point they are approved by the GTC
2. Extension Packs are applied to the most recent version of the repository and may be inclusive of prior Extension Packs
3. At the point an Extension Pack has been applied, the updated repository, schema, and message tables will be available
4. When implementing a specific Extension Pack, the field CustomApplVerID (1129) will be used to specify the Extension Pack Identifier
5. User's of an Extension Pack need not implement other Extension Packs present in the repository. Rules of engagement need to be bilaterally agreed on.

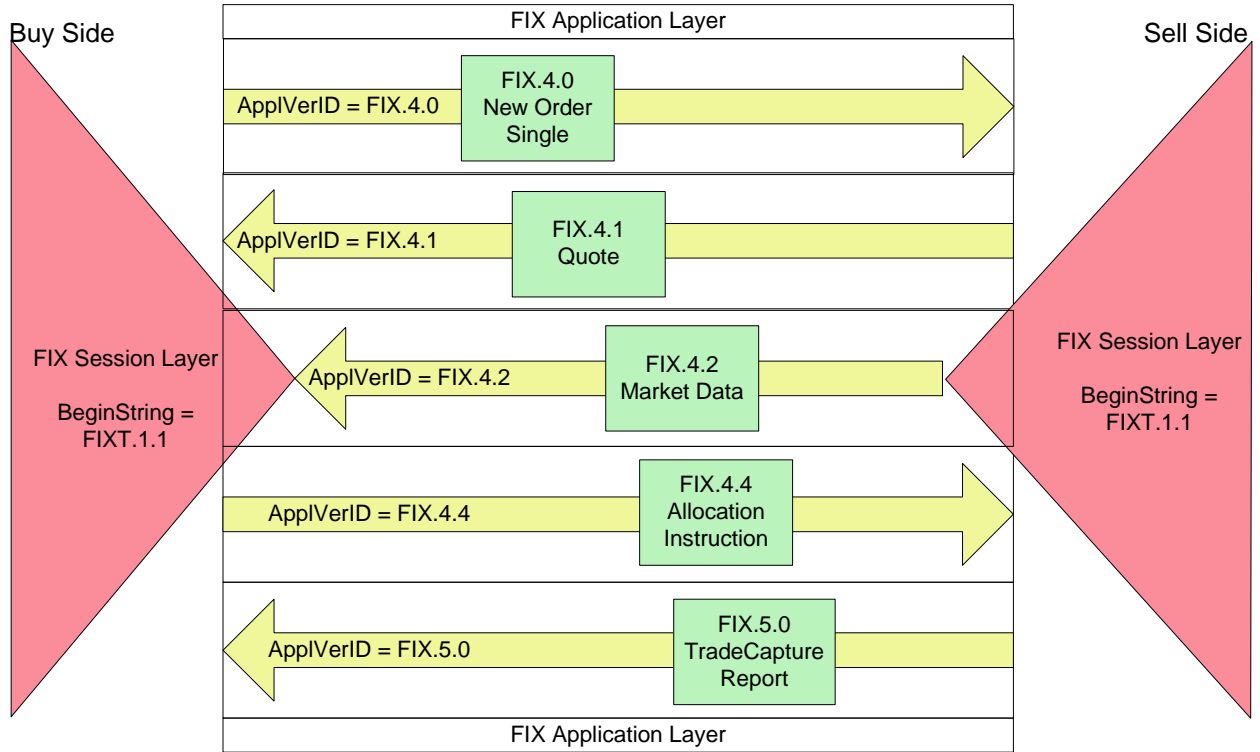
Flexibility Provided by FIX 5.0

This is the ‘GTC approved’ approach which separates the FIX session layer from the application layer, provides support for application versioning, and creates a platform for transport independence. This approach will treat the FIX session like ‘any other’ transport and allow the unambiguous use of any application version via the *ApplVerID* field. A value of FIXT.1.1 in the *BeginString* of the FIX Session will indicate that application versioning is in effect and the version should be determined either through the Logon's *NoMsgType* repeating group or the *ApplVerID* field. Future extensions to the session layer or application layer will be supported independent of each other as point releases to *BeginString* and *ApplVerID*, respectively. Major Tags describing the session and application versions are: *BeginString*=FIXT.1.1 (or later versions) and *ApplVerID*=FIX.5.0¹ or later versions. A *BeginString*=FIX.5.0 (or later versions) will not be valid.

The diagram below illustrates how the new FIXT.1.1 Session layer makes use of the ApplVerID in the Application layer in order to support a broad set of application versions. ²

¹ The value FIX.5.0 will be represented using enumeration 7

² FIX.4.0, FIX.4.1, FIX.4.2, FIX.4.3, FIX.4.4, FIX.5.0 are represented using enumerations



FIX 5.0 Extension Pack (EP) Summary

The Extension Packs included in this FIX 5.0 release of the application layer messages include the following. A summary of changes for each EP are in their respective sections below. For details on each EP please refer to the EP documentation set posted on the FPL website.

