

Global Fixed Income Committee

Best Practices for Trading Fixed Income Instruments

CDS & IRS

VOLUME 4 – Central Limit Order Book Workflows

Editor(s):	Produced by: FIX Trading Community Global Fixed Income Committee
Date:	Thursday, 08 May 2014
Version:	4.0
Paper designation:	Analysis

DISCLAIMER

THE INFORMATION CONTAINED HEREIN AND THE FINANCIAL INFORMATION EXCHANGE PROTOCOL (COLLECTIVELY, THE "FIX PROTOCOL") ARE PROVIDED "AS IS" AND NO PERSON OR ENTITY ASSOCIATED WITH THE FIX PROTOCOL MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE FIX PROTOCOL (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF) OR ANY OTHER MATTER AND EACH SUCH PERSON AND ENTITY SPECIFICALLY DISCLAIMS ANY WARRANTY OF ORIGINALITY, ACCURACY, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SUCH PERSONS AND ENTITIES DO NOT WARRANT THAT THE FIX PROTOCOL WILL CONFORM TO ANY DESCRIPTION THEREOF OR BE FREE OF ERRORS. THE ENTIRE RISK OF ANY USE OF THE FIX PROTOCOL IS ASSUMED BY THE USER.

NO PERSON OR ENTITY ASSOCIATED WITH THE FIX PROTOCOL SHALL HAVE ANY LIABILITY FOR DAMAGES OF ANY KIND ARISING IN ANY MANNER OUT OF OR IN CONNECTION WITH ANY USER'S USE OF (OR ANY INABILITY TO USE) THE FIX PROTOCOL, WHETHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, LOSS OF DATA, LOSS OF USE, CLAIMS OF THIRD PARTIES OR LOST PROFITS OR REVENUES OR OTHER ECONOMIC LOSS), WHETHER IN TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), CONTRACT OR OTHERWISE, WHETHER OR NOT ANY SUCH PERSON OR ENTITY HAS BEEN ADVISED OF, OR OTHERWISE MIGHT HAVE ANTICIPATED THE POSSIBILITY OF, SUCH DAMAGES.

DRAFT OR NOT RATIFIED PROPOSALS (REFER TO PROPOSAL STATUS AND/OR SUBMISSION STATUS ON COVER PAGE) ARE PROVIDED "AS-IS" TO INTERESTED PARTIES FOR DISCUSSION ONLY. PARTIES THAT CHOOSE TO IMPLEMENT THIS DRAFT PROPOSAL DO SO AT THEIR OWN RISK. IT IS A DRAFT DOCUMENT AND MAY BE UPDATED, REPLACED, OR MADE OBSOLETE BY OTHER DOCUMENTS AT ANY TIME. THE FPL GLOBAL TECHNICAL COMMITTEE WILL NOT ALLOW EARLY IMPLEMENTATION TO CONSTRAIN ITS ABILITY TO MAKE CHANGES TO THIS DOCUMENT PRIOR TO FINAL RELEASE. IT IS INAPPROPRIATE TO USE FIX TRADING COMMUNITY WORKING DRAFTS AS REFERENCE MATERIAL OR TO CITE THEM AS OTHER THAN "WORKS IN PROGRESS". THE FIX TRADING COMMUNITY GLOBAL TECHNICAL COMMITTEE WILL ISSUE, UPON COMPLETION OF REVIEW AND RATIFICATION, AN OFFICIAL STATUS ("APPROVED") TO THE PROPOSAL AND A RELEASE NUMBER.

No proprietary or ownership interest of any kind is granted with respect to the FIX Protocol (or any rights therein).

Copyright 2014 FIX Protocol Ltd, all rights reserved

Table of Contents

DISCLAIMER	2
TABLE OF CONTENTS	3
DOCUMENT HISTORY	6
VOLUME INDEX	7
1 INTRODUCTION	8
2 CENTRAL LIMIT ORDER BOOK – ACTIVITY DIAGRAM.....	9
3 CENTRAL LIMIT ORDER BOOK – OVERVIEW DIAGRAM	10
4 TRADING - CENTRAL LIMIT ORDER BOOK	11
4.1 Activity Diagram	12
4.2 Overview diagram.....	13
4.3 Message Flows Summary	14
4.4 Scenario CLOB1 – Submits Aggressive Order - Expires	15
4.5 Scenario CLOB2 – Submits Aggressive Order - Partially Fills – Expires	16
4.6 Scenario CLOB3 – Submits Aggressive Order - Fills	18
4.7 Scenario CLOB4 – Submits Passive Order - Expires	20
4.8 Scenario CLOB5 – Submits Passive Order - Partially Fills – Expires.....	21
4.9 Scenario CLOB6 – Submits Passive Order - Fills	23
4.10 Scenario CLOB7 – Submits Passive Order - Amends – Expires	25
4.11 Scenario CLOB8 – Submits Passive Order – Partially Fills - Amends – Fills.....	27
4.12 Scenario CLOB9 – Submits Passive Order –Amends – Rejects.....	29
4.13 Scenario CLOB10 – Submits Passive Order - Partially Fills - Cancels	31
4.14 Scenario CLOB11 – Submits Passive Order - Cancels – Rejects	33
4.15 Scenario CLOB12 – Submits Order - Rejects.....	35
4.16 Scenario CLOB13 – Unsolicited Cancel by the Execution Venue	36
4.17 Scenario CLOB14 – Cancels All Orders (Mass Cancel)	37
4.18 Scenario CLOB15 – Requests / Receives Order Status	38
4.19 Scenario CLOB16 – Submits Order – Partially Fills – Amends Order - Amends Order – Execution Venue Processes Sequentially.....	39
4.20 Scenario CLOB17 – Submits Order – Partially Fills – Amends Order – Amends Order – Execution Venue Processes Pending Replaces Before Replaces	42
4.21 Scenario CLOB18 – Submits Order – Partially Fills - Amends Decrease Order Quantity whilst Partial Fill being reported - Partially Fills whilst the Amendment is Pending – Amend Accepts - Order Fills..	45
4.22 Scenario CLOB19 – Submits Order – Partially Fills - Amends Order to Decrease Order Quantity whilst partial fill being reported	48
4.23 Scenario CLOB20 – Submits Order – Partially Fills – Remaining Quantity is less than the required minimum match size	50
4.24 Scenario CLOB21 – Submits Order – Partially Fills – Two amends are sent – 2nd amend is rejected by the Execution Venue - Filled	52
4.25 Scenario CLOB34 – Execution Report Reject (Don't Know Trade)	55
5 QUOTE CONTRIBUTION TO CENTRAL LIMIT ORDER BOOK.....	56
5.1 Activity Diagram	57

5.2 Overview Diagram.....	58
5.3 Message Flows Summary	58
5.4 Scenario CLOB22 – Submit a Two-Sided Quote - Accepted – Partially Filled - Update (Replenished)	59
5.5 Scenario CLOB23 – Submit a Quote - Rejected.....	62
5.6 Scenario CLOB24 – Submit One-Sided Quote – Accepted – Partially Filled - Filled.....	63
5.7 Scenario CLOB25 – Submit Two-Sided Quote – Bid Side Partially Filled – Bid Side Filled - Offer Side Filled	65
5.8 Scenario CLOB26 – Submit Two-sided Quote – Update – Update - Partially Filled - Update	67
5.9 Scenario CLOB27 – Submit Two-Sided Quote – Cancel Bid side	69
5.10 Scenario CLOB28 – Submit Two-Sided Quote – Cancel Both Sides	71
5.11 Scenario CLOB40 – Submit Two-Sided Quote – Quote is partially filled while quantity is being updated – Quantity filled is greater than updated quantity – Remaining quantity set to zero	73
5.12 Scenario CLOB29 – Submit Two-Sided Quote – Partially filled while Quote is Updated – Update rejected.....	75
5.13 Scenario CLOB41 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Remaining Quantity Removed From Market	77
5.14 Scenario CLOB30 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Cancel Rejected	79
5.15 Scenario CLOB31 – Query Quote Status.....	81
5.16 Scenario CLOB32 – Unsolicited Quote Reinstatement (Replenishment).....	82
5.17 Scenario CLOB33 – Mass Cancel all Quotes	84
6 VOICE TRADING	85
6.1 Voice Order Followed Electronically by Execution Reports	85
6.2 Voice Order Followed Electronically by Trade Capture Reports	86
6.3 Message Flows Summary	87
6.4 Scenario CLOB35 – Voice Order Followed Electronically by Execution Reports.....	88
6.5 Scenario CLOB36 – Voice Order Followed Electronically by Trade Capture Report	90
6.6 Scenario CLOB37 – Dealer Subscribes / Unsubscribes to Trade Capture Reports	91
7 AUCTIONS AND WORKUPS.....	93
7.1 Message Flows Summary	93
7.2 Scenario CLOB38 - Execution Venue Initiates Intra-Day Auction – Dealer Submits Orders – Execution Venue Acknowledges – Continuous Trading Resumes – Execution Venue Sends Auction Results.....	94
7.3 Scenario CLOB39 - Execution Triggers Private Workups session followed by Public Workups session	96
8 STOP ORDERS, ICEBERG ORDERS & PEG ORDERS	100
8.1 Stop orders	100
8.2 Triggering Instructions.....	104
8.3 Peg Instructions.....	104
8.4 Display Instructions (Icebergs)	104
9 MESSAGE DETAIL	105
9.1 NewOrderSingle (MsgType=D)	106

9.2 ExecutionReport (MsgType=8)	107
9.3 OrderCancelRequest (MsgType=F)	110
9.4 OrderCancelReplaceRequest (MsgType=G)	111
9.5 OrderCancelReject (MsgType=9)	112
9.6 OrderMassCancelRequest (MsgType=q)	113
9.7 Order Mass Cancel Report (MsgType=r)	114
9.8 OrderStatusRequest (MsgType=H)	115
9.9 Quote (MsgType=S)	116
9.10 QuoteStatusReport(MsgType=AI)	118
9.11 QuoteStatusRequest (MsgType=a)	119
9.12 TradeCaptureReport (MsgType=AE)	120
9.13 TradeCaptureReportRequest (MsgType=AD)	124
9.14 TradeCaptureReportRequestAck (MsgType=AQ)	127
APPENDIX I - DOCUMENT FIGURES	128
APPENDIX II - DOCUMENT TABLES	129

Document History

Date	Change	Version
20 September 2011	<ul style="list-style-type: none"> Split document into 4 volumes <ul style="list-style-type: none"> Volume 1 – Introduction Volume 2 – Common Workflows Volume 3 – Quote-Driven Workflows Volume 4 – Central Order Book Workflows (this document) This volume is based on chapter 8 of the un-split <i>Best Practices: FIX Message Flows and Usage for Interest Rate Swaps (IRS) and Credit Default Swaps (CDS) version 2.3</i> Split Scenario COB16 into two scenarios, COB16 and COB17 COB10 Changed the table to remove the (E) from Cancel request Acknowledgement (Optional) Arrow in diagram E "Cancel Acknowledge" corresponds with "E" in the message table Execution Report - Order Cancelled as opposed to Execution report for "Cancel request Acknowledgement" 	3.0
18 October 2011	<ul style="list-style-type: none"> Merged the errata to this document 	3.01
31 October 2011	<ul style="list-style-type: none"> Merged another errata to this document 	3.02
27 February 2012	<ul style="list-style-type: none"> Merge GFIC LegSecurityXML Proposal Merge GFIC QuoteAck Message Proposal 	3.05
31 July 2012	<ul style="list-style-type: none"> Merged with cash bonds version Added scenario CLOB35 (Execution Report Reject) Added Drop-Copy 	3.1
20 August 2012	<ul style="list-style-type: none"> Added Trade Capture Report scenarios to Drop Copy 	3.2
01 May 2013	<ul style="list-style-type: none"> Added Section 7 – Auctions and Workups 	3.3
07 April 2014	<ul style="list-style-type: none"> Document ready for FIX Trading Community member firm review followed by public release (Phase 3) 	4.0

VOLUME INDEX

VOLUME 1 - INTRODUCTION

VOLUME INDEX
INTRODUCTION
ORGANIZATION OF DOCUMENT
OVERVIEW DIAGRAM
FIX VERSIONS SUPPORTED & BACKWARD COMPATIBILITY
GLOSSARY

VOLUME 2 - COMMON WORKFLOWS

INTRODUCTION
FIX COMMON INFRASTRUCTURE MESSAGES
INSTRUMENT IDENTIFIERS
MARKET CONVENTIONS
REGULATORY CHANGES
PRE-TRADE – REFERENCE DATA
PRE-TRADE – PRICE SUBSCRIPTION
PRE-TRADE – QUOTE CONTRIBUTION
MESSAGE DETAIL
APPENDIX

VOLUME 3 - QUOTE- DRIVEN WORKFLOWS

INTRODUCTION
QUOTE DRIVEN MODEL OVERVIEW
QUOTE REQUEST WORKFLOWS
TRADEABLE QUOTE WITH DEALER'S LAST LOOK WORKFLOWS
TRADEABLE QUOTE WITHOUT DEALER'S LAST LOOK WORKFLOWS
INDICATIVE QUOTE WORKFLOWS
MULTI-DEALER WORKFLOWS
VOICE TRADING
AXE INDICATION
MESSAGE DETAIL
APPENDIX

VOLUME 4 - CENTRAL ORDER BOOK WORKFLOWS

INTRODUCTION
TRADING-CENTRAL LIMIT ORDER BOOK
QUOTE CONTRIBUTION TO CENTRAL LIMIT ORDER BOOK
VOICE TRADING
AUCTIONS AND WORKUPS
STOP ORDERS, ICEBERG ORDERS & PEG ORDERS
MESSAGE DETAIL
APPENDIX

