



HKEX and APAC Technical Sub-committee Self-Match Prevention Instruction Proposal

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Document History

Revision	Date	Author	Revision Comments
0.1	18 Feb 2023	Robert Lau (HKEX)	1st draft
0.2	17 Mar 2023	Robert Lau (HKEX)	Revised after feedback
0.3	22 Mar 2023	Hanno Klein (GTC)	Final revisions for GTC submissions
0.4	24 Mar 2023	Robert Lau (HKEX)	Removal of SMP instruction for decrement and cancel (GTC decision)

1 Introduction

FIX supports self-match prevention (SMP) where the field SelfMatchPreventionID(2362) has been introduced for this purpose. However, there is a lack of explicit field allowing the submitter to indicate SMP instruction, e.g. to specify whether to cancel the aggressive (new incoming) order or the passive (resting) order.

HKEX proposes to add a new field to indicate the SMP instruction. For completeness, HKEX requests to add this new SMP instruction along with the SelfMatchPreventionID(2362) for all messages that are already having the SelfMatchPreventionID(2362).

If order is cancelled due to SMP, HKEX will relay an unsolicited ExecutionReport(35=8) with ExecType(150)=4 (Cancelled). HKEX will leverage the ExecRestatementReason(378) in ExecutionReport(35=8) to indicate that the cancellation is due to SMP. HKEX also proposes to add new enumerations to ExecRestatementReason(378) to convey the associated SMP cancel reasons.

2 Business Requirements

HKEX supports self-match prevention (SMP) that allows submitter to specify both the SelfMatchPreventionID(2362) and SMP instruction. When HKEX detects that the incoming order will hit the resting order(s) having the same SMP ID, HKEX will, based on the SMP instruction of the incoming order, determine whether to cancel the aggressive (new incoming) order or the passive (resting) order(s):

- If the SMP instruction of the incoming order is to cancel the aggressive order:
The incoming order will be cancelled immediately when it hits a tradable resting order with same SMP ID.
- If the SMP instruction of the incoming order is to cancel the passive order:
The tradable resting order with the same SMP ID will be cancelled.
- If the SMP instruction of the incoming order is to cancel both the aggressive and the passive order:
The incoming order as well as the tradeable resting order with the same SMP ID will be cancelled.

HKEX will relay order acknowledgements using ExecutionReport(35=8) for the order request. The ExecutionReport(35=8) carries the same SMP ID and SMP instruction as from the input.

When order is cancelled due to SMP instruction, HKEX will send unsolicited ExecutionReport(35=8) with ExecType(150)=4 (Cancelled) and OrdStatus(39)=4 (Canceled) to the submitter. In this ExecutionReport(35=8), HKEX will relay the SMP ID but will not convey the SMP instruction of the cancelled order. In addition, the ExecutionReport(35=8) will also include the ExecRestatementReason(378) to indicate that such cancellation is due to SMP, including the type of SMP instruction of the incoming order causing the cancellation.

In summary and for completeness, HKEX suggests to

- Add new field SMP instruction, namely SelfMatchPreventionInstruction(2964), along with SelfMatchPreventionID(2362) in the following messages and component:
 - NewOrderSingle(35=D)
 - OrderCancelReplaceRequest(35=G)
 - Quote(35=S)
 - MassQuote(35=i)
 - ExecutionReport(35=8)
 - NewOrderMultileg(35=AB)
 - MultilegOrderCancelReplace(35=AC)
 - TradeReportOrderDetail (Component)
- Set up the following value for the new SelfMatchPreventionInstruction(2964) field:
 - 1 = Cancel aggressive
 - 2 = Cancel passive
 - 3 = Cancel aggressive and passive
- Add the following new enumerations in ExecRestatementReason(378) field:
 - 17 = Cancel due to self-match prevention
 - 18 = Cancel aggressive due to self-match prevention
 - 19 = Cancel passive due to self-match prevention
 - 20 = Cancel both due to self-match prevention

3 Issues and Discussion Points

During the gap analysis discussion on the GTC monthly meeting of 23rd March, 2023, there were some undetermined areas for the original proposed addition of SMP Instruction value “Decrement & cancel”, therefore a decision was made to remove it from the SMP gap analysis proposal.

