Global Technical Committee and CME Group Security Definition Enhancements

November 22, 2016

Revision 0.3

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Document History

Revision	Date	Author	Revision Comments
0.1	Oct. 31, 2016	Brook Path Partners, Inc., for CME Group	Initial draft
0.2	Nov 15, 2016	CME Group	Further elaboration
0.3	Nov. 22, 2016 Dec. 20, 2016	Brook Path Partners, Inc., for CME Group	Updated based on GTC feedback to move the in-the-moneyness condition to a discrete field within instrument components. Also clarified the usage of StrikePriceBoundaryMethod fields in the various Instrument components. Added new field ContraryInstructionEligibilityIndicator(2685~~tbd~~) to Instrument components instead of reusing existing ContraryInstructionIndicator(719), as it was determined an eligibility flag is more appropriate.
	Mar 1, 2017	GTC Technical Support	Generated ASBUILT and assigned IDs.

1 Introduction

A contrary instruction provides the holder of an option the ability to perform the contrary of what would normally be expected; exercise an option struck at an out of the money price, or conversely abandon an option struck at an in the money price. Depending on the type of option instrument a contrary instruction may or may not be allowed. While options are typically categorized as either 'American' or 'European' they may also be defined as eligible or ineligible for contrary instructions with the latter generally being the exception case and associated with European options. CME is proposing that this feature be explicitly represented in the set of Security Reference Data messages to remove any doubt about the behavior of an option.

Additionally, CME would like to extend the specification to fully describe the cases in which an option can be in or out of the money. In the base case an option 'is in the money' when the strike price is less than the underlying price for a call and greater than the underlying price for a put. Otherwise it is considered 'out of the money' with the scenario where the strike price exactly equals the underlying price, referred to as 'at the money', also being out of the money. There are variations of the base case where an option typically considered 'at the money' may be in or out of the money depending on the specified behavior. For example, an 'at the money call' may be considered eligible for 'in the money' treatment depending on the type of option. CME is proposing a new attribute be added to the set of Security Definition messages to capture this behavior.

The placement of the proposed changes in the FIX message structure will enable the new fields to be specified for an individual option instrument inclusive of strike price and put/call. This is supported through the Security Definition message. Alternatively, the new fields may be represented at the higher level for the option product such that the specific instruments implicitly inherit the attribution. This is supported through the Derivative Security Definition block on the Derivative Security List message. Both representations are used by CME.

2 Business Requirements

The following summarizes the detailed requirements and proposed solution:

1. To indicate on the instrument whether contrary instructions are allowed or disallowed for the option product.

    Proposed solution: Add new fields to the following components:

    - ContraryInstructionEligibilityIndicator(2685~~tbd~~) to Instrument

    - LegContraryInstructionEligibilityIndicator(2686~~tbd~~) to LegInstrument

    - UnderlyingContraryInstructionEligibilityIndicator(2687~~tbd~~) to UnderlyingInstrument

    - DerivativeContraryInstructionEligibilityIndicator(2688~~tbd~~) to DerivativeInstrument

2. To indicate when an option instrument is in the money. We would like to convey the following multiple conditions for in-the-moneyness:

- Standard ITM - strike price must be less than the underlying settlement price for a call or greater than the underlying settlement price for a put
- ATM is ITM - Standard convention + strike price of either put or call is equal to the underlying settlement price
- ATM Call is ITM - Standard convention + strike price of call is equal to the underlying settlement price
- ATM Put is ITM - Standard convention + strike price of put is equal to the underlying settlement price

Proposed solution: Add new field to the Instrument component (and similarly to other instrument components) to discretely express in-the-moneyness. The field will contain enumerated values as described above.

- InTheMoneyCondition(2681tbd) to Instrument component

- LegInTheMoneyCondition(2682tbd) to InstrumentLeg component

- UnderlyingInTheMoneyCondition(2683tbd) to UnderlyingInstrument component

- DerivativeInTheMoneyCondition(2684tbd) to DerivativeInstrument component

3 Issues and Discussion Points

Nov. 17, 2016 GTC presentation feedback: On the GTC presentation call it was recommended that the in-the-moneyness condition be made a discrete field within each of the instrument components as this would call out this option indicator more prominently. In the process of doing this it was deemed necessary to clarify the usage of the StrikePriceBoundaryMethod fields in the different Instrument components as well. Field usage text was added for the field in the various Instrument components.

Dec. 20, 2016 GTC co-chairs' feedback: On further discussion between submitter and GTC co-chairs it was determined that new fields within the various instrument components is more suitable to identify whether an option is eligible for contrary instructions at time of exercise; as opposed to trying to re-use the exiting ContraryInstructionIndicator(719) field.