VOLUME 5 – POST-TRADE WORKFLOWS

INTRODUCTION
ALLOCATIONS
CONFIRMATIONS
MESSAGE DETAIL
APPENDIX

1 Introduction

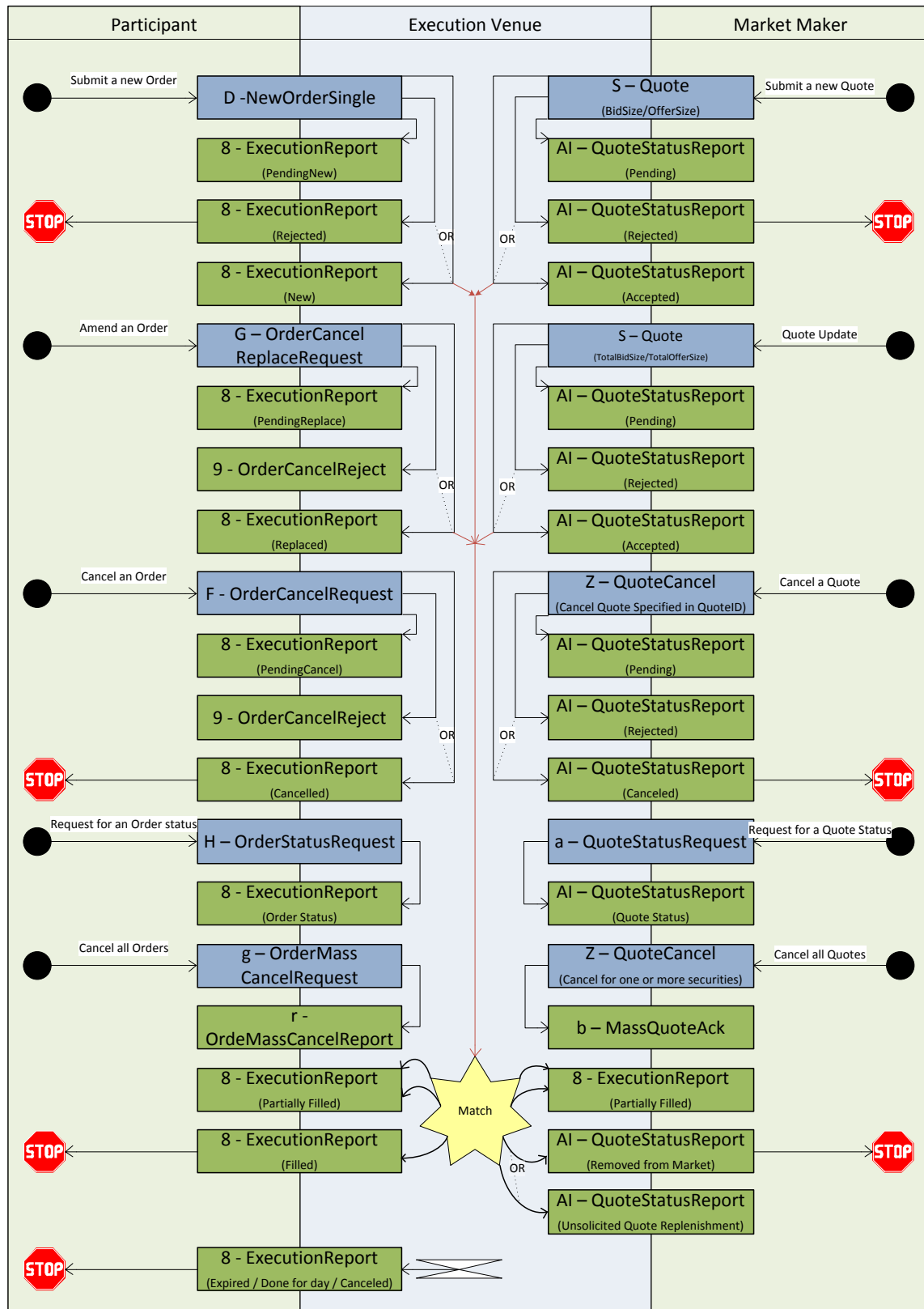
This is volume 4 of the *Best Practices for Trading Fixed Income Instruments - CDS & IRS* document suite. This volume describes the best practices that are applicable to Central Limit Order Book (CLOB) workflows. The workflows are separated into three sections:

- [Submitting and managing orders in a CLOB](#)
- [Contributing quotes to CLOB](#)
- [Voice Trading](#)

Overview of this document and document conventions are explained in *Best Practices for Trading Fixed Income Instruments- Volume 1*. Reading of *Best Practices for Trading Fixed Income Instruments - Volume 1* is taken as a prerequisite to understand this volume.

2 Central Limit Order Book – Activity Diagram

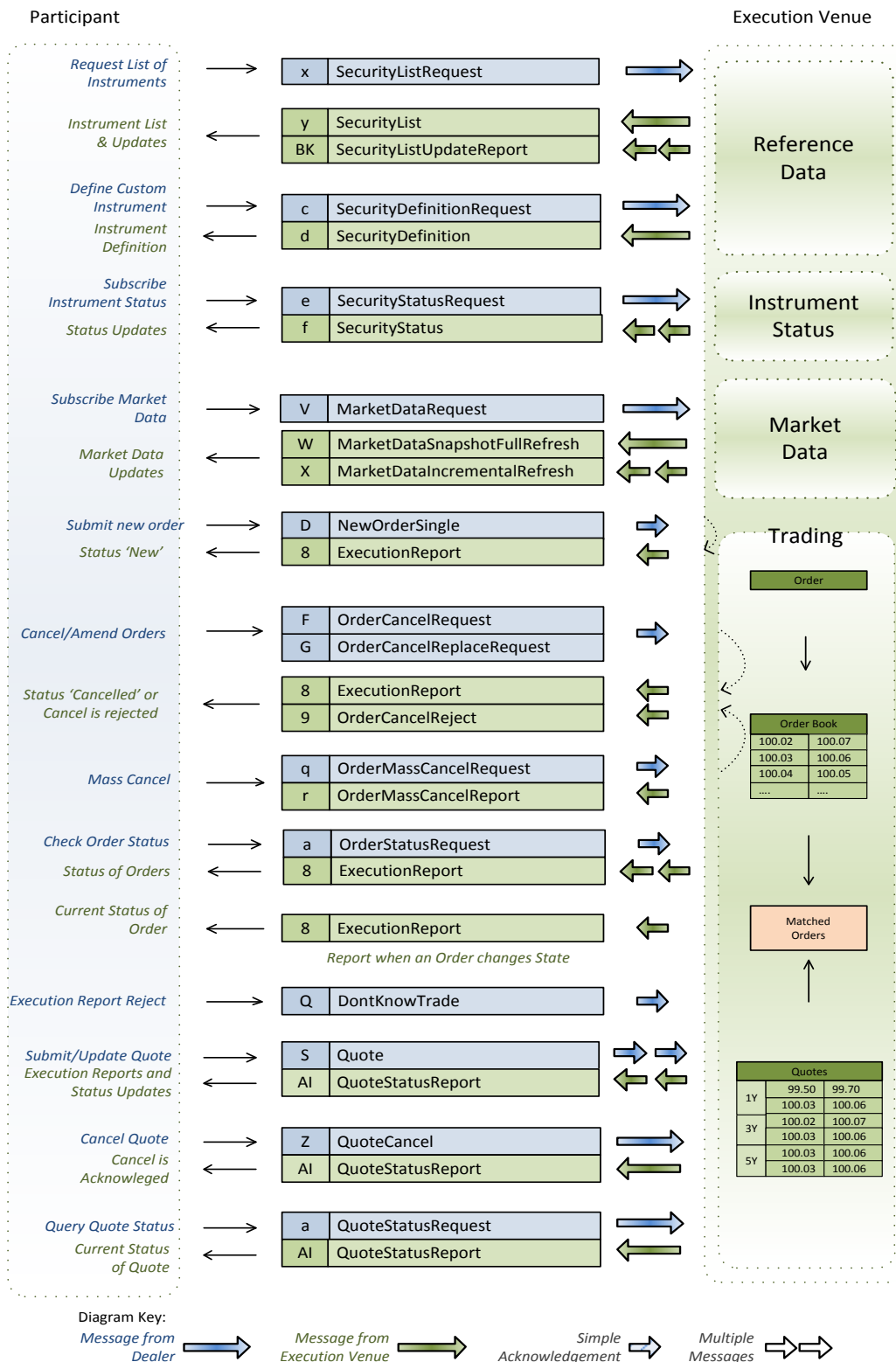
The following activity diagram is an aide to defining the scenarios in this volume



3 Central Limit Order Book – Overview Diagram

The following overview diagram shows the message flow expected to be implemented by Execution Venue that uses the Central Limit Order Book Model.

Central Order Book Message Flows



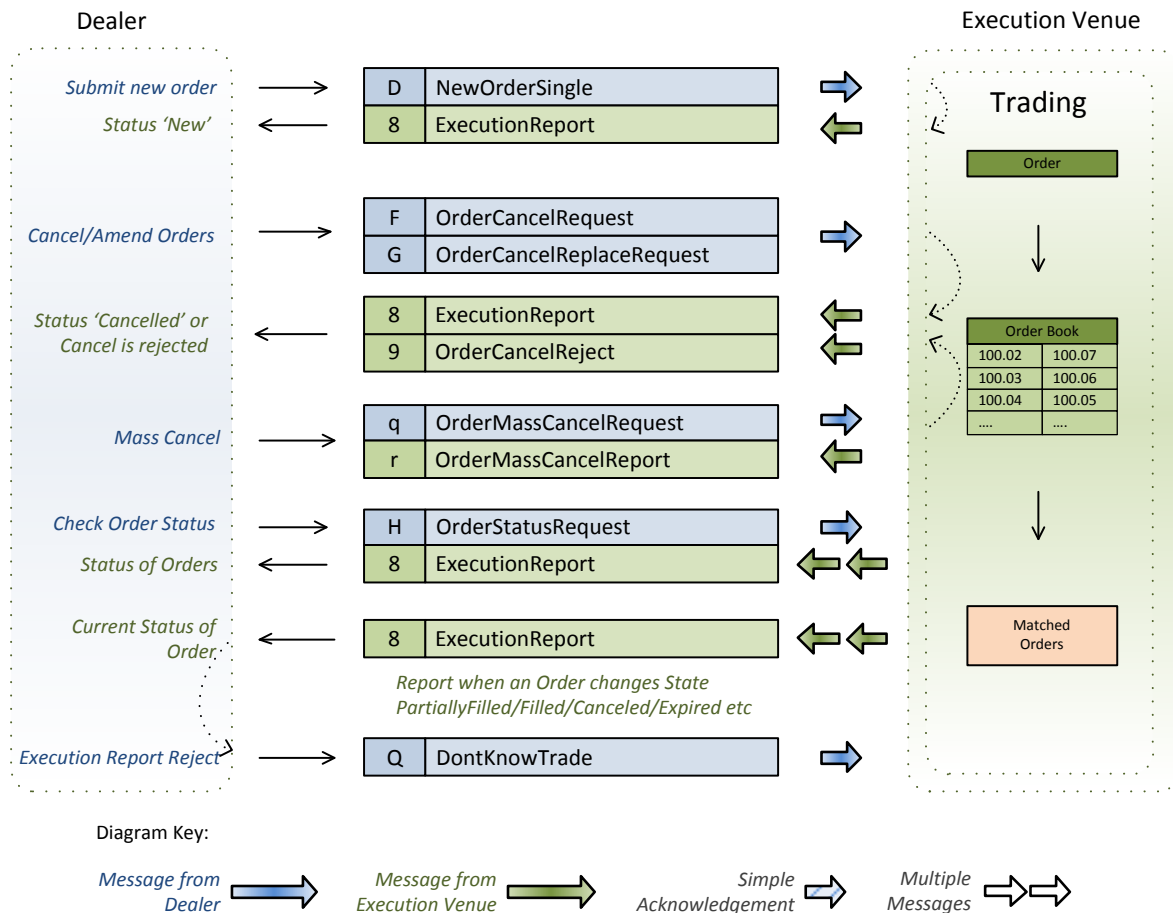
4 Trading - Central Limit Order Book

Dealers send orders to the Central Limit Order Book, which are matched against other participant's orders. Executions are notified to both parties when matches occur.

4.2 Overview diagram

The following diagram illustrates the FIX messages and the Workflows described in this chapter.

Central Order Book Message Flows



4.3 Message Flows Summary

The following scenarios illustrate the use of the above messages.

Scenario	Description
CLOB1	Submits Aggressive Order - Expires
CLOB2	Submits Aggressive Order - Partially Fills – Expires
CLOB3	Submits Aggressive Order - Fills
CLOB4	Submits Passive Order - Expires
CLOB5	Submits Passive Order - Partially Fills – Expires
CLOB6	Submits Passive Order - Fills
CLOB7	Submits Passive Order - Amends – Expires
CLOB8	Submits Passive Order – Partially Fills - Amends – Fills
CLOB9	Submits Passive Order –Amends – Rejects
CLOB10	Submits Passive Order - Partially Fills - Cancels
CLOB11	Submits Passive Order - Cancels – Rejects
CLOB12	Submits Order - Rejects
CLOB13	Unsolicited Cancel by the Execution Venue
CLOB14	Cancels All Orders (Mass Cancel)
CLOB15	Requests / Receives Order Status
CLOB16	Submits Order - Partially Fills Amends Order - Amends Order – Execution Venue Processes Sequentially
CLOB17	Submits Order – Partially Fills - Amends Order - Amends Order - Execution Venue Processes Pending Replaces Before Replace
CLOB18	Submits Order – Partially Fills - Amends Decrease Order Quantity whilst Partial Fill being reported - Partially Fills whilst the Amendment is Pending – Amend Accepts - Order Fills
CLOB19	Submits Order – Partially Fills - Amends Order Quantity Down whilst partial fill being reported
CLOB20	Scenario CLOB20 – Submits Order – Partially Fills – Remaining Quantity is less than the required minimum match size
CLOB21	Submits Order – Partially Fills – Two amends are sent – 2 nd amend is rejected by the Execution Venue - Filled

4.4 Scenario CLOB1 – Submits Aggressive Order - Expires

Dealer submits 'Fill Or Kill' or 'Immediate or Cancel' order that is not traded. This scenario is explained in detail in *FIX specifications Version 5.0 Service Pack 2 - Volume 4 Order State change Matrices I.1.a*.

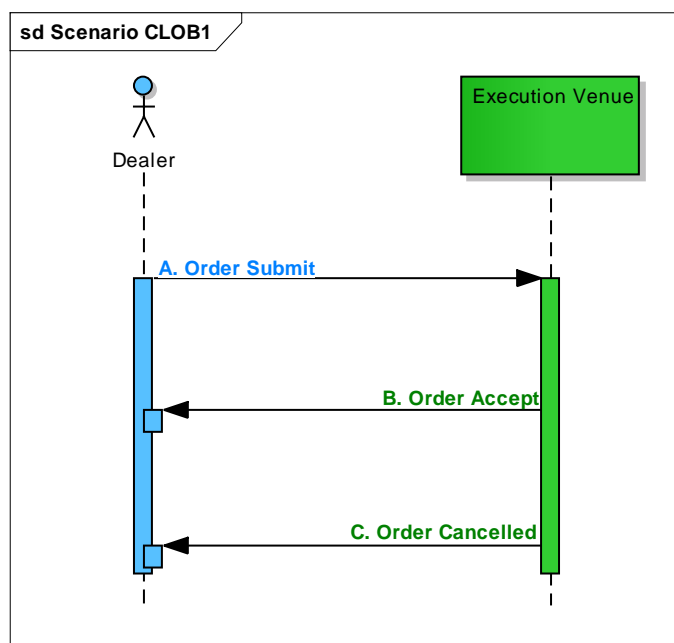


Figure 1: Scenario CLOB1 – Submits Aggressive Order - Expires

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdId(11)= ❶ OrderQty(38)=10000 TimeInForce(59)=ImmediateOrCancel(3) FillOrKill(4)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)= ❶ OrderId(37)= ❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Order Cancelled		←	8 – ExecutionReport ClOrdID(11)= ❶ OrderId(37)= ❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0 ExecType(150)=Canceled(4) OrdStatus(39)=Canceled(4)	

Table 1: Scenario CLOB1 – Submits Aggressive Order - Expires

4.5 Scenario CLOB2 – Submits Aggressive Order - Partially Fills – Expires

Dealer submits 'Immediate or Cancel' order that is partially filled. This scenario is explained in detail in *FIX specifications Version 5.0 Service Pack 2 - Volume 4 Order State change Matrices I.1.b.*

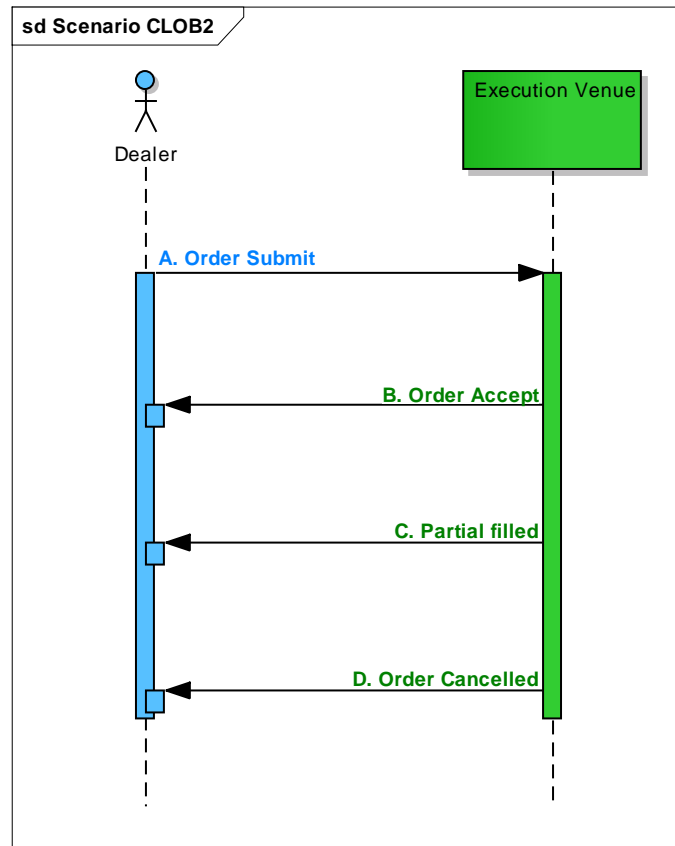


Figure 2: Scenario CLOB2 – Submits Aggressive Order - Partially Fills – Expires

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdId(11)=❶ OrderQty(38)=10000 TimeInForce(59)=ImmediateOrCancel(3)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Partial Filled		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000 ExecType(150)=Trade(F) OrdStatus(39)=PartiallyFilled(1)	
(D) Order Cancelled		←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=0 ExecType(150)=Canceled(4) OrdStatus(39)=Canceled(4)	

Table 2: Scenario CLOB2 – Submits Aggressive Order - Partially Fills – Expires

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.6 Scenario CLOB3 – Submits Aggressive Order - Fills

Dealer submits 'Fill Or Kill' or 'Immediate or Cancel' order that is filled. This scenario is similar to the one explained in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices A.1.a*

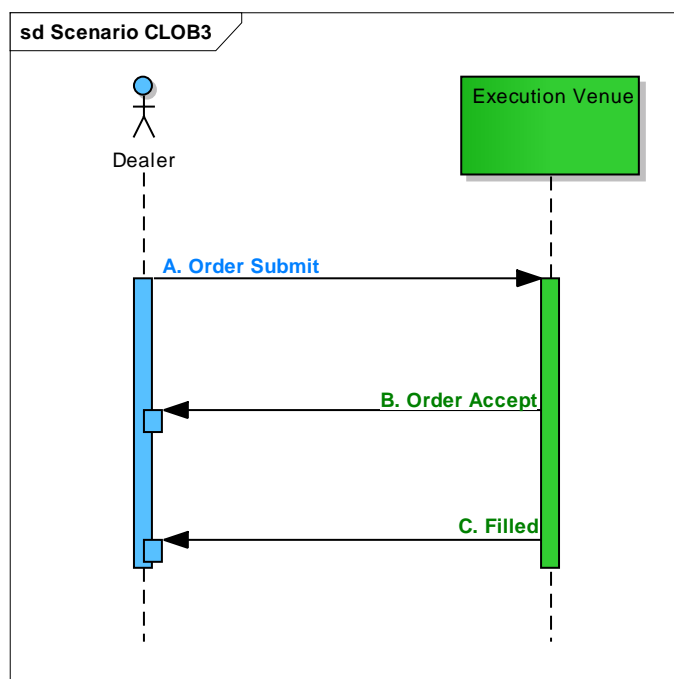


Figure 3: Scenario CLOB3 – Submits Aggressive Order - Fills

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11)=❶ OrderQty(38)=10000 TimeInForce(59)=ImmediateOrCancel(3) FillOrKill(4)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)=❶ OrderID(37)=❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Filled		←	8 – ExecutionReport ClOrdID(11)=❶ OrderID(37)=❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=10000 LeavesQty(151)=0 ExecType(150)=Trade(F) OrdStatus(39)=Filled(2)	

Table 3: Scenario CLOB3 – Submits Aggressive Order - Fills

There are two options for reporting an execution for a multi-leg instrument (strategy):

FIX Trading Community is a brand of FIX Protocol Ltd

© 2014 FIX Protocol Limited

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.7 Scenario CLOB4 – Submits Passive Order - Expires

Dealer submits order that is later expired.

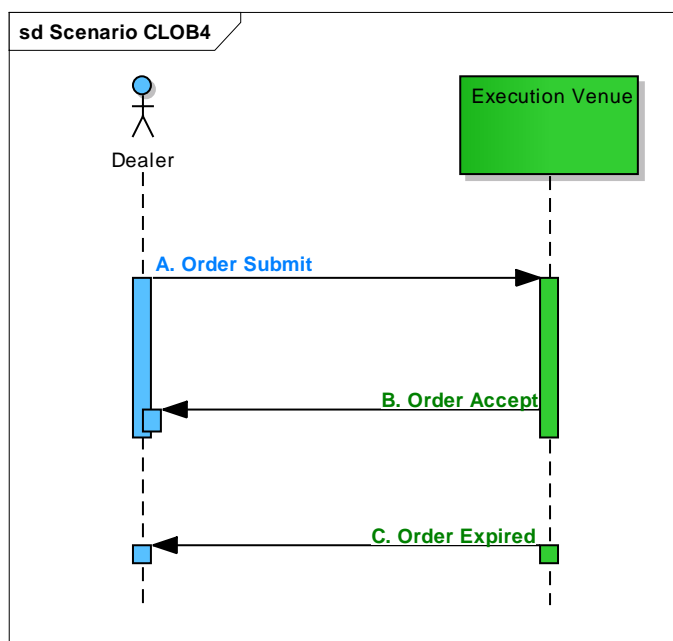


Figure 4: Scenario CLOB4 – Submits Passive Order - Expires

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11)=❶ OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillDate(6)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=NewOrdStatus(39)=New(0)	
(C) Order Expired		←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0 ExecType(150)=Done for day(3) OrdStatus(39)=Done for day(3)	

Table 4: Scenario CLOB4 – Submits Passive Order - Expires

4.8 Scenario CLOB5 – Submits Passive Order - Partially Fills – Expires

Dealer submits order that is partially filled and later expired.

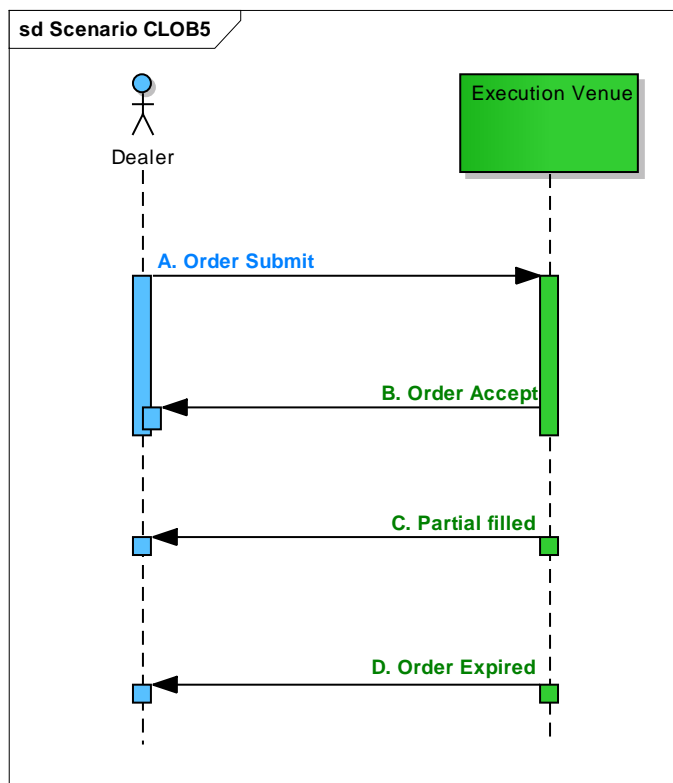


Figure 5: Scenario CLOB5 – Submits Passive Order - Partially Fills – Expires

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Order Submit	Dealer	→	D – NewOrderSingle CIOrdID(11)=❶ OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillDate(6)
(B) Order Accept		←	8 – ExecutionReport CIOrdID(11)=❶ OrderID(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)
(C) Partial Filled		←	8 – ExecutionReport CIOrdID(11)=❶ OrderID(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=3000 LeavesQty(151)=7000 ExecType(150)=Trade(F) OrdStatus(39)=PartiallyFilled(1)

Model FIX 5.0			
(D) Order Expired		<p>8 – ExecutionReport</p> <p>ClOrdID(11)=①</p> <p>OrderId(37)=②<assigned by the Execution Venue></p> <p>← OrderQty(38)=10000</p> <p>CumQty(14)=3000</p> <p>LeavesQty(151)=0</p> <p>ExecType(150)=Done for day(3)</p> <p>OrdStatus(39)=Done for day(3)</p>	

Table 5: Scenario CLOB5 – Submits Passive Order - Partially Fills – Expires

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.9 Scenario CLOB6 – Submits Passive Order - Fills

Dealer submits order that is later filled. This scenario is similar to the one explained in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices A.1.a*.

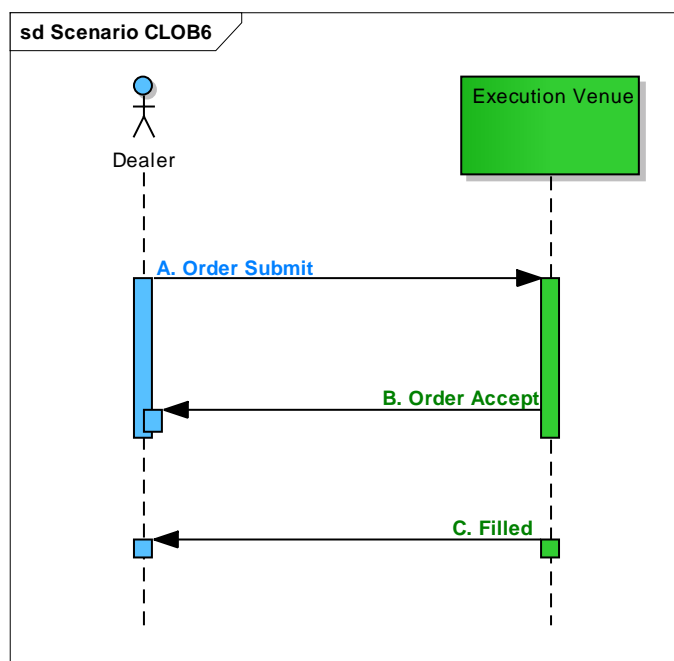


Figure 6: Scenario CLOB6 – Submits Passive Order - Fills

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11) = ❶ OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)= ❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Filled		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)= ❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=10000 LeavesQty(151)=0 ExecType(150)=Trade(F) OrdStatus(39)=Filled(2)	

Table 6: Scenario CLOB6 – Submits Passive Order - Fills

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.10 Scenario CLOB7 – Submits Passive Order - Amends – Expires

Dealer submits order that is later amended but expired without trading.

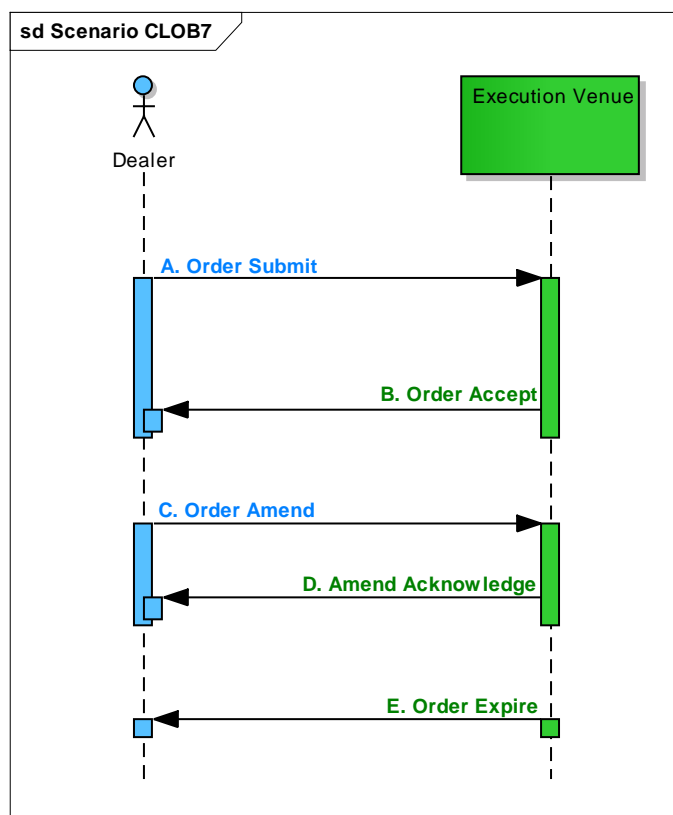


Figure 7: Scenario CLOB7 – Submits Passive Order - Amends – Expires

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11) = ❶ OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillDate(6)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)= ❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Amend request		→	G – OrderCancelReplaceRequest ClOrdID(11)= ❸ OrigClOrdId(41) = ❶ OrderId(37)= ❷ <assigned by the Execution Venue> OrderQty(38)=11000	

Model FIX 5.0			
Amend request Acknowledgement (Optional)		<p>←</p> <p>8 – ExecutionReport ClOrdID(11)=③ OrigClOrdId(41)=① OrderId(37)=②<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=PendingReplaced(E) OrdStatus(39)=PendingReplaced(E) (Optional)</p>	
(D) Amend Acknowledgement		<p>←</p> <p>8 – ExecutionReport ClOrdID(11)=③ OrigClOrdId(41)=① OrderId(37)=②<assigned by the Execution Venue> OrderQty(38)=11000 CumQty(14)=0 LeavesQty(151)=11000 ExecType(150)=Replaced(5) OrdStatus(39)=New(0)</p>	
(E) Order Expired		<p>←</p> <p>8 – ExecutionReport ClOrdID(11)=③ OrigClOrdId(41)=① OrderId(37)=②<assigned by the Execution Venue> OrderQty(38)=11000 CumQty(14)=0 LeavesQty(151)=0 ExecType(150)=Done for day(3) OrdStatus(39)=Done for day(3)</p>	

Table 7: Scenario CLOB7 – Submits Passive Order - Amends – Expires

4.11 Scenario CLOB8 – Submits Passive Order – Partially Fills - Amends – Fills

Dealer submits order, which is partially filled, later when the Dealer amends the order quantity, the order changed to ‘filled’. This scenario is similar to the one explained in *FIX Errata specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices C.1.c*.

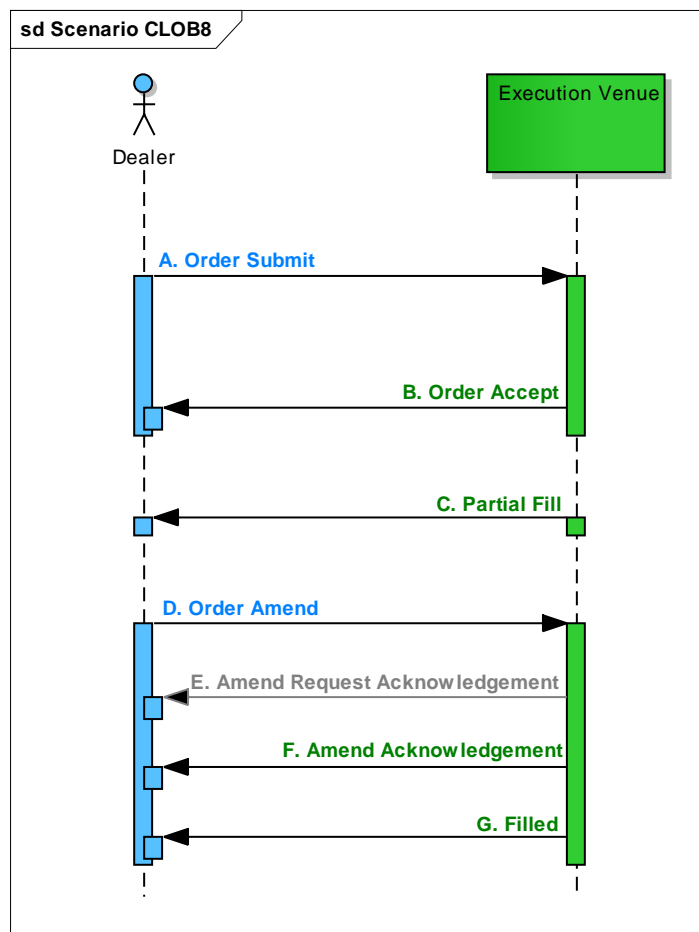


Figure 8: Scenario CLOB8 – Submits Passive Order – Partially Fills - Amends – Fills

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11)= 1 OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6)	Execution Venue
(B) Order Accept			8 – ExecutionReport ClOrdID(11)= 1 OrderId(37)= 2 <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	

Model FIX 5.0			
(C) Partial Fill	←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000 ExecType(150)=Trade(F) OrdStatus(39)=PartiallyFilled(1)	
(D) Amend request	→	G – OrderCancelReplaceRequest ClOrdID(11) =❸ OrigClOrdId(41) =❶ OrderId(37)=❷ <assigned by the Execution Venue> SecurityIDSource(22)=CUSIP(1) OrderQty(38)=12000	
(E) Amend Request Acknowledgement (Optional)	←	8 – ExecutionReport ClOrdID(11) =❸<amended Dealer order id> OrigClOrdId(41)=❶<original unique Dealer order id> OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000 ExecType(150)=PendingReplaced(E) OrdStatus(39)=PendingReplaced(E) (Optional)	
(F) Amend Acknowledgement	←	8 – ExecutionReport ClOrdID(11) =❸<amended Dealer order id> OrigClOrdId(41)=❶<original unique Dealer order id> OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=12000 CumQty(14)=1000 LeavesQty(151)=11000 ExecType(150)=Replaced(5) OrdStatus(39)=PartiallyFilled(1)	
(G) Order Filled	←	8 – ExecutionReport ClOrdID(11) =❸<amended Dealer order id> OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=12000 CumQty(14)=12000 LeavesQty(151)=0 ExecType(150)=Trade(F) OrdStatus(39)=Filled(2)	

Table 8: Scenario CLOB8 – Submits Passive Order – Partially Fills - Amends – Fills

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.12 Scenario CLOB9 – Submits Passive Order –Amends – Rejects

Dealer submits order, later when the Dealer amends the order, the amendment is rejected.

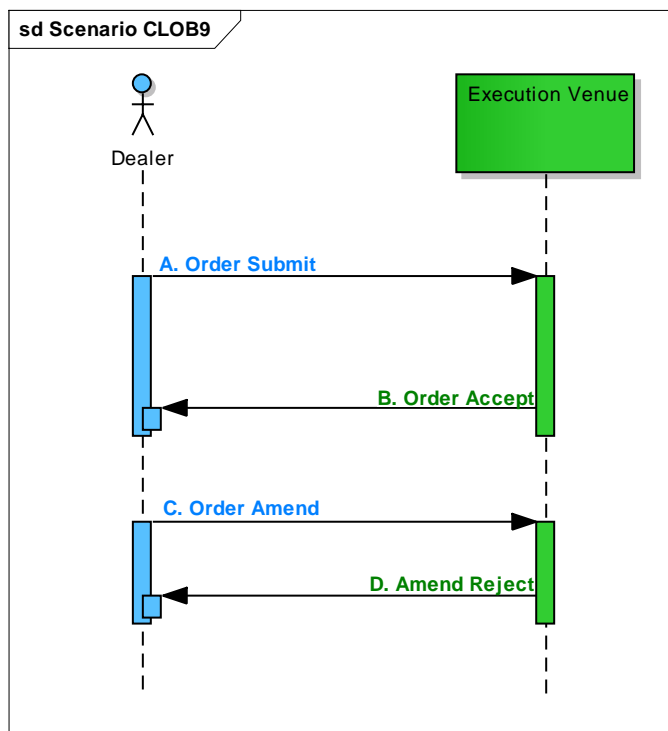


Figure 9: Scenario CLOB9 – Submits Passive Order –Amends – Rejects

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11) = ❶ OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)= ❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Amend request		→	G – OrderCancelReplaceRequest ClOrdID(11) = ❸ OrigClOrdId(41)= ❶ OrderQty(38)=11000	

Model FIX 5.0			
Amend request Acknowledgement (Optional)		8 – ExecutionReport ClOrdID(11) = ③ OrigClOrdId(41) = ① OrderId(37) = ② <assigned by the Execution Venue> ← OrderQty(38) = 10000 CumQty(14) = 0 LeavesQty(151) = 10000 ExecType(150) = PendingReplaced(E) OrdStatus(39) = PendingReplace(E) (Optional)	
(D) Amend Rejected		9 – OrderCancelReject ClOrdID(11) = ③ ← OrderId(37) = ② <assigned by the Execution Venue> OrigClOrdId(41) = ① OrdStatus(39) = New(0)	

Table 9: Scenario CLOB9 – Submits Passive Order –Amends – Rejects

4.13 Scenario CLOB10 – Submits Passive Order - Partially Fills - Cancels

Dealer submits order, which is partially filled; later the Dealer cancels the order.

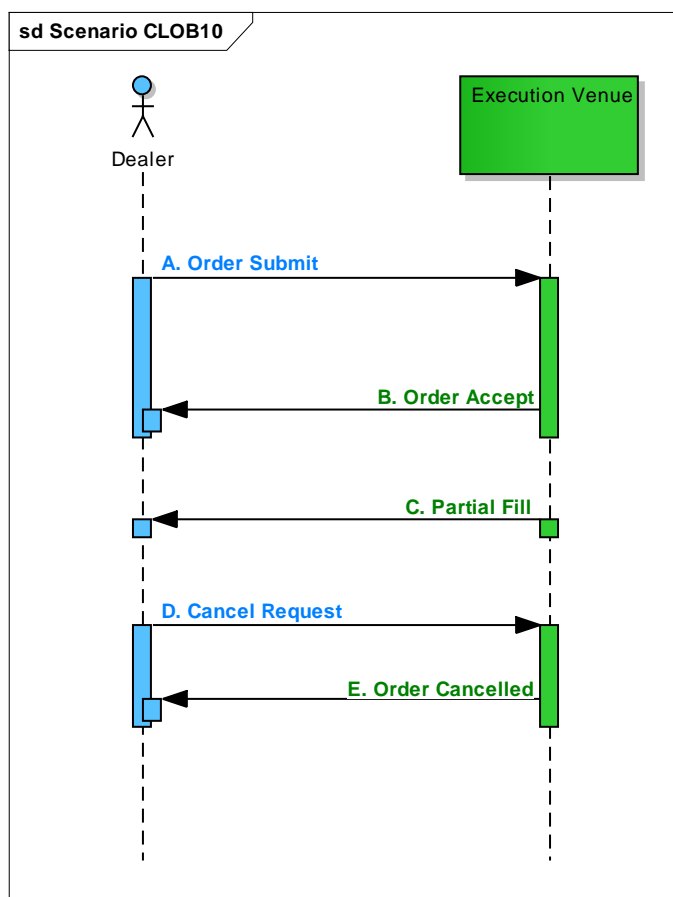


Figure 10: Scenario CLOB10 – Submits Passive Order - Partially Fills - Cancels

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11) = ❶ OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6)
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)

Model FIX 5.0			
(C) Partial Fill	←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=2000 LeavesQty(151)=8000 ExecType(150)=Trade(F) OrdStatus(39)=PartiallyFilled(1)	
(D) Cancel request	→	F – OrderCancelRequest ClOrdID(11)=❸ OrderQty(38)=10000 OrigClOrdId(41)=❶	
Cancel request Acknowledgement (Optional)	←	8 – ExecutionReport ClOrdID(11)=❸ OrigClOrdId(41)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=2000 LeavesQty(151)=8000 ExecType(150)=PendingCancel(6) OrdStatus(39)=PendingCancel(6) (Optional)	
(E) Order Cancelled	←	8 – ExecutionReport ClOrdID(11)=❸ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=2000 LeavesQty(151)=0 ExecType(150)=Cancelled(4) OrdStatus(39)=Cancelled(4)	

Table 10: Scenario CLOB10 – Submits Passive Order - Partially Fills - Cancels

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.14 Scenario CLOB11 – Submits Passive Order - Cancels – Rejects

Dealer submits order, when the Dealer tries to cancel the order – the cancellation is rejected. This scenario is similar to the scenario explained in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices B.1.a*.

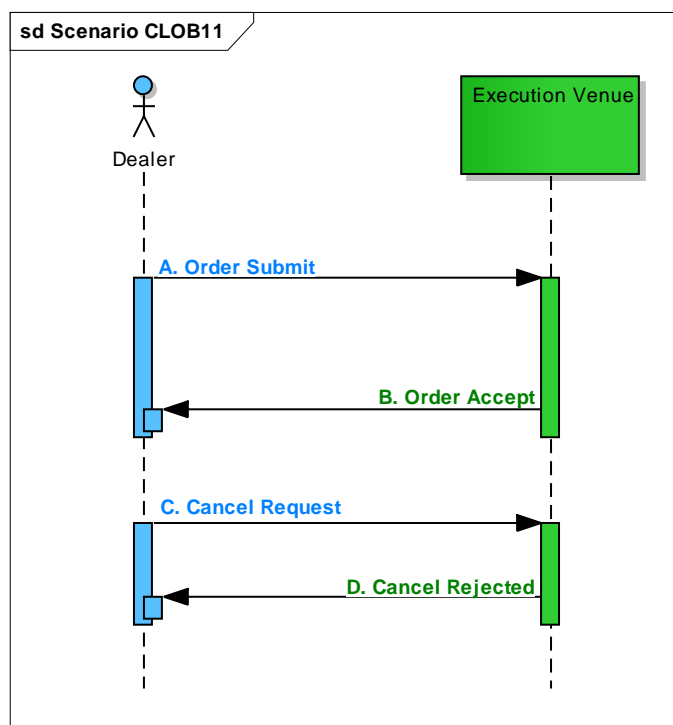


Figure 11: Scenario CLOB11 – Submits Passive Order - Cancels – Rejects

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11)=❶ OrderQty(38)=10000 TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) OrdType(40)=Limit(2)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Cancel request		→	F – OrderCancelRequest ClOrdID(11)=❸ OrderQty(38)=10000 OrigClOrdId(41)=❶<original unique Dealer order id >	

Model FIX 5.0			
Cancel request Acknowledgement (Optional)		<p>8 – ExecutionReport</p> <p>ClOrdID(11)=3</p> <p>OrderID(37)=2<assigned by the Execution Venue></p> <p>← OrigClOrdID(41)=1</p> <p>OrderQty(38)=10000</p> <p>CumQty(14)=0</p> <p>LeavesQty(151)=10000</p> <p>ExecType(150)=PendingCancel(6)</p> <p>OrdStatus(39)=PendingCancel(6) (Optional)</p>	
(D) Cancel Rejected		<p>9 – OrderCancelReject</p> <p>ClOrdID(11)=3</p> <p>← OrderID(37)=2<assigned by the Execution Venue></p> <p>OrigClOrdID(41)=1</p> <p>OrdStatus(39)=New(0)</p>	

Table 11: Scenario CLOB11 – Submits Passive Order - Cancels – Rejects

4.15 Scenario CLOB12 – Submits Order - Rejects

Dealer submits an order, Execution Venue reject the order. This scenario is similar to the one explained in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices F.1.c*.

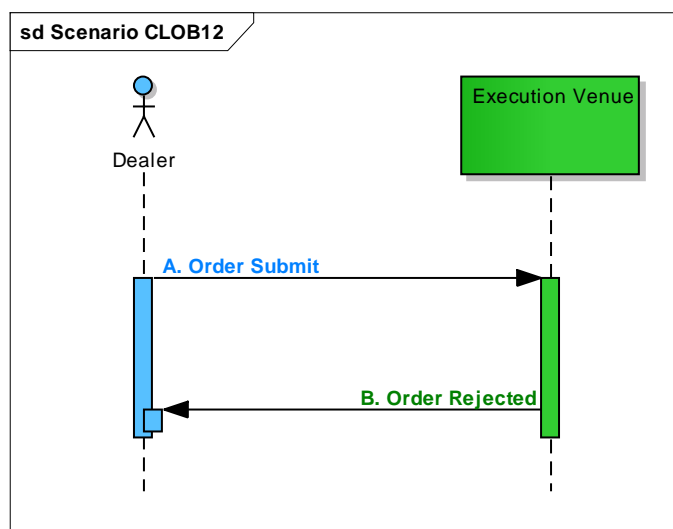


Figure 12: Scenario CLOB12 – Submits Order - Rejects

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11)=❶ OrderQty(38)=10000	Execution Venue
(B) Order Rejected		←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0 ExecType(150)=Rejected(8) OrdStatus(39)=Rejected(8)	

Table 12: Scenario CLOB12 – Submits Order - Rejects

Note: An order may be rejected subsequent to order acknowledgement, i.e. an order can pass from New to Rejected status.

4.16 Scenario CLOB13 – Unsolicited Cancel by the Execution Venue

An order successfully submitted to the Execution Venue. The order is later cancelled by the Execution Venue (e.g. because of an adverse market condition or by support staff on behalf of the Dealer). This scenario is similar to the one explained in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices E.1.b*.

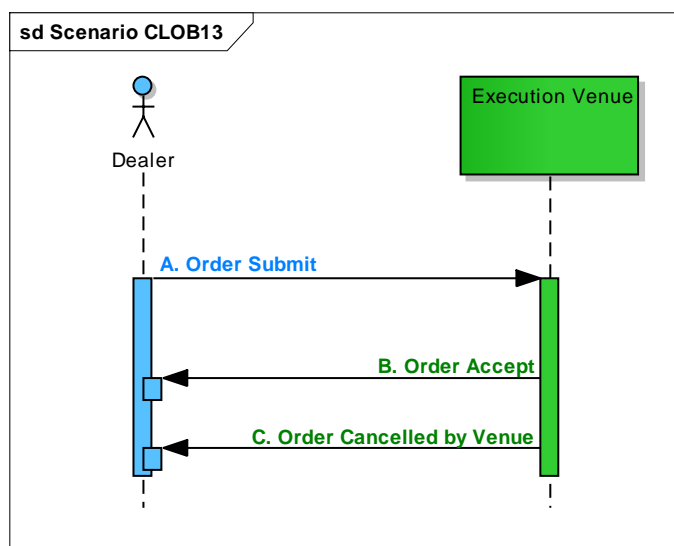


Figure 13: Scenario CLOB13 – Unsolicited Cancel by the Execution Venue

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle CIOrdID(11)=❶ OrderQty(38)=10000 OrdType(40)=Limit(2)	Execution Venue
(B) Order Accept		←	8 – ExecutionReport CIOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Order cancelled by venue		←	8 – ExecutionReport CIOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0 ExecType(150)=Canceled(4) OrdStatus(39)=Canceled(4) ExecRestatementReason(378) <should be used when communicating an unsolicited cancel>	

Table 13: Scenario CLOB13 – Unsolicited Cancel by the Execution Venue

4.17 Scenario CLOB14 – Cancels All Orders (Mass Cancel)

A Dealer wishes to withdraw all of their orders e.g. in response to adverse market conditions.

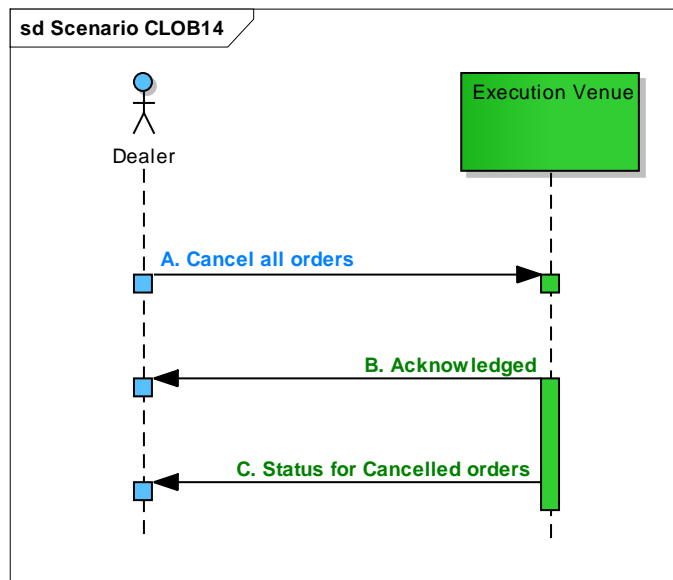


Figure 14: Scenario CLOB14 – Cancels All Orders (Mass Cancel)

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Cancel All Orders	Dealer	→	q – OrderMassCancelRequest ClOrdID(11)=❶ MassCancelRequestType(530)=required e.g. CancelAllOrders(7)
(B) Acknowledged		←	r – OrderMassCancelReport ClOrdID(11)=❶ MassCancelRequestType(530)=CancelAllOrders(7) MassCancelResponse(531)=CancelAllOrders(7)
(C) Status for cancelled orders <i>One ExecutionReport/OrderCancelReject message per affected order</i>		For each cancelable order...	
		←	8 – ExecutionReport ClOrdID(11)=<order ID> OrigClOrdID(41)=< original unique Dealer order id > ExecType(150)=Pending Cancel(6) OrdStatus(39)=Pending Canceled(6) (Optional)
		←	8 – ExecutionReport ClOrdID(11)=<order ID> OrigClOrdID(41)=< original unique Dealer order id > ExecType(150)=Canceled(4) OrdStatus(39)=Canceled(4)
		←	
		For each cancelled order...	
For each order that can't be canceled...			
	←	9 – OrderCancelReject ClOrdID(11)=<order ID> OrigClOrdID(41)=< original unique Dealer order id >	

Table 14: Scenario CLOB14 – Cancels All Orders (Mass Cancel)

4.18 Scenario CLOB15 – Requests / Receives Order Status

Dealer requests order status from the execution venue.

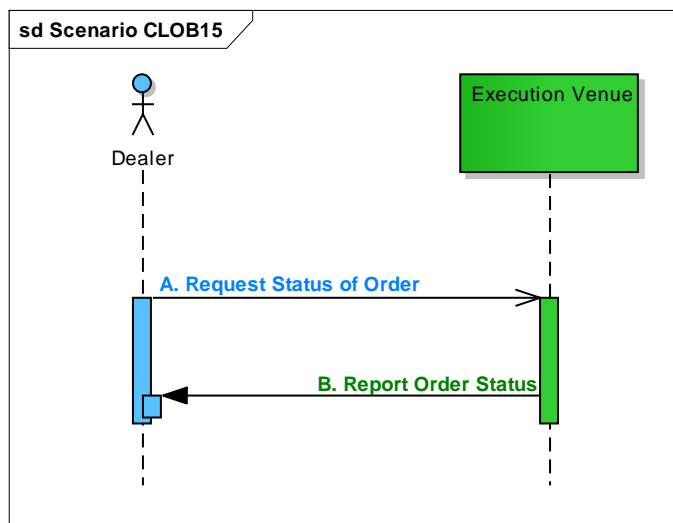


Figure 15: Scenario CLOB15 – Requests / Receives Order Status

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Request Order Status	Dealer	→	H – OrderStatusRequest ClOrdID(11)= ❶ OrderId(37)= ❷ <assigned by the Execution Venue> <optional>	Execution Venue
(B) Report Order Status		←	8 – ExecutionReport ClOrdID(11)= ❶ OrderId(37)= ❷ <assigned by the Execution Venue> ExecType(150)=OrderStatus(I) OrdStatus(39) = <enum :required>	

Table 15: Scenario CLOB15 – Requests / Receives Order Status

4.19 Scenario CLOB16 – Submits Order – Partially Fills – Amends Order - Amends Order – Execution Venue Processes Sequentially

Dealer amends an order – and before the order has been amended by the Execution Venue – the Dealer amends the order second time. As a result of the second amendment – the order is filled. This scenario is similar to the one explained in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices D.2.a*.

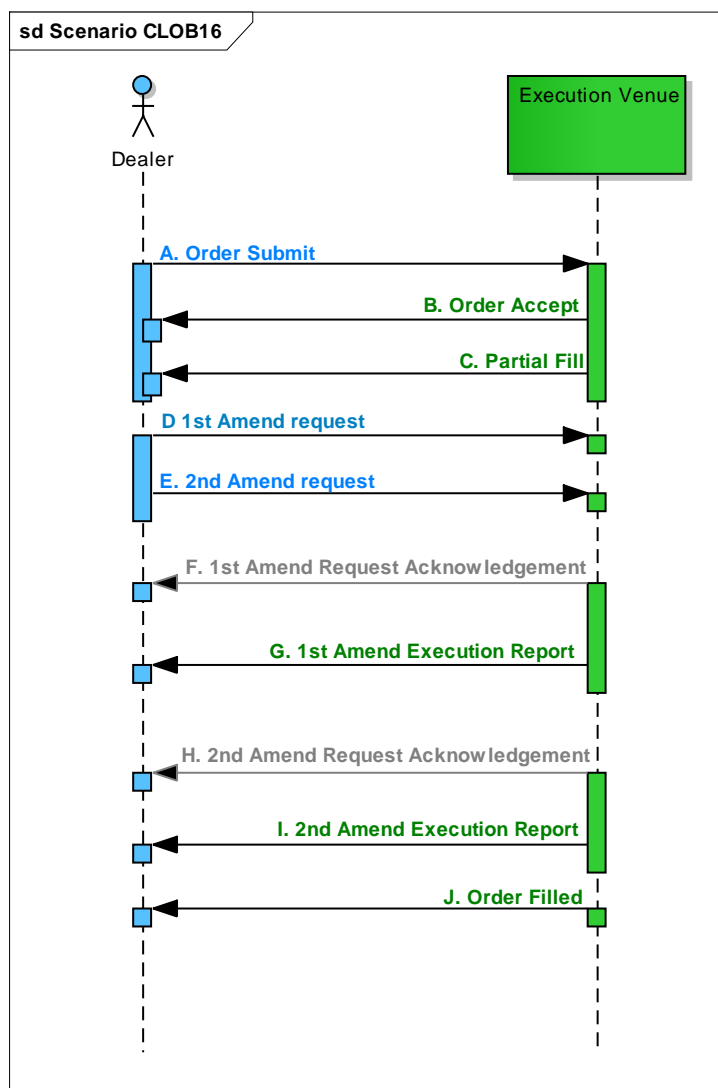


Figure 16: Scenario CLOB16 - Submits Order Partially Fills - Amends Order - Amends Order - Execution Venue Processes Sequentially

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdId(11)=❶< original Dealer order id > TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) OrderQty(38)=10000
(B) Order Accept		←	8 – ExecutionReport ClOrdId(11)=❶<original Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=New(0) OrdStatus(39)=New(0) OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0
(C) Partial Fill		←	8 – ExecutionReport ClOrdId(11)=❶<original Dealer order id> OrderId(37)=❷<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Trade(F) OrdStatus(39)=Partial fill(1) OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000
(D) 1 st Amend Request		→	G – OrderCancelReplaceRequest ClOrdId(11)=❸<amended Dealer order id > OrigClOrdId(41)=❶<original unique Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=8000
(E) 2 nd Amend Request		→	G – OrderCancelReplaceRequest ClOrdId(11)=❹<amended Dealer order id > OrigClOrdId(41)=❸<original unique Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=7000
(F) 1 st Amend Request Acknowledgement (Optional)		←	8 – ExecutionReport ClOrdId(11)=❸< amended Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrigClOrdId(41)=❶<original unique Dealer order id > ExecType(150)=Pending Replace(E) OrdStatus(39)=Pending Replace(E) OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000 (Optional)

Model FIX 5.0			
(G) 1 st Amend Execution Report	←	8 – ExecutionReport ClOrdID(11)=③< amended Dealer order id > OrderId(37)=②<assigned by the Execution Venue> OrigClOrdId(41)=①<original unique Dealer order id > TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Replaced(5) OrdStatus(39)=Partially filled(1) OrderQty(38)=8000 CumQty(14)=1000 LeavesQty(151)=7000	
(H) 2 nd Amend Request Acknowledgement (Optional)	←	8 – ExecutionReport ClOrdID(11)=④< amended Dealer order id > OrderId(37)=②<assigned by the Execution Venue> OrigClOrdId(41)=③<original unique Dealer order id > ExecType(150)=Pending Replace(E) OrdStatus(39)=Pending Replace(E) OrderQty(38)=8000 CumQty(14)=1000 LeavesQty(151)=7000 (Optional)	
(I) 2 nd Amend Execution Report	←	8 – ExecutionReport ClOrdID(11)=④< amended Dealer order id > OrigClOrdId(41)=③<original unique Dealer order id > OrderId(37)=②<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Replaced(5) OrdStatus(39)=Partially Filled(1) OrderQty(38)=7000 CumQty(14)=1000 LeavesQty(151)=6000	
(J) Order Filled	← ← ←	8 – ExecutionReport ClOrdID(11)=④ OrderId(37)=②<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Replaced(5) OrdStatus(39)=Filled(2) OrderQty(38)=7000 CumQty(14)=7000 LeavesQty(151)=0	

Table 16: Scenario CLOB16 – A - Submits Order – Partially Fills – Amends Order – Amends Order - Execution Venue Processes sequentially

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.20 Scenario CLOB17 – Submits Order – Partially Fills – Amends Order – Amends Order – Execution Venue Processes Pending Replaces Before Replaces

Dealer amends an order – and before the order has been amended by the Execution Venue – the Dealer amends the order second time. As a result of the second amendment – the order is filled. This scenario is similar to the one explained in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices D.2.b*.

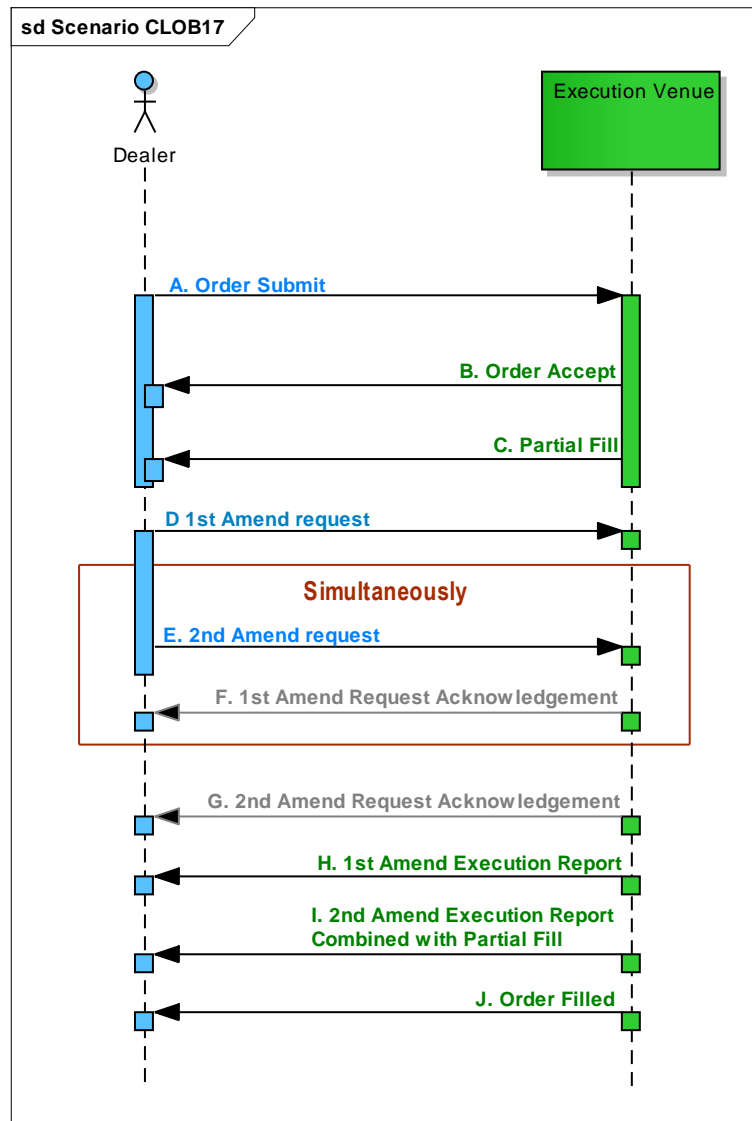


Figure 17: Scenario CLOB17 – Submits Order – Partially Fills – Amends Order – Amends Order – Execution Venue Processes Pending Replaces Before Replaces

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdId(11)=①< Original Dealer order id > TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) OrderQty(38)=10000
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)=①< original Dealer order id > OrderId(37)=②<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=New(0) OrdStatus(39)=New(0) OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0
(C) Partial Fill		←	8 – ExecutionReport ClOrdID(11)=①< original Dealer order id > OrderId(37)=②<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Trade(F) OrdStatus(39)=Partial fill(1) OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000
(D) 1 st Amend Request		→	G – OrderCancelReplaceRequest ClOrdId(11)=③<amended Dealer order id> OrigClOrdId(41)=①<original unique Dealer order id> OrderId(37)=②<assigned by the Execution Venue> OrderQty(38)=8000
(E) 2 nd Amend Request		→	G – OrderCancelReplaceRequest ClOrdId(11)=④<amended Dealer order id > OrigClOrdId(41)=③<original unique Dealer order id> OrderId(37)=②<assigned by the Execution Venue> OrderQty(38)=7000
(F) 1 st Amend Request Acknowledgement (Optional)		←	8 – ExecutionReport ClOrdID(11)=③<amended Dealer order id > OrderId(37)=②<assigned by the Execution Venue> OrigClOrdId(41)=①<original unique Dealer order id > ExecType(150)=Pending Replace(E) OrdStatus(39)=Pending Replace(E) OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000 (Optional)
(G) 2 nd Amend Request Acknowledgement (Optional)		←	8 – ExecutionReport ClOrdID(11)=④< amended Dealer order id > OrderId(37)=②<assigned by the Execution Venue> OrigClOrdId(41)=③<original unique Dealer order id > ExecType(150)=Pending Replace(E) OrdStatus(39)=Pending Replace(E) OrderQty(38)=8000 CumQty(14)=1000 LeavesQty(151)=7000 (Optional)

Model FIX 5.0			
(H) 1 st Amend Execution Report	←	8 – ExecutionReport ClOrdID(11)=③<amended Dealer order id > OrigClOrdID(41)=①<original unique Dealer order id > OrderId(37)=②<assigned by the Execution Venue > TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Replaced(5) OrdStatus(39)=Pending Replace(E) OrderQty(38)=8000 CumQty(14)=1000 LeavesQty(151)=7000	
(I) 2 nd Amend Execution Report Combined with a Partial Fill	←	8 – ExecutionReport ClOrdID(11)=④<amended Dealer order id > OrigClOrdID(41)=③<original unique Dealer order id> OrderId(37)=②<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Replaced(5) OrdStatus(39)=Partial Filled(1) OrderQty(38)=7000 CumQty(14)=1000 LeavesQty(151)=6000	
(J) Order Fill	← ←	8 – ExecutionReport ClOrdID(11)=④ OrderId(37)=②<assigned by the Execution Venue> TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) ExecType(150)=Trade(F) OrdStatus(39)=Filled(2) OrderQty(38)=7000 CumQty(14)=7000 LeavesQty(151)=0	

Table 17: Submits Order - Partially Fills - Amends Order - Amends Order - Execution Venue Processes Pending Replaces Before Replaces

Note: Execution Venue rejects an amend request by setting the OrigClOrderID to the last non rejected ClOrderID and setting the OrdStatus to either “Partial Filled” or “Filled” as per the current state of the Order.

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg’s data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.21 Scenario CLOB18 – Submits Order – Partially Fills - Amends Decrease Order Quantity whilst Partial Fill being reported - Partially Fills whilst the Amendment is Pending – Amend Accepts - Order Fills

This scenario is where Dealer (Participant) submits an order. Order is partially filled by the Execution Venue. Before partial fill message reaches the Dealer, Dealer amends the Order to decrease the Order quantity. The order is partially filled before the Order amendment arrives to the Execution Venue and partially filled again, whilst the amendment is pending at the Execution Venue. The amendment is accepted followed by order being filled.

This scenario is explained in detail in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices C.3.a*

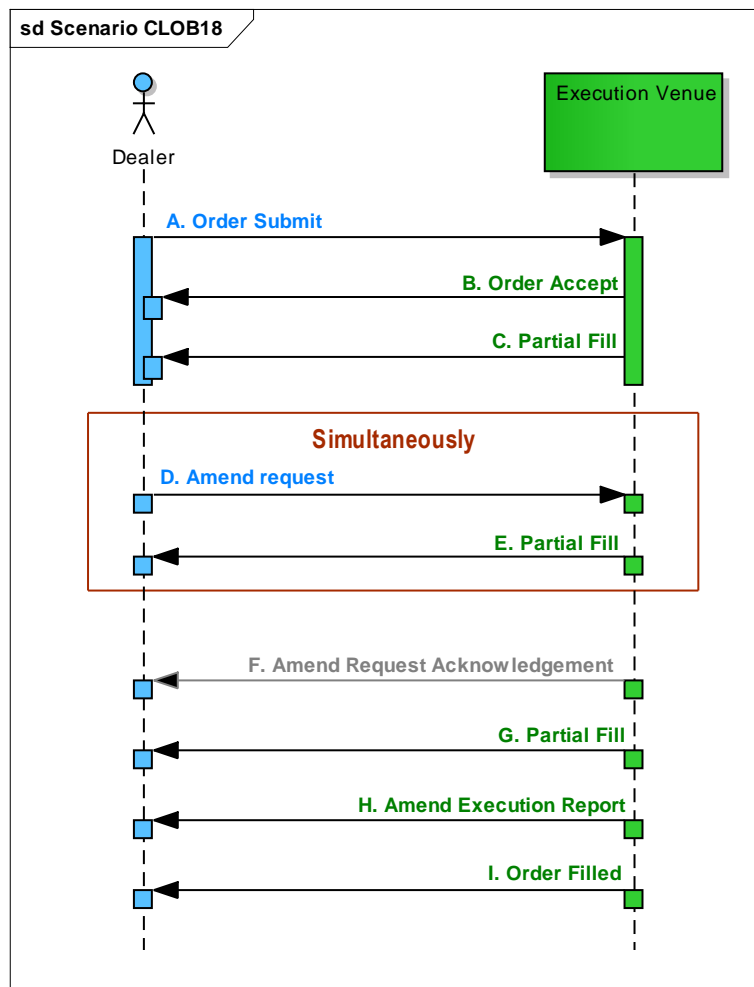


Figure 18: Scenario CLOB18 – Submits Order – Partially Fills - Amends Decrease Order Quantity whilst Partial Fill being reported - Partially Fills whilst the Amendment is Pending – Amend Accepts - Order Fills

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Order Submit		→	D – NewOrderSingle ClOrdId(11)=❶< original Dealer order id > TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) OrderQty(38)=10000
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)=❶< original Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> ExecType(150)=New(0) OrdStatus(39)=New(0) OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0
(C) Partial Fill		←	8 – ExecutionReport ClOrdID(11)=❶<original Dealer order id> OrderId(37)=❷<assigned by the Execution Venue> ExecType(150)=Trade(F) OrdStatus(39)=Partial fill(1) OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000
Note: Amend request and this execution report pass each other on the connection.	(D) Amend Request	→	G – OrderCancelReplaceRequest ClOrdId(11)=❸<amended Dealer order id > OrigClOrdId(41)=❶<original unique Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=8000
	(E) Partial Fill	←	8 – ExecutionReport ClOrdID(11)=❶<original Dealer order id> ExecType(150)=Trade(F) OrdStatus(39)=Partial fill(1) OrderQty(38)=10000 CumQty(14)=1500 LeavesQty(151)=8500 LastQty(32)=500
(F) Amend Request Acknowledgement (Optional)		←	8 – ExecutionReport ClOrdID(11)=❸< amended Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrigClOrdId(41)=❶<original unique Dealer order id > ExecType(150)=Pending Replace(E) OrdStatus(39)=Pending Replace(E) OrderQty(38)=10000 CumQty(14)=1500 LeavesQty(151)=8500 LastQty(32)=0 (Optional)
(G) Partial Fill		←	8 – ExecutionReport ClOrdID(11)=❶<original Dealer order id> ExecType(150)=Trade(F) OrdStatus(39)=Partial fill(1) OrderQty(38)=10000 CumQty(14)=1600 LeavesQty(151)=8400 LastQty(32)=100

Model FIX 5.0			
(H) Amend Execution Report	←	8 – ExecutionReport CIOrdID(11)=③< amended Dealer order id > OrigCIOrdID(41)=①<Original unique Dealer order id > OrderId(37)=②<assigned by the Execution Venue> ExecType(150)=Replaced(5) OrdStatus(39)=Partially Filled(1) OrderQty(38)=8000 CumQty(14)=1600 LeavesQty(151)=6400 LastQty(32)=0	
(I) Order Filled	←	8 – ExecutionReport CIOrdID(11)=③ OrderId(37)=②<assigned by the Execution Venue> ExecType(150)=Replaced(5) OrdStatus(39)=Filled(2) OrderQty(38)=8000 CumQty(14)=1600 LeavesQty(151)=0 LastQty(32)=6400	

Table 18: Scenario CLOB18 – Submits Order – Partially Fills - Amends Order Quantity Up whilst partial fill being reported

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.22 Scenario CLOB19 – Submits Order – Partially Fills - Amends Order to Decrease Order Quantity whilst partial fill being reported

This scenario is where Dealer (Participant) submits an order. Order is partially filled by the Execution Venue. Before partial fill message reaches the Dealer, Dealer amends the Order to decrease the Order quantity.

In this scenario Dealer (Participant) request amend of the order quantity down, whilst execution being reported. Amend may not happen as part of order is already executed. Execution Venue must send out ExecutionReports to correctly reflect the order state. This scenario is explained in detail in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices C.3.c.*

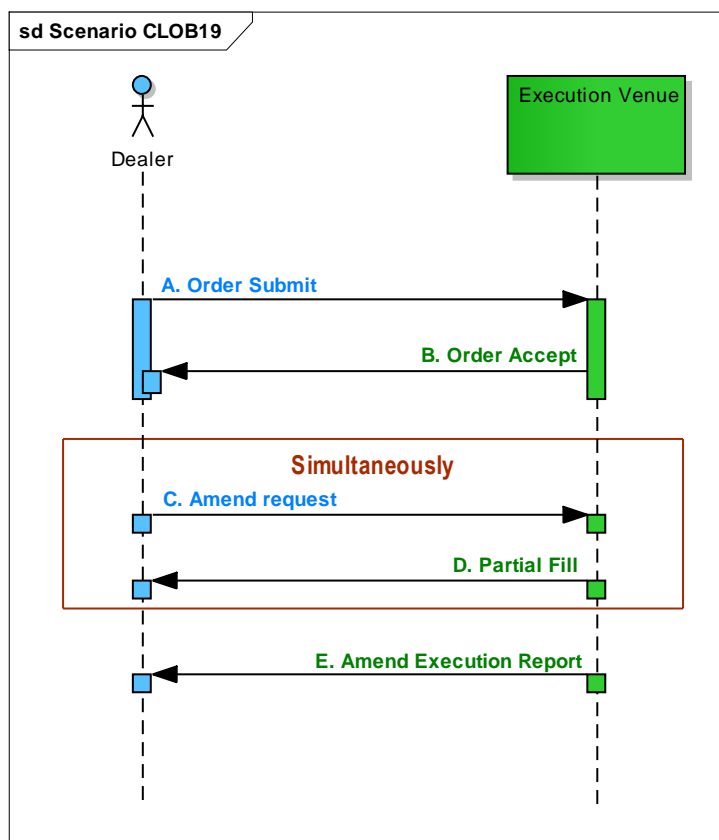


Figure 19: Scenario CLOB19 – Submits Order – Partially Fills - Amends Order Quantity Down whilst partial fill being reported

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0					
(A) Order Submit		Dealer	→	D – NewOrderSingle ClOrdId(11)=❶< original Dealer order id > TimeInForce(59)=Day(0) GoodTillCancel(1) GoodTillDate(6) OrderQty(38)=10000	Execution Venue
(B) Order Accept			←	8 – ExecutionReport ClOrdID(11)=❶<original Dealer order id > OrderID(37)=❷<assigned by the Execution Venue> ExecType(150)=New(0) OrdStatus(39)=New(0) OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0	
Note: Amend request and this execution report pass each other on the connection.	(C) Amend Request		→	G – OrderCancelReplaceRequest ClOrdId(11)=❸<amended Dealer order id > OrigClOrdId(41)=❶<original unique Dealer order id > OrderID(37)=❷<assigned by the Execution Venue> OrderQty(38)=7000	
	(D) Partial Fill		←	8 – ExecutionReport ClOrdID(11)=❶<original Dealer order id> ExecType(150)=Trade(F) OrdStatus(39)=Partial fill(1) OrderQty(38)=10000 CumQty(14)=8000 LeavesQty(151)=2000 LastQty(32)=8000	
(E) Amend Execution Report			←	8 – ExecutionReport ClOrdID(11)=❸<amended Dealer order id > OrderID(37)=❷<assigned by the Execution Venue> OrigClOrdId(41)=❶<Original unique Dealer order id > ExecType(150)=Replaced(5) OrdStatus(39)=Filled(2) OrderQty(38)=8000 CumQty(14)=8000 LeavesQty(151)=0 LastQty(32)=0	

Table 19: Scenario CLOB19 – Submits Order – Partially Fills - Amends Order Quantity Down whilst partial fill being reported

There are two options for reporting an execution for a multi-leg instrument (strategy):

- Report each individual instrument leg in separate ExecutionReport messages
- Report all the legs together in a single ExecutionReport message. In this case the message should contain [InstrmtLegExecGrp](#) Component that starts with [NoLegs](#) field followed by the leg's data blocks

An optional attribute [MultiLegReportingType](#) may be added to the ExecutionReport to indicate which option is being used. For a complete discussion on this topic see *Version 5.0 Service Pack 2 – Volume 4 Multileg Orders*.

4.23 Scenario CLOB20 – Submits Order – Partially Fills – Remaining Quantity is less than the required minimum match size

This scenario is where Dealer (Participant) submits an order and stipulates the minimum match size for each match event of this order. Order is partially filled. The remaining order quantity is less than the required minimum match size.

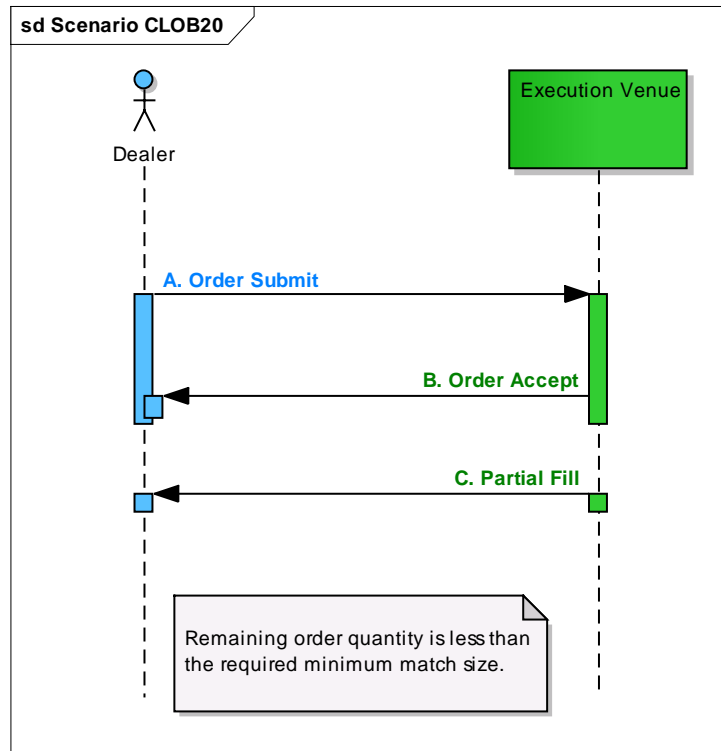


Figure 20: Scenario CLOB20 – Submits Order – Partially Fills – Remaining Quantity is less than the required minimum match size

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11)=❶ OrderQty(38)=250 TimeInForce(59)=Day(0) MatchIncrement=100 MinQty=200	Execution Venue
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> ; OrderQty(38)=250 CumQty(14)=0 LeavesQty(151)=250 ExecType(150)=New(0) OrdStatus(39)=New(0)	
(C) Partial Fill		←	8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=250 CumQty(14)=200 LeavesQty(151)=50 ExecType(150)=Trade(F) OrdStatus(39)=PartiallyFilled(1)	
<u>Current Order Status:</u> Order with LeavesQty < MatchIncrement Cannot be traded			OrdStatus(39)=PartiallyFilled(1) ClOrdID(11)=❶ ; OrderId(37)=❷<assigned by the Execution Venue> ; OrderQty(38)=250 ; CumQty(14)=200 ; LeavesQty(151)=50	

Table 20: Scenario CLOB20 – Submits Order – Partially Fills – Remaining Quantity is less than the required minimum match size

Certain Execution Venues may handle this scenario differently, some venues may send an unsolicited ExecutionReport to either cancel or suspend the remaining order (See 4.13 Scenario CLOB10 – Submits Passive Order - Partially Fills - Cancels). Other venues may expect the Dealers to handle this situation and leave the order open (See 4.16 Scenario CLOB13 – Unsolicited Cancel by the Execution Venue)

4.24 Scenario CLOB21 – Submits Order – Partially Fills – Two amends are sent – 2nd amend is rejected by the Execution Venue - Filled

This scenario is where Dealer (Participant) submits an order. Order is partially filled by the Execution Venue. Two amends are sent by the Dealer and the 2nd amend is rejected by the Execution Venue. This scenario is explained in detail in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices D.2.d*

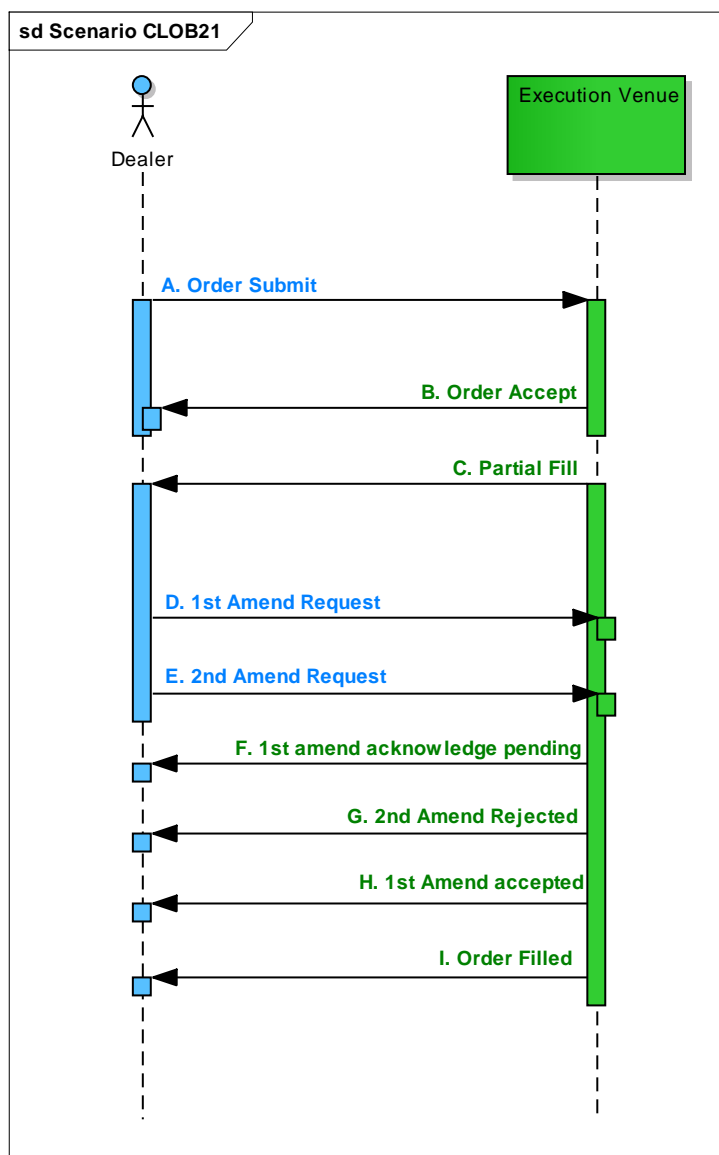


Figure 21: Scenario CLOB21 – Submits Order – Partially Fills – Two amends are sent – 2nd amend is rejected by the Execution Venue - Filled

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdId(11)=❶< original Dealer order id > OrderQty(38)=10000
(B) Order Accept		←	8 – ExecutionReport ExecType(150)=New(0) OrdStatus(39)=New(0) OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=0
(C) Partial Fill		←	8 – ExecutionReport ExecType(150)=Trade(F) OrderQty(38)=10000 CumQty(14)=1000 LeavesQty(151)=9000 LastQty(32)=1000
(D) 1st Amend Request		→	G – OrderCancelReplaceRequest ClOrdId(11)=❸<amended Dealer order id > OrigClOrdId(41)=❶<original unique Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=8000
(E) 2nd Amend Request		→	G – OrderCancelReplaceRequest ClOrdId(11)=❹<amended Dealer order id > OrigClOrdId(41)=❸<original unique Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=6000
(F) 1st Amend Execution Report		←	8 – ExecutionReport ClOrdId(11)=❸< amended Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrigClOrdId(41)=❶<original unique Dealer order id > ExecType(150)=PendingReplace(E) OrdStatus(39)=PendingReplace(E) OrderQty(38)=1000 CumQty(14)=1000 LeavesQty(151)=9000
(G) 2nd Amend Rejected		←	9 – OrderCancelReject ClOrdId(11)=❹< amended Dealer order id > OrigClOrdId(41)=❶<original unique Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrdStatus(39)=PendingReplace(E) CxlRejReason(102)='Order already in pending cancel or pending replace status'
(H) 1st Amend Execution Report		←	8 – ExecutionReport ClOrdId(11)=❸< amended Dealer order id > OrderId(37)=❷<assigned by the Execution Venue> OrigClOrdId(41)=❶<original unique Dealer order id > ExecType(150)=Replaced(5) OrdStatus(39)=Partially filled(1) OrderQty(38)=8000 CumQty(14)=1000 LeavesQty(151)=7000
Current status: ClOrdId(11)=❸; OrderQty(38)=8000; CumQty(14)=1000; LeavesQty(151)=7000			

Model FIX 5.0			
(I) Order Filled		←	8 – ExecutionReport COrdID(11)= 3 OrigCOrdID(41)= 1 <original unique Dealer order id > OrderID(37)= 2 <assigned by the Execution Venue> ExecType(150)=Trade(F) OrdStatus(39)=Filled(2) OrderQty(38)=8000 CumQty(14)=8000 LeavesQty(151)=0 LastQty(32)=7000

Table 21: Scenario CLOB21 – Submits Order – Partially Fills – Two amends are sent – 2nd amend is rejected by the Execution Venue - Filled

4.25 Scenario CLOB34 – Execution Report Reject (Don't Know Trade)

Dealer notifies the Execution Venue that an ExecutionReport(8) message has been rejected. The DontKnowTrade(Q) message should be used to reject any ExecutionReport(8) message which was sent from the Execution Venue to the Dealer.