1. Unapplied FIX 4.4 Errata Items (EP1)
 2. Algorithmic Trading Extension (EP2)
 3. Cross Order Extension (EP3)
 4. Futures Industry Association (FIA) 1.0 Extension (EP4)
 5. FIA 1.1 Extension (EP5)
 6. Reg NMS Extension (EP6)
 7. Market Data Optimization Extensions (EP7)
 8. FIA Errata (EP8)
 9. OATS Phase3 Extension (EP9)
 10. Execution Acknowledgement Extension (EP10)
 11. Trade Capture Trade ID Extension (EP11)
 12. Collateral Reporting for Listed Derivatives Extension (EP12)
 13. Large Trader Reporting for Listed Derivatives Extension (EP13)
 14. External Routing Extension (EP14)
 15. Instrument Type for FpML Integration Extension (EP15)
 16. Transport Independence (EP16)
 17. Allocations for Options Extension (EP17)
 18. User Defined Spreads Extension (EP18)
 19. Listed Derivatives Party Roles Extension (EP19)
 20. FX Phase1 Extension (EP21)
 21. OMX Order Routing Extension (EP22)
 22. OMX Trade Capture Extension (EP23)
 23. Chinese STEP 1.0 Extension (EP24)
 24. MiFID Extension (EP26)
 25. Exchange Special Instructions (EP29)
- (EP20, EP25, EP27 and EP28 are administrative cleanup EPs)

1. EP1 - Unapplied FIX 4.4 Errata Items

FIX 4.4 Errata Items contains a small set of corrections that are being posthumously applied to the FIX 4.4 specification.

- Added "Security Locate ID" as a new enum to PartySubIDType (803) to be used in identifying the provider of stock for a short sell trade.
- Added the following new enums to SettlSessID (716): :ITD" (Intraday), "RTH" (Regular Trading Hours), "ETH" (Electronic Trading Hours)

- Added SettlCurrency (120) to the Settlement Instruction and Settlement Instruction Request messages.
- Added LegOrderQty (685) to the NoLegs repeating group in the following message: New Order Multileg, Execution Report, Quote, Quote Request, Quote Status, Quote Request Reject, Quote Response.
- The field LegQty (687) was deprecated from the following messages: New Order Multileg, Quote, Quote Request, Quote Status, Quote Request Reject, Quote Response.

2. EP2 - Algorithmic Trading Extension

The Algorithmic Trading Extension provides a more complete and flexible way of specifying and identifying strategies for order execution. For most firms, there are a growing number of strategies that need additional parameters. Several firms have come up with a variety of implementations and have been adding custom tags to support their requirements. In order to standardize the passing of additional parameters for strategies and create a more flexible implementation to support algorithmic trading a repeating group has been added to capture the parameters of a strategy. This repeating group will be added to all messages that currently have the TargetStrategy tag.

- Added new fields NoStrategyParameter (957), StrategyParameterName (958), StrategyParameterType (959), StrategyParameterValue (960) to form the new NoStrategyParameters repeating group
- Added the NoStrategyParameters repeating group to the following messages as "not required": New Order Single, New Order Corss, New Order Multileg, Order Cancel/Replace Request, Cross Order Cancel/Replace Request, Multileg Order Cancel/Replace Request and New Order List.

3. EP3 - Cross Order Extension

The Cross Order Extension represents a minor extension to the FIX 4.4 Cross Order Model in order to enhance process use in an exchange-based model as well as provide users with additional flexibility with respect to order definition. Increased control over basic order execution characteristics provides the ability to specify TimeInForce at the side level when each side has its own requirements. Improved management and maintenance on the part of a Central Counterparty through the addition of a host control number has been added.

- Added HostCrossID (961) to Cross Order Cancel Request, Cross Order Cancel/Replace Request and Execution Report
- Added SideTimeInForce (962) to New Order Cross, Cross Order Cancel/Replace Request
- Added TransBkdTm (483) to New Order Cross, Cross Order Cancel/Replace Request

4. EP4 - FIA 1.0 Extension

FIA 1.0 Extension contains significant functionality for the equity options clearing space. The extension is primarily concerned with defining the processes and data elements needed to report options based on an underlying stock, the characteristics of the underlying stock and the delivery requirements associated with the underlying at expiration. Reporting of corporate actions and the need to adjust impacted positions and securities are also addressed in this extension. Multiple new messages for Security and Position Reporting have been added in this extension

- New enumerations were added to the following existing fields: MDEntryType (269), CorporateAction (292), PartyRole (452), TradeReportTransType (487), PosType (703), PosAmtType (707), PosMaintAction (712), SettlSessID (716), PosReqType (724), TradeAllocIndicator (826), TrdSubType (829), TradeReportType (856)
- Position Maintenance Report
 - The following fields were changed from "required" to "not required": Account (1), TransactTime (60), AccountType (581), OrigPosReqRefID (713)
- Position Report