4 Proposed Message Flow

There are no changes to existing message flows.

5 FIX Message Tables

There are no changes to messages.

6 FIX Component Blocks

6.1 Component Instrument

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	Instrument
Component Abbreviated Name (for FIXML)	~~Instrmt~~1
Component Type	_X_ Block Repeating __ Block
Category	(no change)
Action	__New _X_Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	1003

Component FIXML Abbreviation: <Instrmt>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
(…truncated…)					
1478	StrikePriceDeterminationMethod				
1479 8	StrikePriceBoundaryMethod		CHANGE		When specified, PutOrCall(201), StrikePrice(202), and StrikePriceBoundaryPrecision(148079) must also be specified.
1480 79	StrikePriceBoundaryPrecision				
1481	UnderlyingPrecisionDeterminationMethod				
206	OptAttribute				
(…truncated…)					
1199	CapPrice				
1200	FloorPrice				

Component FIXML Abbreviation: *<Instrmt>*					
Tag	Field Name	Req'd	Action	*Mappings and Usage Comments*	*FIX Spec Comments*
201	PutOrCall				
2681 TBD	InTheMoneyCondition	N	ADD		Used to express in-the-moneyness behavior in general terms for the option without the use of StrikePrice(202) and PutOrCall(201).
2685 TBD	ContraryInstructionEligibilityIndicator	N	ADD		
1244	FlexibleIndicator				
(…truncated…)					
</Instrmt>					

6.2 Component InstrumentLeg

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	InstrumentLeg
Component Abbreviated Name (for FIXML)	Leg
Component Type	_X_ Block Repeating __ Block
Category	(no change)
Action	__New _X_Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	1005

Component FIXML Abbreviation: *<Leg>*					
Tag	Field Name	Req'd	Action	*Mappings and Usage Comments*	*FIX Spec Comments*

Component FIXML Abbreviation: <Leg>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
(…truncated…)					
2186	LegStrikePriceDeterminationMethod				
2187	LegStrikePriceBoundaryMethod		CHANGE		When specified, LegPutOrCall(1358), LegStrikePrice(612), and LegStrikePriceBoundaryPrecision(2188~~9~~) must also be specified.
2188	LegStrikePriceBoundaryPrecision				
2189	LegUnderlyingPriceDeterminationMethod				
613	LegOptAttribute				
(…truncated…)					
955	LegContractSettlMonth				
956	LegInterestAccrualDate				
1358	LegPutOrCall				
2682 ~~TBD~~	LegInTheMoneyCondition	N	ADD		Used to express in-the-moneyness behavior in general terms for the option without the use of LegStrikePrice(612) and LegPutOrCall(1358).
2686 ~~TBD~~	LegContraryInstructionEligibilityIndicator	N	ADD		
1017	LegOptionRatio				
(…truncated…)					
</Leg>					

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6.3 Component UnderlyingInstrument

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	UnderlyingInstrument
Component Abbreviated Name (for FIXML)	Undly
Component Type	_X_ Block Repeating __ Block
Category	(no change)
Action	__New _X_Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	1021

Component FIXML Abbreviation: <Undly>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
(…truncated…)					
1039	UnderlyingSettlMethod				
315	UnderlyingPutOrCall				
2683 ~~TBD~~	UnderlyingInTheMoneyCondition	N	ADD		Used to express in-the-moneyness behavior in general terms for the option without the use of UnderlyingStrikePrice(316) and UnderlyingPutOrCall(315).
2687 ~~TBD~~	UnderlyingContraryInstructionEligibilityIndicator	N	ADD		
1988	UnderlyingConstituentWeight				
(…truncated…)					
2023	UnderlyingStrikePric				

Component FIXML Abbreviation: <Undly>					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	eDeterminationMethod				
2024	UnderlyingStrikePriceBoundaryMethod		CHANGE		When specified, UnderlyingPutOrCall(315), UnderlyingStrikePrice(316), and UnderlyingStrikePriceBoundary Precision(2025) must also be specified.
2025	UnderlyingStrikePriceBoundaryPrecision				
(…truncated…)					
</Undly>					

6.4 Component DerivativeInstrument

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	DerivativeInstrument
Component Abbreviated Name (for FIXML)	DerivInstrmt
Component Type	_X_ Block Repeating __ Block
Category	(no change)
Action	__New _X_Change
Component Synopsis	(no change)
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	2140