The controversial areas of SMP instruction value “Decrement & cancel” that were discussed include:

- Different execution venues might have different handlings.
- When the larger order gets decremented, will the total quantity also be decremented?
- Use ExecutionReport(35=8) with ExecType(150)=D(Restated) or other message/ExecType to convey the decremented order?
- When order is partially filled, how to define the size of the order to be decremented?

4 Proposed Message Flow

None

5 FIX Message Tables

5.1 FIX Message NewOrderSingle (35=D)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	NewOrderSingle
Message Abbreviated Name (for FIXML)	Order
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)	D
Repository Component ID	14

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	Standard Header	Y			MsgType = D
	(...truncated...)				
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	Indicate the instruction if self-match prevention hits, e.g. to cancel aggressive, passive or both.	
	DisplayInstruction component	N			
	(...truncated...)				
	Standard Trailer	Y			

5.2 FIX Message OrderCancelReplaceRequest (35=G)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	OrderCancelReplaceRequest
Message Abbreviated Name (for FIXML)	OrdCxlRplcReq
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)	G
Repository Component ID	17

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	Standard Header	Y			MsgType = G
	(...truncated...)				
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	Indicate the instruction if self-match prevention hits, e.g. to cancel aggressive, passive or both.	
	DisplayInstruction component	N			
	(...truncated...)				
	Standard Trailer	Y			

5.3 FIX Message Quote (35=S)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	Quote
Message Abbreviated Name (for FIXML)	Quot
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)	S
Repository Component ID	27

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	Standard Header	Y			MsgType = S
	(...truncated...)				
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	Indicate the instruction if self-match prevention hits, e.g. to cancel aggressive, passive or both.	
1685	ThrottleInst	N			
	(...truncated...)				
	Standard Trailer	Y			

5.4 FIX Message MassQuote (35=i)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	MassQuote
Message Abbreviated Name (for FIXML)	MassQuot
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)	
Repository Component ID	

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	Standard Header	Y			MsgType = i
	(...truncated...)				
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	Indicate the instruction if self-match prevention hits, e.g. to cancel aggressive, passive or both.	
1685	ThrottleInst	N			
	(...truncated...)				
	Standard Trailer	Y			

5.5 FIX Message ExecutionReport (35=8)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	ExecutionReport
Message Abbreviated Name (for FIXML)	ExecRpt
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)	8
Repository Component ID	9

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	Standard Header	Y			MsgType = 8
	(...truncated...)				
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	The instruction of self-match prevention, e.g. cancel aggressive, passive or both.	May be used to return the self-match prevention instruction provided on the order placement message. Omit for unsolicited cancellations and use ExecRestatementReason(378) to convey the self-match prevention instruction that caused the cancellation.
2523	CrossedIndicator	N			
	(...truncated...)				
	Standard Trailer	Y			

5.6 FIX Message NewOrderMultileg(35=AB)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	NewOrderMultileg
Message Abbreviated Name (for FIXML)	NewOrdMleg
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	AB
Repository Component ID	61

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	Standard Header	Y			MsgType = AB
	(...truncated...)				
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	Indicate the instruction if self-match prevention hits, e.g. to cancel aggressive, passive or both.	
	DisplayInstruction component	N			
	(...truncated...)				
	Standard Trailer	Y			

5.7 FIX Message MultilegOrderCancelReplace (35=AC)

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	MultilegOrderCancelReplace
Message Abbreviated Name (for FIXML)	MlegOrdCxlRplc
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)	AC
Repository Component ID	62

Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
	Standard Header	Y			MsgType = G
	(...truncated...)				
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	Indicate the instruction if self-match prevention hits, e.g. to cancel aggressive, passive or both.	
	DisplayInstruction component	N			
	(...truncated...)				
	Standard Trailer	Y			

6 FIX Component Blocks

6.1 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	___ Group X_ Component
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	2143

[Other additional text detailing usage of the component may be entered below this line]

Component FIXML Abbreviation: TradeReportOrderDetail					
Tag	Field Name	Req'd	Action	Mappings and Usage Comments	FIX Spec Comments
(...truncated...)					
2362	SelfMatchPreventionID	N			
2964	SelfMatchPreventionInstruction	N	New	The instruction if self-match prevention hits, e.g. to cancel aggressive, passive or both.	
1629	ExposureDuration	N			
(...truncated...)					
</TradeReportOrderDetail>					

7 Category Changes

None

8 FIX Specification Errata

To be used only by GTC Project Management.

Jira Item	Affected EP/Version	Synopsis of change.
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Appendix A - Data Dictionary

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
2964	SelfMatchPreventionInstruction	New	Int	<p>Indicate the instruction for self-match prevention when the incoming (aggressive) order has the same SelfMatchPreventionID(2362) as a resting (passive) order.</p> <p>Valid values: 1 = Cancel aggressive [Elaboration: Cancel incoming order.] 2 = Cancel passive [Elaboration: Cancel resting order with the same SelfMatchPreventionID(2362).] 3 = Cancel aggressive and passive [Elaboration: Cancel both incoming and resting order with the same SelfMatchPreventionID(2362).]</p>	SlfMtchPrvntInst	NewOrderSingle(35=D) OrderCancelReplaceRequest(35=G) Quote(35=S) MassQuote(35=i) ExecutionReport(35=8) NewOrderMultileg(35=AB) MultilegOrderCancelReplace(35=AC) TradeReportOrderDetail(Component)
378	ExecRestatementReason	Change	Int	<p>The reason for restatement when an ExecutionReport(35=8) or TradeCaptureReport(35=AE) message is sent with ExecType(150) = D (Restated) or used when communicating an unsolicited cancel.</p> <p>ExecRestatementReasonCodeSet 0 = GT corporate action (...truncated...)</p>	ExecRstmtRsn	

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
				<p>16 = Cancelled, Cross Imbalance</p> <p>17= Cancelled, self-match prevention [Elaboration: Cancelled order based on standing rules for self-match prevention (i.e. SelfMatchPreventionInstruction(2964) not specified or used).] [SymbolicName: CxldSMP]</p> <p>18 = Cancelled, self-match prevention aggressive order [Elaboration: Cancelled due to incoming order with the same SelfMatchPreventionID(2362) and SelfMatchPreventionInstruction(2964)=1 (Cancel aggressive).] [SymbolicName: CxldSMPAggressive]</p> <p>19 = Cancelled, self-match prevention passive order [Elaboration: Cancelled due to incoming order with the same SelfMatchPreventionID(2362) and SelfMatchPreventionInstruction(2964)=2 (Cancel passive).] [SymbolicName: CxldSMPPassive]</p> <p>20 = Cancelled, self-match prevention aggressive and passive order [Elaboration: Cancelled due to incoming</p>		

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
				order with the same SelfMatchPreventionID(2362) and SelfMatchPreventionInstruction(2964)=3 (Cancel aggressive and passive).] [SymbolicName: CxldSMPAggressivePassive] 99 = Other		

Appendix B - Glossary Entries

Term	Definition	Field where used

Appendix C - Abbreviations

Term	Proposed Abbreviation	Proposed Messages, Components, Fields where used

Appendix D - Usage Examples

None

Appendix E – Disposition of Public Comments

E.1. Public comments from [forum user] on [date of post]

GTC Resolution:

E.2. Public comments from [forum user] on [date of post]

GTC Resolution: