



CME Group

CME Average Pricing and Markup Proposal

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Document History

Revision	Date	Author	Revision Comments
0.1	Nov. 10, 2017	Brook Path Partners, Inc. for CME Group	Initial draft
0.2	Nov. 12, 2017	Brook Path Partners, Inc. for CME Group CME Group	Respond to initial feedback Small edits to v0.2
0.3	Nov. 17, 2017 Nov. 21, 2017	Brook Path Partners, Inc. for CME Group and CME Group	Extensive revisions based on feedback from GTC presentation. Replaced <PriceMarkup> component with a single field PriceMarkup(2762+bd) and dropped the additional enumeration for MiscFeeBasis(891).
<u>ASBUILT</u>	<u>Dec. 9, 2017</u>	<u>GTC Project Management Office</u>	<u>Initial ASBUILT with pre-assignments.</u>

1 Introduction

This proposal includes several enhancements needed to support trade submission and give-up by clients of a Central Counterparty (CCP) clearing house. The trade submission enhancements include the ability for customers to indicate the use of various average pricing models, and additional details to show how an average was determined. Updates to trades already marked for give-up can be submitted and acknowledged, with details about the give-up group the trade is in.

1.1 Summary of Proposed Changes

The summary of proposed changes to support the business requirements described in Section 2 are:

- Add the following fields to TrdCapRptSideGrp and TrdCapRptAckSideGrp components:
 - AllocGroupID(1730) to communicate the CCP's ID for the give-up group back to the client
 - GroupAmount(2759) to communicate the notional value of the trade being given up.
 - AllocGroupStatus(~~2767~~) to identify the action taken - either "added", "canceled" or "replaced" for the trade within the group.

See the diagrams in Section 4 for information flow.

- Add a new block component <AveragePriceDetail> in the base of TradeCaptureReport(35=AE) and TradeCaptureReportAck(35=AR) to provide average pricing details – TWAP, VWAP, POV, Limit and the start and end times of averaging.
- Add new field in the TradeReportOrderDetail component – OrderPercentOfTotalVolume(~~2766~~) – to specify the target percentage this order quantity represents of the total trading volume of an instrument during the specified time period.
- Add AvgPxIndicator(819) to the Market Data MDFull and MDInc components to identify that a trade was average priced. An additional enumeration is proposed to simply state that the trade is average-priced.
- Add a new price markup field in the base of TradeCaptureReport(35=AE) and TradeCaptureReportAck(35=AR) – PriceMarkup(~~2762~~).

2 Business Requirements

2.1 Give-up Group Reporting

When clients mark a trade for give-up they expect the CCP's response to contain details of the give-up grouping. This should be on the client's TrdCapRptSideGrp instance of the TradeCaptureReport (which is sent to confirm a give-up done via the UI) or TrdCapRptAckSideGrp instance of the TradeCaptureReportAck (which is sent in response to a give-up submitted via TradeCaptureReport). The attributes needed are the group identifier assigned by the CCP, the quantity or notional value of the trade being given up and an indication of whether the group assignment is new for the trade or is an update to an existing trade in the group.

2.2 Trade Average Pricing

For average priced trades clients must identify the average pricing model used, the time range for which trades of a particular security are being averaged and the percentage the trade represents among the set of trades in the average pricing group. This gives the CCP the elements needed to verify the accuracy of the average price.

For market data average pricing needs to be specified but not the average pricing model.

2.3 Price Markup

The dealer's markup to market price needs to accompany trade submission to the CCP. Markup is expressed in price offset denominated in the price type of the traded price. For example, if the market price is 100 and the dealer and client agree to a price of 101, then the markup is 1.

3 Issues and Discussion Points

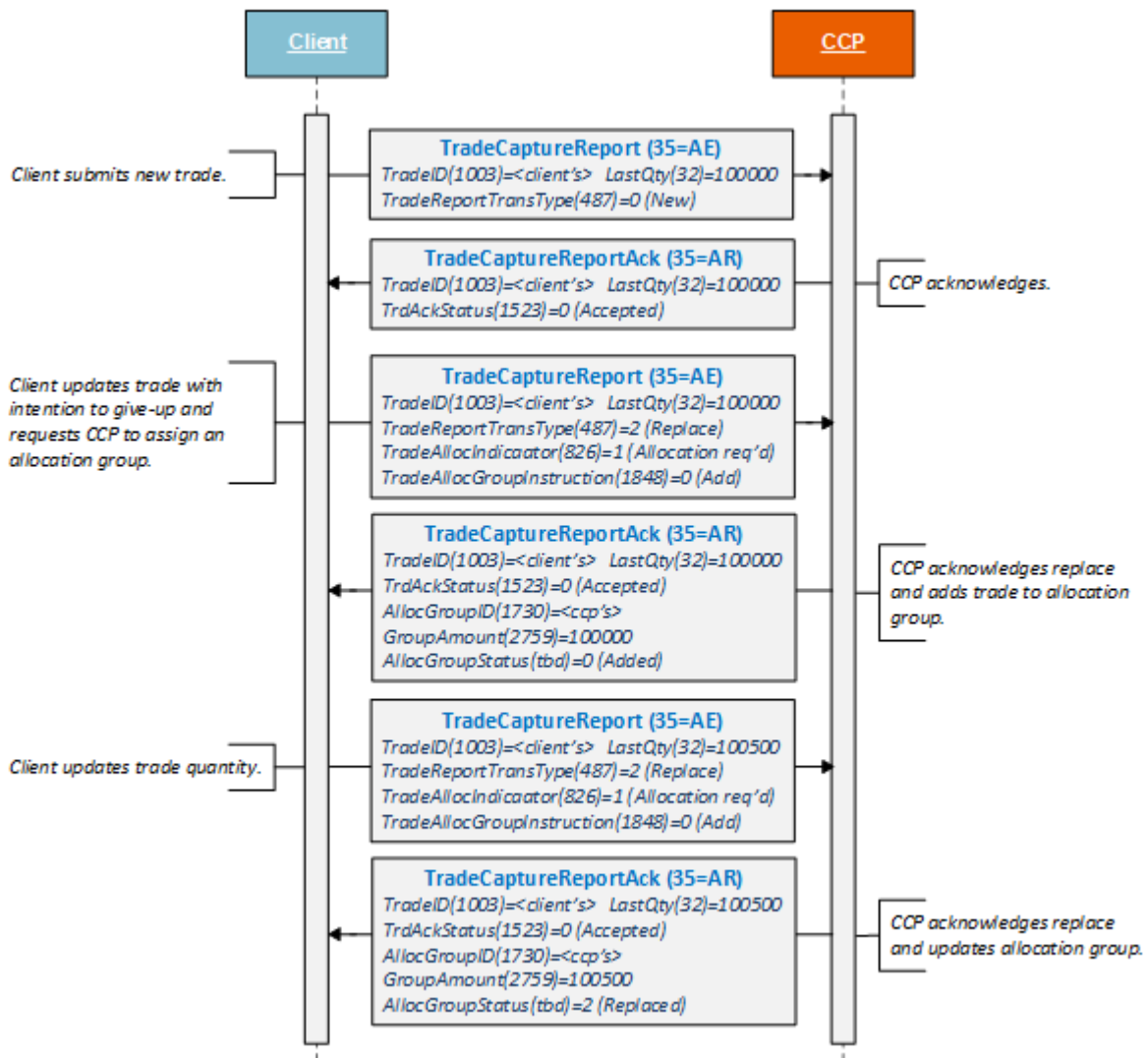
	Issue	Date	Status	Discussion
1	Markup versus MiscFeesGrp	11/10/17	Closed	Resolution: Markup in this instance is not so much a miscellaneous fee but a price differential agreed to between the client and the liquidity provider.

4 Proposed Message Flow

4.1 Give-Up Group Assignment through TradeCaptureReport(35=AE)

For clients who submit requests for give-up group assignment electronically the CCP returns group assignment status through TradeCaptureReportAck(35=AR).

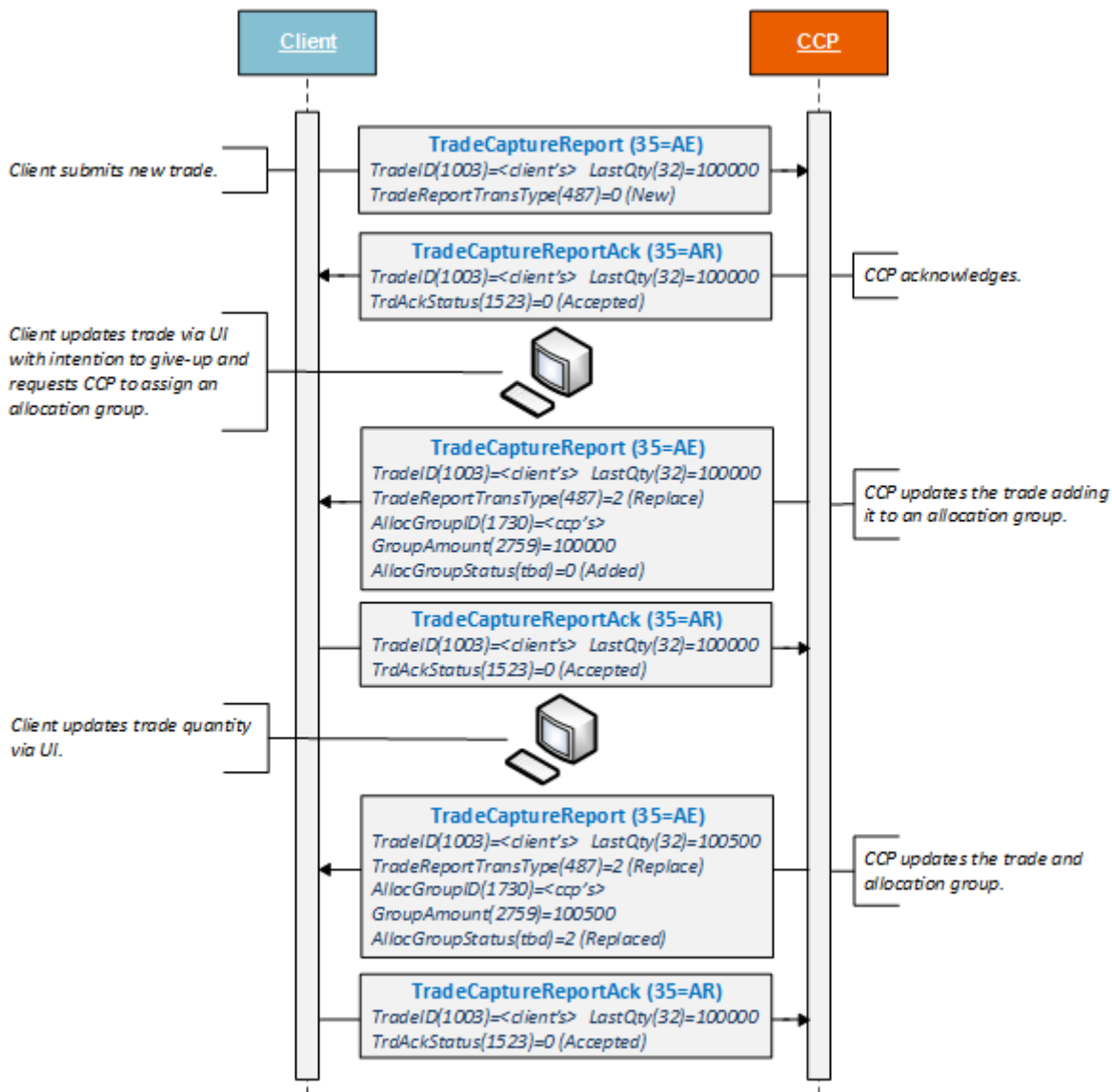
Figure 1 Give-Up Group Assignment through TradeCaptureReport(35=AE)



4.2 Give-Up Group Assignment through User Interface

For clients who submit requests for give-up group assignment through the user interface the CCP returns group assignment status through TradeCaptureReport(35=AE).