Component FIXML Abbreviation: <DerivInstrmt>

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Tag	Field Name	Req'd	Action	*Mappings and Usage Comments*	FIX Spec Comments
(…truncated…)					
1321	DerivativeCapPrice				
1322	DerivativeFloorPrice				
1323	DerivativePutOrCall				
2684 ~~TBD~~	DerivativeInTheMoneyCondition	N	ADD		Used to express in-the-moneyness behavior in general terms for the option without the use of DerivativeStrikePrice(1261) and DerivativePutOrCall(1323).
2688 ~~TBD~~	DerivativeContraryInstructionEligibilityIndicator	N	ADD		
1299	DerivativeExerciseStyle				
(…truncated…)					
			</DerivInstrmt>		

7 Category Changes

To be completed at the time of the proposal – all information provided is stored in the repository	
Category Name	[enter the category name here]
Section	__PreTrade __Trade __PostTrade __Infrastructure
Category Synopsis	[enter the category synopsis here]
Category Elaboration	[enter the category elaboration here]
To be finalized by FPL Technical Office	
Category Filename	

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Appendix A - Data Dictionary

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
2681 ~~tbd~~	InTheMoneyCondition	ADD	int	Specifies an option instrument's "in the money" condition. Valid values: 0 = Standard in-the-money [Elaboration: The option's strike price is less than the underlying settlement price for a call or greater than the underlying settlement price for a put.] [Symbolic name: StandardITM] 1 = At-the-money is in-the-money [Elaboration: The option's strike price of either the put or call is equal to the underlying settlement price in addition to standard in-the-money behavior.] [Symbolic name: ATMITM] 2 = At-the-money call is in-the-money [Elaboration: The call option's strike price is equal to the underlying settlement price in addition to standard in-the-money behavior.] [Symbolic name: ATMCallITM]	ITMCond	Instrument component

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Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
				3 = At-the-money put is in-the-money [Elaboration: The put option's strike price is equal to the underlying settlement price in addition to standard in-the-money behavior.] [Symbolic name: ATMPutITM]		
2682 tbd	LegInTheMoneyCondition	ADD	int	Specifies an option instrument's "in the money" condition in general terms. *(Uses enums from InTheMoneyCondition(2681tbd))*	ITMCond	InstrumentLeg component
2683 tbd	UnderlyingInTheMoneyCondition	ADD	int	Specifies an option instrument's "in the money" condition in general terms. *(Uses enums from InTheMoneyCondition(2681tbd))*	ITMCond	UnderlyingInstrument component
2684 tbd	DerivativeInTheMoneyCondition	ADD	int	Specifies an option instrument's "in the money" condition in general terms. *(Uses enums from InTheMoneyCondition(2681tbd))*	ITMCond	DerivativeInstrument component
2685 tbd	ContraryInstructionEligibilityIndicator	ADD	Boolean	Identifies whether the option instrument is eligible for contrary instructions at the time of exercise. The contrariness of an instruction will be determined in the context of	CntraryInstEligibilityInd	Instrument component

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Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
				InTheMoneyCondition(2681tbd). When not specified, the eligibility is undefined or not applicable.		
2686 tbd	LegContraryInstructionEligibilityIndicator	ADD	Boolean	Identifies whether the option instrument is eligible for contrary instructions at the time of exercise. The contrariness of an instruction will be determined in the context of LegInTheMoneyCondition(2682tbd). When not specified, the eligibility is undefined or not applicable.	CntraryInstEligibilityInd	LegInstrumentLeg component
2687 tbd	UnderlyingContraryInstructionEligibilityIndicator	ADD	Boolean	Identifies whether the option instrument is eligible for contrary instructions at the time of exercise. The contrariness of an instruction will be determined in the context of UnderlyingInTheMoneyCondition(2683tbd). When not specified, the eligibility is undefined or not applicable.	CntraryInstEligibilityInd	UnderlyingInstrument component
2688 tbd	DerivativeContraryInstructionEligibilityIndicator	ADD	Boolean	Identifies whether the option instrument is eligible for contrary instructions at the time of exercise. The contrariness of an instruction will be determined in the context of DerivativeInTheMoneyCondition(2684tbd). When not specified, the eligibility is undefined or not applicable.	CntraryInstEligibilityInd	DerivativeInstrument component

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Appendix B - Glossary Entries

Term	Definition	Field where used

Appendix C - Abbreviations

Term	Proposed Abbreviation	Proposed Messages, Components, Fields where used
Contrary	Cntrary	ContraryInstructionEligibilityIndicator(2685~~tbd~~)
In-the-money	ITM	InTheMoneyCondition(2681~~tbd~~)

Appendix D - Usage Examples