- The following fields were changed from "required" to "not required": Account (1), AccountType (581), SettlPrice (730), SettlPriceType (731), PriorSettlPrice (734), UnderlyingSettlPrice (732), UnderlyingSettlPriceType (733)
- Added new component block called UnderlyingAmount as "not required"
- Trade Capture Ack
 - Changed ExecType (18) from "required" to "not required".
 - Added the following fields to the message: OrdStatus (39), ExecRestatementReason (378), PreviouslyReported (570), PriceType (423), UnderlyingTradingSessionID (822), UnderlyingTradingSessionSubID (823), QtyType (854), LastQty (32), LastPx (31), LastParPx (669), LastSpotRate (194), LastForwardPoints (195), LastMkt (30), TradeDate (75), ClearingBusinessDate (715), AvgPx (6), AvgPxIndicator (819), MultiLegReportingType (442), TradeLegRefID (824), SettlType (63), SettlDate (64), MatchStatus (573), MatchType (574), CopyMsgIndicator (797), PublishTrdIndicator (852) and ShortSaleReason (853)
- Trade Capture Report
 - The following fields were changed from "required" to "not required": TradeReportID (571), TransactTime (60), OrderID (37)
- Assignment Report
 - The following fields were changed from "required" to "not required": AccountType (581), SettlPrice (730), SettlPriceType (731), UnderlyingSettlPrice (732), OpenInterest (746), ExerciseMethod (747), SettlSessID (716), SettlSessSubID (717)
 - Added AssignmentMethod (744) as "not required"
- Market Data - Snapshot/Full Refresh
 - Added MDReportID (963) and ClearingBusinessDate (715) as "not required"
- Security Definition
 - Added SecurityReportID (964) and ClearingBusinessDate (715) as "not required"
 - The following fields were changed from "required" to "not required": SecurityReqID (320), SecurityResponseID (322), SecurityResponseType (323)
- Instrument component block
 - Added SecurityStatus (965), SettleOnOpenIndicator (966), InstrmtAssignmentMethod (1049), StrikeMultiplier (967), StrikeValue (968), MinPriceIncrement (969), PositionLimit (970), NTPositionLimit (971) as "not required"
 - Added new component block called InstrmtParties as "not required"
- UnderlyingInstrument component block
 - Added UnderlyingAllocPct (972), UnderlyingSettlType (975), UnderlyingCashAmt (973), UnderlyingCashType (974) as "not required"
- PositionQty component block
 - Added QuantityDate (976) as "not required"
- Added the following new message types
 - Contrary Intention Report (BO) - supports the reporting of contrary expiration for Saturday expiring options
 - Security Definition Update Report (BP) - supports the reporting of updates to a product security master file.

- Security List Update Report (BK) - supports the reporting of updates to a contract security master file.
- Adjusted Position Report (BL) - used to report changes in position, primarily in equity options, due to modifications to the underlying due to corporate actions.
- Added the following new component blocks
 - Underlying Amount component block - use for supplying underlying amounts, dates and settlement status for derivative positions
 - Expiration Qty component block - used to supply expiration quantities such as Auto Exercise, Non-Auto Exercise, Final Will Be, etc.

5. EP5 - FIA 1.1 Extension

FIA 1.1 Extension provides extended Trade and Allocation Reporting in a 3-party model where a central counter party acts as an intermediary. The model has been designed primarily for listed derivatives but should not be considered limited to this asset class. The business process added allow unmatched trades to be reported from an exchange or ECN into a clearing entity which will then guarantee and report the trades to clearing counterparties. The Allocation Reporting model allows a give-up, take-up model to be executed between counterparties with the a clearing entity standing in between. The allocation process allows trades to be given-up either individually or aggregated into group prior to allocation.

- New enumerations added to the following fields: AllocTransType (71), AllocStatus (87), ExecType (150), PartyRole (452), AllocType (626), AllocReportType (794), TrdType (828), TrdSubType (829), QtyType (854)
- Allocation Instruction
 - The following fields were changed from "required" to "not required": AllocNoOrdersType (857), AvgPx (6)
 - Added Position Amount Data component block as "not required"
 - Added as "not required" SecondaryIndividualAllocID (989), AllocMethod (1002), IndividualAllocationType (992), AllocCustomerCapacity (993), AvgPxIndicator (819), ClearingBusinessDate (715), TrdType (828), TrdSubType (829), CustOrderCapacity (582), TradeInputSource (578), MultiLegReportingType (442), MessageEventSource (1011), RndPx (991)
- Allocation Report
 - Added as "not required" ClearingBusinessDate (715), TrdType (828), TrdSubType (829), MultiLegReportingType (442), CustOrderCapacity (582), TradeInputSource (578), RndPx (991), MessageEventSource (1011), TradeInputDevice (579), AvgPxIndicator (819), SecondaryIndividualAllocID (989), AllocMethod (1002), IndividualAllocationType (992), AllocCustomerCapacity (993)
 - Changed AllocNoOrdersType from "required" to "not required"
 - Added Position Amount Data component block as "not required"
- Allocation Report Ack
 - Added as "not required" ClearingBusinessDate (715), AvgPxIndicator (819), Quantity (53), AllocTransType (71), SecondaryIndividualAllocID (989), IndividualAllocationType (992), AllocCustomerCapacity (993), AllocQty (80)
 - Changed AllocStatus (87) from "required" to "not required"
- Position Report

- The following fields were changed from "required" to "not required": Account (1), AccountType (581), SettlPrice (730), SettlPriceType (731), PriorSettlPrice (734)
- Added MatchStatus (573) as "not required"
- Trade Capture Report Ack
 - Changed TradeReportID (571) from "required" to "not required"
 - Added as "not required" SettlSessID (716), SettlSessSubID (717), AsOfIndicator (1015), TierCode (994), MessageEventSource (1011), LastUpdateTime (779), RndPx (991)
 - Added Position Amount Data component block as "not required"
 - Added TrdCapRptAckSideGrp and UndInstrmtGrp implicit component blocks as "not required"
- Trade Capture Report
 - The following fields were changed from "required" to "not required": TradeReportID (571), PreviouslyReported (570), TransactTime (60), OrderID (37)
 - Added as "not required" TrdRptStatus (939), AsOfIndicator (1015), LegReportID (990), SideQty (1009), SideTradeReportID (1005), SideFillStationCd (1006), SideReasonCd (1007), SideReasonCd (1007), RptSeq (83), SideTrdSubType (1008), AllocCustOrderCapacity (993), AllocMethod (1002), SecondaryIndividualAllocID (989), TierCode (994), MessageEventSource (1011), LastUpdateTime (779), RndPx (991)
 - Added as "not required" SideTrdRegTS component block
- Trade Capture Report Request
 - Added as "not required" LastUpdateTime (779), MessageEventSource (1011)
- Trade Capture Report Request Ack
 - Added MessageEventSource (1011) as "not required"
- Added a new message type called Allocation Instruction Alert (BM) to support notification of group creation and group updates to firms.
- Instrument component block
 - Added as "not required" UnitofMeasure (996), TimeUnit (997)
- Underlying Instrument component block
 - Added as "not required" UnderlyingUnitofMeasure (998), UnderlyingTimeUnit (1000)
- LegInstrument component block
 - Added as "not required" LegUnitofMeasure (999), LegTimeUnit (1001)
- Added a new component block called SideTrdRegTS to convey regulatory timestamps associated with each side of a multilegged trade.

6. EP6 - Regulation NMS Extension

The Regulation NMS Extension includes provision for substantive new rules that are designed to modernize and strengthen the regulatory structure of the U.S. equity markets. Enhancements to the FIX specification focus on identifiers required to assist broker-dealers and trading centers in complying with the Order Protection Rule (Rule 611) and the Sub-Penny Rule (Rule 612, also known as the Minimum Pricing Increment Rule).

The Order Protection Rule applies to Regulation NMS stocks. The FIX specification has been updated to provide support for the Order Protection Rule for:

- Order Identifiers (for electronic trade communication)

- Intermarket Sweep Order Identifiers (for orders and execution reports)
 - Single Execution Requested for Block Trade (for orders)
 - Added new enumerations in ExecInst (18) to support this
- Quote Identifiers (for market data feeds)
 - Manual Quote Identifiers
 - Added new enumeration in QuoteCondition (276) to support this
- Trade Identifiers (for market data feeds)
 - Manual Trade Identifiers
 - Intermarket Sweep Trade Identifiers
 - Added two new enumerations in TradeCondition (277) to support this
- Added new enumerations to CxlRejReason (102), OrdRejReason (103), BusinessRejectReason (380)

7. EP7 - Market Data Optimization Extensions

The Market Data Optimization Extension introduces changes to support book management best practices. The market data specification has also been broadened to support a wider array of business practices and processes in new markets. Changes to support Trading Session Status Reporting and Trading Timetables have also been introduced. Finally, changes have been made to support Foreign Exchange requirements for streaming prices.

- New enumerations added for the following fields: MDEntryType (269), QuoteCondition (276), TradeCondition (277), MDUpdateAction (279)
- Market Data Request
 - Added the following fields as "not required": SettlType (63), SettlDate (64), MDEntrySize (271), Currency (15), MDQuoteType (1070), SettlType (63), SettlDate (64)
 - Added OrderQtyData component block as "not required"
- Market Data Snapshot / Full Refresh
 - Added the following fields as "not required": MDBookType (1021), MDFeedType (1022), MDEntryID (278), OrderCapacity (528), TradeVolume (1020), MDQuoteType (1070), SettlType (63), SettlDate (64), MDEntrySpotRate (1026), MDEntryForwardPoints (1027), OrdType (40), MDOriginType (1024), TradeDate (75), RptSeq (83), DealingCapacity (1048), HighPx, (332), LowPx (333),
 - Added Parties component block as "not required"
- Market Data Incremental Refresh
 - Added the following fields as "not required": MDBookType (1021), MDFeedType (1022), MDPriceLevel (1023), OrderCapacity (528), TradeVolume (1020), MDQuoteType (1070), SettlType (63), SettlDate (64), MDEntrySpotRate (1026), MDEntryForwardPoints (1027), OrdType (4), MDOriginType (1024), TradeDate (75), RptSeq (83), DealingCapacity (1048), HighPx (332), LowPx (333)
 - Added Parties component block as "not required"
- Security Status
 - Added as "not required" FirstPx (1025)
- Trading Session Status
 - Added Instrument component block as "not required"

8. EP8 - FIA Errata

The FIA Errata Extension contains corrections and oversights for the FIA 1.0 and 1.1 Extensions and can be viewed as a supplement to these documents.

- New enumerations added for the following fields: MDEntryType (269), CorporateAction (292), PartyRole (452), TrdSubType (829), TradeReportType (856), EventType (865), MiscFeeType (139)
- Position Report
 - Changed PosReqResult (728) from "required" to "not required"
 - Added the following fields as "not required": PriceType (423), SettlCurrency (120), MessageEventSource (1011), MatchStatus (573), UnderlyingDeliveryAmount (1037)
 - Added UnderlyingAmount component block as "not required"
- Position Maintenance Report
 - The following fields were changed from "required" to "not required": OrigPosReqRefID (713), Account (1), AccountType (581), TransactTime (60)
 - Added the following fields as "not required": PosMaintRptRefID (714), CntraryInstrctnInd (719), PriorSpreadInd (720)
 - Added PositionAmountData component block as "not required"
- Trade Capture Report
 - Changed the following fields from "required" to "not required": TransactTime (60), OrderID (37)
 - Added ExecRefID (19) as "not required"
- Assignment Report
 - Added the following fields as "not required": AssignmentMethod (744), PriorSettlPrice (734)
- Position Maintenance Request
 - The following fields were changed from "required" to "not required": Account (1), AccountType (581), TransactTime (60)
 - Added SettlCurrency (120) as "not required"
 - Changed from "required" to "not required" the Position Amount Data component block (*****awaiting confirmation*****)
- Adjusted Position Report
 - Added as "not required" SettlPrice (730), PriorSettlPrice (734)
- Allocation Report Ack
 - Changed TransactTime (60) from "required" to "not required"
 - Added NestedParties component block
- Security Definition Update
 - Changed original FIA proposed enumerations from "new", "cancel", and "replace" to "add", "delete" and "update"
- Position Amount Data component block
 - Added as "not required" PosCurrency (1055)
- Underlying Instrument component block

- Added the following fields as "not required" UnderlyingCapValue (1038), UnderlyingSettlMethod (1039)
- Added the UnderlyingInstrmtParites component block as "not required"

9. EP9 - OATS Phase III Extension

The OATS Phase III Extension makes provision for an SEC approved rule filing relating to the OATS rules. The amendments implement the OATS requirements for manual orders (OATS Phase III); (2) provide that members are required to capture and report both the time the order is received by the member from the customer and the time the order is received by the member's trading desk or trading department, if those times are different; (3) exclude certain members from the definition of "Reporting Member" for those orders that meet specified conditions and are recorded and reported to OATS by another member; and (4) permit NASD to grant exemptive relief from the OATS reporting requirements in certain circumstances to members that meet specified criteria.

- New enumerations were added to TrdRegTimestamp (770)
- Added the following fields to TrdRegTimestamps component block as "not required": DeskType (1033), DeskTypeSource (1034), DeskOrderHandlingInst (1035)
- Added to ExecutionReport, New Order Single and Order Cancel/Replace Request messages the following as "not required"
 - the TrdRegTimestamps component block
 - the fields ManualOrderIndicator (1028), CustDirectedOrder (1029), ReceivedDeptID (1030), CustOrderHandlingInst (1031), OrderHandlingInstSource (1032)

10. EP10 - Execution Acknowledgement

This proposal is for a new message type to be included as an extension to the FIX Protocol version 4.4. The message is to be called the "Execution Acknowledgement" message type. The GFIC and GFXC, along with the SMA (represented by the MMI; FPL has an active collaboration WG with the MMI) community have asked for a new message type that would allow the Initiator/buy-side to explicitly acknowledge an execution report message. This new message is an optional message.

- new Execution Acknowledgement message type (BN) uses existing fields and component blocks with the addition of a new field, ExecAckStatus (1036)

11. EP11 - Trade Capture Trade ID Extension

The FIA Trade ID Extension provides a new set of trade identifiers for Trade Capture Reporting and allow for a consistent method for identifying a trade entity between a central counterparty and firms.

- Added to Trade Capture Report Request, Trade Capture Report, Trade Capture Report Ack, and Trade Capture Report Request Ack messages the following fields as "not required":
 - TradeID (1003), SecondaryTradeID (1040), FirmTradeID (1041), SecondaryFirmTradeID (1042)
- Added to Allocation Instruction, Allocation Report and Allocation Instruction Alert messages the following fields as "not required":
 - TradeID (1003), and FirmTradeID (1041)

12. EP12 - Collateral Reporting for Listed Derivatives Extension

The Collateral Reporting Extension provides support for a risk-based margining model as used in the listed derivatives industry. The enhanced model allows collateral to be deposited at the clearing house in order to satisfy

clearing margin requirements. The collateral is largely posted on a value basis (market value – haircut) rather than being specifically required as part of transactions like in the Fixed Income industry. In this model collateral may be actively managed independently from the overlying positions as long as the minimum requirement is met.

- Added new enumeration to SecurityIDSource (22), PartyRole (452), SecurityType (167) and FinancialStatus (291)
- Collateral Report
 - Added the following fields as "not required": TransactTime (60), CollApplType (1043), FinancialStatus (291)
- Collateral Response
 - Changed the following fields from "required" to "not required" with the note that these are conditionally required when responding to a Collateral Assignment message: CollAsgnID (902), CollAsgnReason (895)
 - Added the following fields as "not required": FinancialStatus (291), CollApplType (1043), BusinessDate (715)
- Underlying Instrument component block
 - Added the following fields as "not required": UnderlyingAdjustedQuantity (1044) , UnderlyingFXRate (1045), UnderlyingFXRateCalc (1046)

13. EP13 - Large Trader Reporting for Listed Derivatives Extension

This extension allows Large Trader Position Reporting to be incorporated into the “Position Maintenance Request” message. The changes will allow exchanges and regulatory agencies such as the U.S. Commodity Futures Trading Commission to begin accepting Large Trader submissions via FIXML, and it will allow clearing or trading firms, and in particular Futures Commission Merchants (FCM's) to begin submitting Large Trader Data via FIX and FIXML.

- New enumerations were added to the following fields: PosType (703), PosTransType (709), TrdRptStatus (939)

14. EP14 - External Routing Extension

The External Routing Extension supports the requirement for a customer to inform an Exchange, ECN, or ATS that an order may be routed to another market. It also allows a customer to inform an Exchange, ECN, or ATS that an order may not be routed to another market. In this case, an order that locks or crosses the market but which has no match within the Exchange, ECN, or ATS that received the order might be rejected.

- Added new enumerations to ExecInst (18)

15. EP15 - Instrument Type Extension

The Instrument Type Extension acts as an indicator that an FpML instrument definition is carried in a FIX Instrument block.

- Added a new enumeration to SecurityIDSource (22)

16. EP16 Transport Independence and Application Versioning

The Transport Independence Framework separates the FIX session layer from the application layer. This framework also supports Application Versioning which enables different message versions to be used within the same FIX session. As illustration, a user may send FIX 4.4 Allocation messages on the same FIX 4.0 session that is carrying

FIX 4.0 Order and Execution messages. Under the new framework, the session and application layer are now separately delineated. The session layer has been designated as FIXT.1.1 and the application layer as FIX 5.0 or earlier. The added functionality provided by Transport Independence will also allow FIX messages to be carried over other transports such as web services and MQ providing the market with greater flexibility.

- Added the following fields as "not required" in the Standard Header: ApplVerID (1128), CstmAppVerID (1129)
- Added the following fields as "not required" in the Logon message: RefAppVerID (1130), RefCstmAppVerID (1131), DefaultAppVerID (1137)

17. EP17 - Allocations for Options Extension

The Allocations for Options Extension provides the ability to represent the open or close disposition of a trade or position on both the give-up and carry firm side of the allocation. Currently the open or close is expressed via the PositionEffect field in the Allocation Report and Allocation Report Acknowledgment messages. This element refers to the party giving up the trade/position. There is no PositionEffect field which refers to the party receiving the trade/position.

- Added to the field AllocPositionEffect (1047) as "not required" to the following messages:
 - Allocation Instruction, Allocation Instruction Ack, Allocation Report
- Added new enumeration to TrdRptStatus (939)

18. EP18 - User Defined Spreads Extension

User Defined Spreads allow users to construct strategies that support their unique trading and risk needs. In an exchange-centric model, a user may request a custom-designed strategy when the pre-listed instruments offered by an exchange or counterparty are insufficient to meet these needs. If accepted by the exchange or counterparty, it will become a listed instrument. FIX currently provides support for User Defined Spreads through the Security Definition Request and Security Definition messages. LegPrice and LegOptionDelta are being added to allow additional parameterization of the requested spread

- Added as "not required" the field LegOptionRatio (1017) to the following messages: Security Definition Request, Security Definition, New Order Multileg, Multileg Order Cancel/Replace Request, Quote Request, Quote Request Reject
- Added as "not required" the field LegPrice (566) to the following messages: Security Definition Request, Security Definition, Quote Request, Quote Request Reject

19. EP19 - Listed Derivatives Party Roles Extension

The extension provides additional party roles for carrying session-level identifier in the parties block which are useful to clearing firms and other parties receiving trade reports.

- Added new enumerations to the following fields: SecurityType (167), PriceType (423), TrdType (828)

20. EP21 - FX Phase1 Extension

The FX Phase 1 Extension covers Spot, Forwards, FX Swaps and vanilla FX OTC Spot Options. The functionality for each of the instruments covers Streaming prices for spots and outright forwards, Quotes for spots, outright forwards and FX swaps, Orders, Executions and Trade Capture (FX OTC Spot Options only)

- Enhancements to the Market Data messages for FX were included as part of the Market Data Optimization Extension (EP7)

- Added new enumerations to the following fields: SettlType (63), MDReqRejReason (281), QuoteCancelType (298), QuoteRequestRejectReason (658)
- Updated OrdType (40) enumeration description for "3" from "Stop" to "Stop / Stop Loss"
- Quote Request
 - Added LegRefID (654) as "not required"
- Quote
 - Added the following fields as "not required": LegRefID (654), BidSwapPoints (1065), OfferSwapPoints (1066), LegBidForwardPoints (1067), LegOfferForwardPoints (1068)
- Quote Cancel
 - Changed QuoteID (117) from "required" to "not required" with a note that this is conditionally required when cancelling a specific quote
- New Order Multileg
 - Added as "not required" SwapPoints (1069)
 - Changed OrderQtyData component block from "required" to "not required"
- Multileg Order Cancel/Replace Requestset
 - Added as "not required" SwapPoints (1069)
- Execution Report
 - Added the following fields as "not required": AggressorIndicator (1057), CalculatedCcyLastQty (1056), LastSwapPoints (1071), LegSettlCurrency (675), LegLastForwardPoints (1073), LegCalculatedCcyLastQty (1074), LegGrossTradeAmt (1075)
- Trade Capture Report
 - Added the following fields as "not required": CalculatedCcyLastQty (1056), MaturityTime (1079), LastSwapPoints (1071), LegSettlCurrency (675), LegLastForwardPoints (1073), LegCalculatedCcyLastQty (1074), LegGrossTradeAmt (1075), UnderlyingSettlementDate (987), AggressorIndicator (1057)
 - Moved GrossTradeAmt (381) from NoSide repeating group to main level
- Trade Capture Report Ack
 - Added the following fields as "not required": CalculatedCcyLastQty (1056), LastSwapPoints (1071), LegSettlCurrency (675), LegLastForwardPoints (1073), LegCalculatedCcyLastQty (1074), LegGrossTradeAmt (1075)
 - Moved GrossTradeAmt (381) from NoSide repeating group to main level
- Instrument component block
 - Added MaturityTime (1079) as "not required"

21. EP22 - OMX Order Routing Extension

The OMX Order Routing Extension provides a toolbox of useful new features for to manage order flow and behavior. Functionality for Reserve Orders, Peg Orders and Triggered Orders functionality has been improved . Additionally, new features for execution increments, price protection, pre-trade anonymity, acceptable trading counterparties, and others are included in this significant extension. The extensions are valid for equities, and listed derivatives.

- New enumerations added to the following fields: ExecInst (18), OrdType (40), ExecType (150), ExecRestatementReason (378), DiscretionInst (388), PartyRole (452), MatchType (574)

- Execution Report
 - Changed AvgPx (6) from "required" to "not required" with a note that it is not required for markets that don't calculate an average price, otherwise is it required.
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
 - Added the following fields as "not required": MatchType (574), OrderCategory (1115), LotType (1093), PriceProtectionScope (1092), PeggedRefPrice (1095), PreTradeAnonymity (1091), MatchIncrement (1089), MaxPriceLevels (1090)
- New Order Single
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
 - Added the following fields as "not required": MatchIncrement (1089), MaxPriceLevels (1090), PriceProtectionScope (1092), RefOrderID (1080), RefOrderIDSource (1081), PreTradeAnonymity (1091)
- New Order List
 - Added the component block RootParties as "not required"
 - Added the following fields as "not required": MatchIncrement (1089), MaxPriceLevels (1090), PriceProtectionScope (1092), RefOrderID (1080), RefOrderIDSource (1081), PreTradeAnonymity (1091)
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
- Order Cancel/Replace Request
 - Added the following fields as "not required": MatchIncrement (1089), MaxPriceLevels (1090), PriceProtectionScope (1092), PreTradeAnonymity (1091)
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
- New Order Cross
 - Added the component block RootParties as "not required"
 - Added the following fields as "not required": MatchIncrement (1089), MaxPriceLevels (1090), PriceProtectionScope (1092), PreTradeAnonymity (1091)
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
- Cross Order Cancel/Replace Request
 - Added the component block RootParties as "not required"
 - Added the following fields as "not required": MatchIncrement (1089), MaxPriceLevels (1090), PriceProtectionScope (1092), PreTradeAnonymity (1091)
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
- Cross Order Cancel Request
 - Added the component block RootParties as "not required"
- New Order Multileg
 - Added the following fields as "not required": MatchIncrement (1089), MaxPriceLevels (1090), PriceProtectionScope (1092), RefOrderID (1080), RefOrderIDSource (1081), PreTradeAnonymity (1091)
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
- Multileg Order Cancel/Replace Request

- Added the following fields as "not required": MatchIncrement (1089), MaxPriceLevels (1090), PriceProtectionScope (1092), PreTradeAnonymity (1091)
 - Added the component blocks Triggering Instruction and Display Instruction as "not required"
- Order Mass Cancel Request, Order Mass Cancel Report and List Cancel Request
 - Added Parties component block as "not required"
- Trade Capture Report
 - Added RootParties component block as "not required"
 - Added the following fields as "not required": OrderCategory (1115), AggressorIndicator (1057), LotType (1093)
- Trade Capture Report Ack
 - Added as "not required" LotType (1093)
 - Added RootParties component block as "not required"
- Indication of Interest
 - Added as "not required" Parties component block
- Market Data Snapshot / Full Refresh and Market Data Incremental Refresh
 - Added SecondaryOrderID (198) as "not required"
- PegInstructions component block
 - Added the following fields as "not required": PegPriceType (1094), PegSecurityIDSource (1096), PegSecurityID (1097), PegSymbol (1098), PegSecurityDesc (1099)
- New component blocks added
 - Display Instruction
 - Triggering Instruction
 - RootParties

22. EP23 - OMX Trade Capture Reporting Extension

Trade Capture Reporting process has been substantially elaborated and now provides a detailed accounting of a number of different trade reporting models that are common in the equities and listed derivatives industry. The extension also describes the differences between a reporting model based on message chaining and message id verses a model based on a fixed trade entity id.

- Added new enumerations to TradeReportType (856)
- Trade Capture Report Request
 - Added TradeHandlingInstr (1123) as "not required"
- Trade Capture Report and Trade Capture Report Ack
 - Added the following fields as "not required": TradeHandlingInstrt (1123), OrigTradeHandlingInstrt (1124), OrigTradeDate (1125), OrigTradeID (1126), OrigSecondaryTradeID (1127)

23. EP24 - Chinese STEP 1.0 Extension

The STEP 1.0 Extensions provide initial support for the use of FIX in Chinese equities markets.

- Added new enumerations to PartyRole (452) and MiscFeeType (139)
- Added new message types: TradingSessionListRequest (BI) and TradingSessionList (BJ)
- Added SecurityExchange (207) to Trading Session Status message

24. EP26 - MiFID Extension

The MiFID Extension is based on the draft Commission Regulation and Directive, both dated 30 Jun 2006 (referred to as the Level-2 documentation). Together these 2 documents comprise the "Implementing Measures" for MiFID Level 1 - Directive 2004/39EC. The scope of support for the MiFID requirements extends to Pre-trade transparency, Order handling and trading, post-trade transparency and transaction reporting.

- New enumerations were added to the following fields: MDEntryType (269), PartyRole (452), PartySubIDType (803), TrdType (828), TrdSubType (829)
- Added NoRoutingIDs repeating group to Market Data Snapshot / Full Refresh and Market Data Incremental Refresh
- Added ExDestinationIDSource (1133) as "not required" to the following message types: New Order Single, Order Cancel/Replace Request, Quote, New Order Cross, Cross Order Cancel/Replace Request, New Order Multileg, Multileg Order Cancel/Replace Request, Quote Status Report, Quote Response, New Order List
- Trade Capture Report
 - Added the following fields as "not required": TZTransactTime, ReportedPxDiff
- Added RptSys (1135) as "not required" to Trade Capture Report Ack

25. EP29 - ExchangeSpecialInstruction Extension

This extension added a new optional field to the Trade Capture Report message to provide a means for exchanges to specify additional buy or sell side optional information. Information could be special billing information, secondary trade or order processing information, etc. Clearinghouses will not validate or process this information.

- Added ExchangeSpecialInstructions (1139) to TradeCaptureReport message as "not required"

26. Deprecated Fields

A number of fields were deprecated as a result of the Extension Packs above. Please refer to Appendix 6-E of Volume 6 of the specification documentation set for a list of fields deprecated and a description of the new functionality to use instead (if any).

27. FIX Data Types

- The data type "**MultipleValueString**" has been renamed to "**MultipleCharValue**". The data type definition has been updated to read: " String field (see definition of "String" above) containing one or more **single character** space delimited values."
- New FIX data types introduced in this release are:
 - **TZTimeOnly**: The time represented based on ISO 8601. This is the time with a UTC offset to allow identification of local time and timezone of that time.

Format is HH:MM[:SS][.sss][Z | [+ | - hh[:mm]]] where HH = 00-23 hours, MM = 00-59 minutes, SS = 00-59 seconds, sss = milliseconds, hh = 01-12 offset hours, mm = 00-59 offset minutes.

Example: 07:39Z is 07:39 UTC

Example: 02:39-05 is five hours behind UTC, thus Eastern Time

Example: 15:39+08 is eight hours ahead of UTC, Hong Kong/Singapore time

Example: 13:09+05:30 is 5.5 hours ahead of UTC, India time

- **TZTimestamp:** (based on existing FIX data type of String). The time/date combination representing local time with an offset to UTC to allow identification of local time and timezone offset of that time. The representation is based on ISO 8601.

Format is YYYYMMDD-HH:MM:SS[.sss][Z | [+ | - hh[:mm]]] where

YYYY = 0000 to 9999, MM = 01-12, DD = 01-31

HH = 00-23 hours, MM = 00-59 minutes, SS = 00-59 seconds, .sss = milliseconds, hh = 01-12 offset hours, mm = 00-59 offset minutes

Example: 20060901-07:39Z is 07:39 UTC on 1st of September 2006

Example: 20060901-02:39-05 is five hours behind UTC, thus Eastern Time on 1st of September 2006

Example: 20060901-15:39+08 is eight hours ahead of UTC, Hong Kong/Singapore time on 1st of September 2006

Example: 20060901-13:09+05:30 is 5.5 hours ahead of UTC, India time on 1st of September 2006

- **MultipleStringValue:** String field (see definition of "String" above) containing one or more **multiple character** space delimited values.

- **Pattern Data Type**

A "pattern" data type is used to build on and provide some restrictions on what is allowed as valid values in fields that uses a base FIX data type and a pattern data type. The universe of allowable valid values for the field would then be the union of the base set of valid values and what is defined by the pattern data type. The pattern data type used by the field will retain its base FIX data type (e.g. String, int, char).

- **Tenor:** the Tenor pattern is used to allow the expression of FX standard tenors in addition to the base valid enumerations defined for the field that uses this pattern data type. This pattern data type is defined as follows:

Dx = FX tenor expression for "days", e.g. "D5" to express 5 days, where "x" is any integer > 0

Mx = FX tenor expression for "months", e.g. "M3" to express 3 months, where "x" is any integer > 0

Wx = FX tenor expression for "weeks", e.g. "W13" to express 13 weeks, where "x" is any integer > 0

Yx = FX tenor expression for "years", e.g. "Y1" to express 1 year, where "x" is any integer > 0

- **Reserved100Plus:** the Reserved100Plus pattern is used to allow additional bilaterally agreed upon enumerations to be defined for the field by using enumeration values starting at "100" and above.
- **Reserved1000Plus:** the Reserved1000Plus pattern is used to allow additional bilaterally agreed upon enumerations to be defined for the field by using enumeration values starting at "1000" and above.
- **Reserved4000Plus:** the Reserved4000Plus pattern is used to allow additional bilaterally agreed upon enumerations to be defined for the field by using enumeration values starting at "4000" and above.

28. Data Type Changes

The following fields that were in FIX version 4.4 had changes to their data type:

Field name	Old data type (in 4.4)	New data type (in 5.0)
ExecInst (18)	MultipleValueString	MultipleCharValue
SettlType (63)	char	String
MiscFeeType (139)	char	String
QuoteCondition (276)	MultipleValueString	MultipleStringValue
TradeCondition (277)	MultipleValueString	MultipleStringValue
OpenCloseSettlFlag (286)	MultipleValueString	MultipleCharValue
FinancialStatus (291)	MultipleValueString	MultipleCharValue
CorporateAction (292)	MultipleValueString	MultipleCharValue
OrderRestrictions (529)	MultipleValueString	MultipleCharValue
MassCancelRejectReason (532)	char	int
Scope (549)	MultipleValueString	MultipleCharValue

29. Usage Notes - Volume 7

Volume 7 of the specification has been enhanced in the following sections:

- Derivatives (Futures & Options)
 - Options Back Office Processing usage notes
 - FIA Trade Identification Standards
 - Collateral Messages for Margin Management
 - Covered Spreads and other User Defined Spreads using Security Definition Messages
- Equities
 - Regulation SHO - Short-Sell Security Locate
 - Strategy Parameters for Algorithmic Trading
 - Regulation NMS
 - OATS Phase III
 - External Order Routing Control
- Foreign Exchange

This entire section has been revamped based on the GFXC's Phase 1 gap analysis.

30. FIX Exchange Codes

The following FIX assigned exchanges were added to Volume 6 Appendix C.

Track ECN (DATA)	51
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Track ECN (TRAC)	52
Pipeline	53
BATS	54