Figure 2 Give-Up Group Assignment through User Interface



5 FIX Message Tables

5.1 TradeCaptureReport (35=AE)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	TradeCaptureReport
Message Abbreviated Name (for FIXML)	TrdCaptRpt
Category	(no change)
Action	__New X_Change
Message Synopsis	(no change)
Message Elaboration	(no change)
To be finalized by FPL Technical Office	
(MsgType(tag 35) Enumeration)	AE
Repository Component ID	64

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
Standard Header		Y			MsgType=AE
(...truncated...)					
31	LastPx				
631	MidPx				
1522	DifferentialPrice				
1056	CalculatedCcyLastQty				
2762 tbd	PriceMarkup		NEW		Dealer's markup of market price to LastPx(31).
AveragePriceDetail component			NEW		
15	Currency				
120	SettlCurrency				
(...truncated...)					
Standard Trailer		Y			

5.2 TradeCaptureReportAck (35=AR)

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FIX Protocol Gap Analysis - CME Average Pricing and Markup v0.3_EP240_ASBUILT.docx

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To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	TradeCaptureReportAck
Message Abbreviated Name (for FIXML)	TrdCaptRptAck
Category	(no change)
Action	__New X_Change
Message Synopsis	(no change)
Message Elaboration	(no change)
To be finalized by FPL Technical Office	
(MsgType(tag 35) Enumeration)	AR
Repository Component ID	ZZ

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
Standard Header		Y			MsgType=AE
(...truncated...)					
669	LastParPx				
1056	CalculatedCcyLastQty				
1071	LastSwapPoints				
2762 tbd	PriceMarkup		NEW		Dealer's markup of market price to LastPx(31).
AveragePriceDetail component			NEW		
15	Currency				
120	SettlCurrency				
(...truncated...)					
Standard Trailer		Y			

6 FIX Component Blocks

6.1 Component AveragePriceDetail

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	AveragePriceDetail
Component Abbreviated Name (for FIXML)	AvgPxDetl
Component Type	___ Block Repeating <u>X</u> Block
Category	[enter the category name here]Common
Action	<u>X</u> New ___ Change
Component Synopsis	The AveragePriceDetail component provides average pricing details in a trade report, <u>-including</u> the average pricing model and the start and end times of averaging <u>period</u> .
Component Elaboration	
To be finalized by FPL Technical Office	
Repository Component ID	<u>1075</u>

Component FIXML Abbreviation: <AvgPxDetl>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	Comments
<u>2763</u> <u>tbd</u>	AveragePriceType		NEW		
<u>2764</u> <u>tbd</u>	AveragePriceStartTime		NEW		Required if AveragePriceType(<u>2763tbd</u>)= <u>2POV</u> (Percent-of-Volume average price) or <u>OTWAP</u> (Time-weighted average price).
<u>2765</u> <u>tbd</u>	AveragePriceEndTime		NEW		Required if AveragePriceType(<u>2763tbd</u>)= <u>2POV</u> (Percent-of-Volume average price) or <u>OTWAP</u> (Time-weighted average price).
</AvgPxDetl>					

6.2 Component MDFullGrp

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	MDFullGrp
Component Abbreviated Name (for FIXML)	Full
Component Type	<input checked="" type="checkbox"/> Block Repeating <input type="checkbox"/> Block
Category	[enter the category name here]
Action	<input type="checkbox"/> New <input checked="" type="checkbox"/> Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	2031

Component FIXML Abbreviation: <Full>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	Comments
268	NoMDEntries				
269	MDEntryType				
(...truncated...)					
423	PriceType				
PriceQualifierGrp component					
819	AvgPxIndicator	N	ADD		
YieldData component					
SpreadOrBenchmarkCurveData component					
(...truncated...)					
</Full>					

6.3 Component MDIncGrp

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	MDIncGrp
Component Abbreviated Name (for FIXML)	Inc
Component Type	<input checked="" type="checkbox"/> Block Repeating <input type="checkbox"/> Block
Category	[enter the category name here]
Action	<input type="checkbox"/> New <input checked="" type="checkbox"/> Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	2032

Component FIXML Abbreviation: <Inc>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	Comments
268	NoMDEntries				
279	MDUpdateAction				
(...truncated...)					
423	PriceType				
PriceQualifierGrp component					
819	AvgPxIndicator	N	ADD		
YieldData component					
SpreadOrBenchmarkCurveData component					
(...truncated...)					
</Ind>					

6.4 Component TradeReportOrderDetail

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	TradeReportOrderDetail
Component Abbreviated Name (for FIXML)	TrdRptOrdDetl
Component Type	<input type="checkbox"/> Block Repeating <input checked="" type="checkbox"/> Block
Category	[enter the category name here]
Action	<input type="checkbox"/> New <input checked="" type="checkbox"/> Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	2143

Component FIXML Abbreviation: <TrdRptOrdDetl>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	Comments
37	OrderID				
198	SecondaryOrderID				
(...truncated...)					
483	TransBkdTime				
586	OrigOrdModTime				
2766 tbd	OrderPercentOfTotalVolume	N	NEW		
</TrdRptOrdDetl>					

6.5 Component *TrdCapRptAckSideGrp*

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	TrdCapRptAckSideGrp
Component Abbreviated Name (for FIXML)	RptSide
Component Type	<input checked="" type="checkbox"/> Block Repeating <input type="checkbox"/> Block
Category	[enter the category name here]
Action	<input type="checkbox"/> New <input checked="" type="checkbox"/> Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	2094

Component FIXML Abbreviation: <RptSide>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	Comments
552	NoSides				
54	Side				
(...truncated...)					
SettlDetails component					
826	TradeAllocIndicator				
1730	AllocGroupID	N	ADD		
2759	GroupAmount	N	ADD		
2767 tbd	AllocGroupStatus	N	NEW		
1853	SideAvgPxIndicator				
1854	SideAvgPxGroupID				
(...truncated...)					
</RptSide>					

6.6 Component TrdCapRptSideGrp

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	TrdCapRptSideGrp
Component Abbreviated Name (for FIXML)	RptSide
Component Type	<input checked="" type="checkbox"/> Block Repeating <input type="checkbox"/> Block
Category	[enter the category name here]
Action	<input type="checkbox"/> New <input checked="" type="checkbox"/> Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	2061

Component FIXML Abbreviation: <RptSide>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	Comments
552	NoSides				
54	Side				
(...truncated...)					
826	TradeAllocIndicator				
1848	TradeAllocGroupInstruction				
1730	AllocGroupID	N	ADD		
2759	GroupAmount	N	ADD		
2767 tbd	AllocGroupStatus	N	NEW		
1853	SideAvgPxIndicator				
1854	SideAvgPxGroupID				
(...truncated...)					
</RptSide>					

7 Category Changes

None.

8 FIX Specification Errata

This section includes errata from prior versions and extension packs (EP) that are being implemented as corrections as part of this extension pack.

<u>JIRA Item</u>	<u>Affected EP/Version</u>	<u>Synopsis of change.</u>
<u>SPEC-2317</u>	<u>EP235</u>	<u>Enhance/clarify the component synopsis for FloatingRateIndex component.</u>
<u>SPEC-2329</u>	<u>EP233</u>	<u>Typo in symbolic name for CommissionAmountType(2641)=7</u>

Appendix A - Data Dictionary

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
2762 #bd	PriceMarkup	NEW	PriceOffset	<p>Price offset of the markup denominated in the price type of the trade.</p> <p>[Elaboration: The field is expressed in a value that can simply be added to or subtracted from the (clean) price to reach the marked-up price. E.g., a percent of par price of 98 marked up to 98.5 should be 0.5, an FX rate of 1.17936 marked up to 1.19 should be 0.01064, a stock price of 22.75 marked up to 22.9 should be 0.15, etc.]</p>	PxMrkup	Add to TradeCaptureReport and TradeCaptureReportAck messages
2763 #bd	AveragePriceType	NEW	int	<p>The average pricing model used for block trades.</p> <p>0 = Time-Weighted Average Price (TWAP) [Elaboration: TWAP is the simple average price of a security over a specified time without regard to the volume traded.] [Symbolic name: TimeWeightedAveragePrice]</p> <p>1 = Volume-Weighted Average Price (VWAP) [Elaboration: VWAP is the sum of the currency amount traded for all trades in</p>	Typ	Add to AveragePriceDetail component

				<p>the averaging group (price times quantity) divided by the total quantity.] [Symbolic name: VolumeWeightedAveragePrice]</p> <p>2 = Percent-of-volume Average Price (POV) [Elaboration: POV is the sum of the currency amount traded for all trades executed as part of an order intended to purchase a specified percentage of the total volume of an instrument, divided by the total quantity.] [Symbolic name: PercentOfVolumeAveragePrice]</p> <p>3 = Limit Order Average Price [Elaboration: The Limit Order Average Price is the currency amount of all trades executed to fill a limit order, divided by the total quantity.] [Symbolic name: LimitOrderAveragePrice]</p>		
2764 #bd	AveragePriceStartTime	NEW	UTCTime stamp	Start of the time period during which price averaging occurred.	StartTm	Add to AveragePriceDetail component
2765 #bd	AveragePriceEndTime	NEW	UTCTime stamp	End of the time period during which price averaging occurred.	EndTm	Add to AveragePriceDetail component
2766 #bd	OrderPercentOfTotalVolume	NEW	Percentage	For Percent-of-volume (POV) average pricing this is the target percentage this order quantity represents of the total trading volume of an instrument during the specified time period. This provides the data needed to ensure that the	TotVolPct	Add to TradeReportOrderDetail component

				<p>average price is fair based on the total sum of grouped POV trades.</p> <p>[Elaboration: For example, if during the POV time period there are 5 trades including this one with a total volume of 5000 and this trade has a quantity of 1000 then the OrderPercentOfTotalVolume(2766tbd) of this trade is 20 percent expressed as "0.20".]</p>		
2767 tbd	AllocGroupStatus	NEW	int	<p>Status of the trade give-up relative to the group identified in AllocGroupID(1730).</p> <p>0 = Added [Elaboration: This trade has been associated with the group for the first time.] [Symbolic name: Added]</p> <p>1 = Canceled [Elaboration: This trade has been removed from the group.] [Symbolic name: Canceled]</p> <p>2 = Replaced [Elaboration: This trade already in the group has been updated.] [Symbolic name: Replaced]</p>	GrpStat	Add to TrdCapRptSideGrp and TrdCapRptAckSideGrp components
819	AvgPxIndicator	CHANGE	int	<p>Average Pricing Indicator</p> <p>0 = No average pricing 1 = Trade is part of an average price group identified by the</p>		Add to MDFullGrp and MDIncGrp components

				<p>AvgPxGroupID(1731) 2 = Last trade is the average price group identified by the AvgPxGroupID(1731) 3 = Trade is part of a notional value average price (NVAP) group</p> <p>Add enumeration: 4<td> = Trade is average priced [Symbolic name: AveragePricedTrade]</p>		
891	MiscFeeBasis	CHANGE	int	<p>Defines the unit for a miscellaneous fee.</p> <p>Add elaborations: 0 = Absolute [Elaboration: The fee or markup is a total fixed amount expressed in the currency of the trade.]</p> <p>1 = Per Unit [Elaboration: The fee or markup is an amount per quantity unit, i.e. per share or contract, expressed in the currency of the trade.]</p> <p>2 = Percentage [Elaboration: The percentage is expressed in standard FIX "Percentage" datatype format, i.e. "0.01" for 1 percent and ranges between 0 and 1. It is the number which when multiplied by the trade price and quantity produces the total amount of the fee or markup.]</p>		

Appendix B - Glossary Entries

Term	Definition	Field where used

Appendix C - Abbreviations

Term	Proposed Abbreviation	Proposed Messages, Components, Fields where used
Markup	Mrkup	PriceMarkup(2762) field

Appendix D - Usage Examples