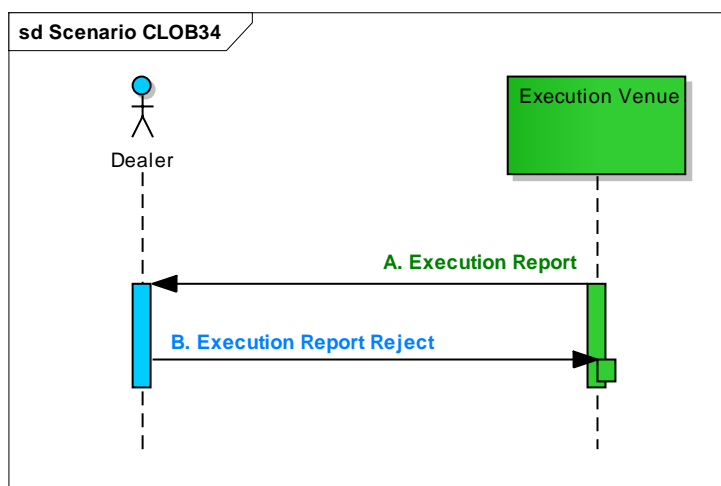


Figure 22: Scenario CLOB34 – Execution Report Reject (Don't Know Trade)

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
Starts with any scenario in this volume that contains an ExecutionReport(8) message			
(A) Execution Report	Dealer	←	8 – ExecutionReport OrderId(37)=❶ <assigned by the Execution Venue> ExecID(17)=❷ <assigned by the Execution Venue> Instrument component = <required> Side(54)= <required> LeavesQty(151)= <required> CumQty(14)=<required> <any other tags/values>
(B) Execution Report Reject		→	Q – DontKnowTrade OrderId(37)=❶ <assigned by the Execution Venue> ExecID(17)=❷ <assigned by the Execution Venue> DKReason(127)=<required> Instrument component = <required> Side(54)= <required> LeavesQty(151)= <required> CumQty(14)=<required>

Table 22: Scenario CLOB34 – Execution Report Reject (Don't Know Trade)

5 Quote Contribution to Central Limit Order Book

Dealers send Quotes to the Central Limit Order Book, which are matched against other participant's orders. Executions are notified to both parties. Usually scenarios in this section are used for communication between market makers and Execution Venues that operate central limit order book matching engines. Once the market maker sends a Quote to the Execution Venue, the Execution Venue governs the Quote and maintains its up-to-date status. The market maker sends Quote updates. When Quotes are matched against orders, the Execution Venue notifies the market maker by sending an ExecutionReport. Any changes or modifications to the Quote Status are sent from the Execution Venue to the market maker in a QuoteStatusReport Message.

Notes:

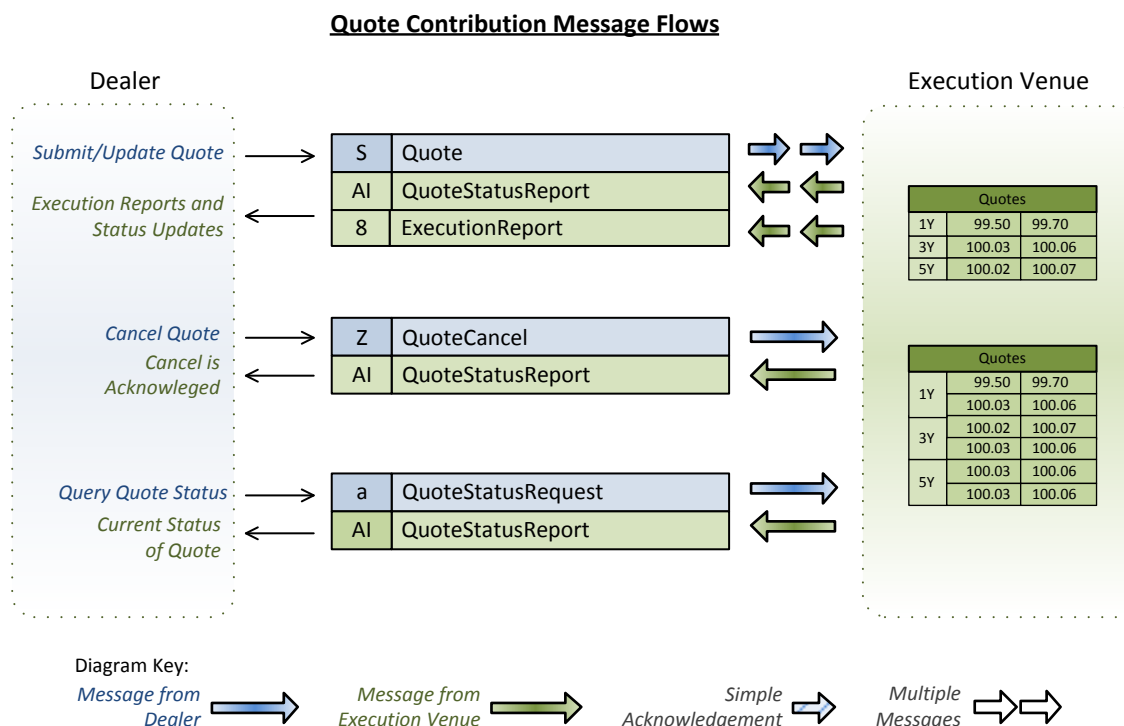
1. The scenarios in this section are described with a Quote(35=S) message. Some Execution Venues may use MassQuote(35=i) messages for similar workflows.
2. Some of the scenarios in this section use tags and enumerations there were added to the FIX Specification as part of the extension packs enhancing FIX 5.0 SP2 specifically EP125, EP126, EP144 and are expected to be added to FIX 5.0 SP3.
3. Most of the scenarios in this section end in a non-terminating state.
4. When quotes are tradeable the quote issuer may match against orders and receive fills. To avoid over execution the total available quantities are provided in TotalBidSize(1749) and TotalOfferSize(1750) fields. When a fill occurs, the remaining quantities are updated in BidSize and OfferSize fields. This is similar to how the OrderQty and LeavesQty fields are used for orders.
 - A new Quote should have BidSize and/or OfferSize (but not the TotalBidSize and/or TotalOfferSize)
 - Amendment of quantities of an existing Quote should specify TotalBidSize and/or TotalOfferSize (but not the BidSize and/or OfferSize)
 - QuoteStatusReport messages should have TotalBidSize and/or TotalOfferSize (containing the over-all requested quantities) as well as BidSize and/or OfferSize (containing the remaining quantities)
5. The linkage between the Quote messages and the associated ExecutionReport messages has been modified as a result of this document. The ClOrderID(11) in the ExecutionReport is mapped to:
 - QuoteID(117) of a single side Quote
 - BidID(390) or OfferID(1867) of a two-sided Quote
 - QuoteEntryID(299) of a Mass Quote

The QuoteMsgID(1166) is proposed to be added to the ExecutionReport(MsgType=8)

6. In an ExecutionReport the TotalBidSize/TotalOfferSize corresponds to the OrderQty while the BidSize/OfferSize corresponds to LeavesQty. In a QuoteStatusReport the TotalBidSize/TotalOfferSize fields may be sent in addition to BidSize/OfferSize to convey the full state of a Quote.

5.2 Overview Diagram

The following diagram illustrates the FIX messages and the Workflows described in this chapter.



5.3 Message Flows Summary

The following scenarios illustrate the use of the above messages.

Scenario	Description
CLOB22	Submit a Two-Sided Quote - Accepted – Partially Filled - Update (Replenished)
CLOB23	Submit a Quote - Rejected
CLOB24	Submit One-Sided Quote – Accepted – Partially Filled - Filled
CLOB25	Submit Two-Sided Quote – Partially Filled – Bid Side Filled - Offer is Filled
CLOB26	Submit Two-Sided Quote – Update – Update - Partially Filled - Update
CLOB27	Submit Two-Sided Quote – Cancel Bid side
CLOB28	Submit Two-Sided Quote – Cancel Both Sides
CLOB29	Submit Two-Sided Quote – Partially filled while Quote is Updated – Update rejected
CLOB30	Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Cancel Rejected
CLOB31	Query Quote Status
CLOB32	Unsolicited Quote Reinstatement (Replenishment)
CLOB33	Mass Cancel all Quotes

5.4 Scenario CLOB22 – Submit a Two-Sided Quote - Accepted – Partially Filled - Update (Replenished)

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book which is then accepted. After the Quote is partially filled, the Dealer replenishes their bid side of the quote.

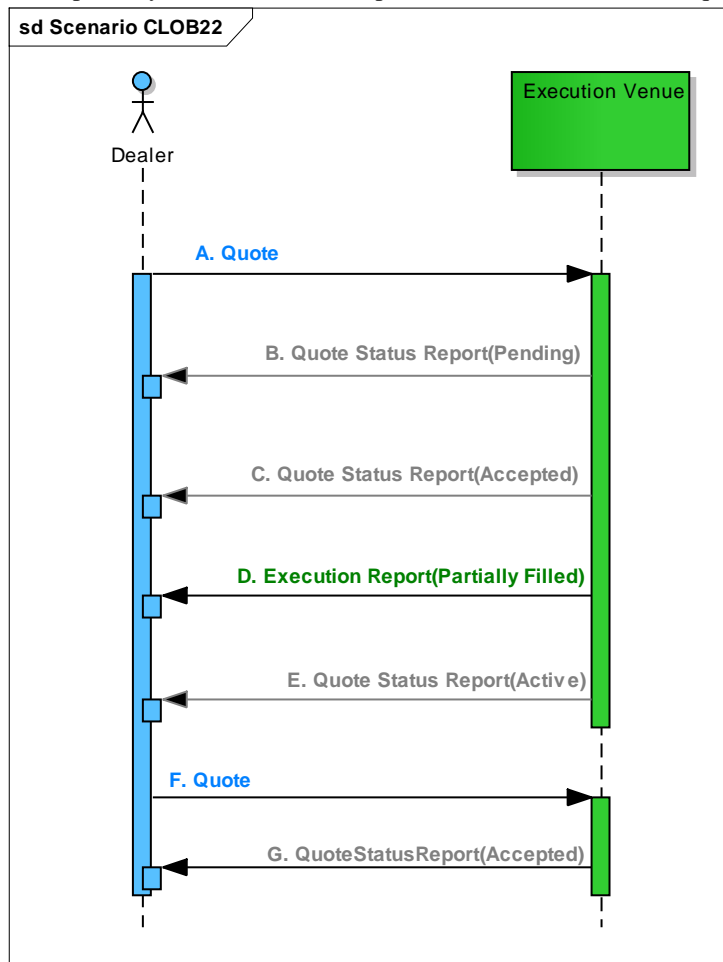


Figure 23: Scenario CLOB22 – Submit a Two-Sided Quote - Accepted – Partially Filled - Update (Replenished)

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote	Dealer	→	S – Quote QuoteID(117)= ① QuoteMsgID(1166)= ② BidID(390)= ③ OfferID(1867)= ④ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive >	Execution Venue
(B) Acknowledges Quote (Optional) <u>Note:</u> This message may be used by Execution Venues that may need to acknowledge the quote prior to accepting or rejecting it.			AI – QuoteStatusReport QuoteID(117)= ① QuoteMsgID(1166)= ② QuoteStatus (297)=Pending(10) (Optional)	
(C) Accepted <u>Note:</u> This message may be sent by Execution according to QuoteResponseLevel(301) It is not shown in all subsequence scenarios.			AI – QuoteStatusReport QuoteID(117)= ① QuoteMsgID(1166)= ② BidID(390)= ③ OfferID(1867)= ④ QuoteStatus (297)=Accepted(0) BidSize(134)=10000 TotalBidSize(1749)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive > (Optional)	
(D) Partially Filled			8 – ExecutionReport OrderID(37)= ⑤ ExecID(17)= ⑥ ClOrdID(11)= ③ QuoteMsgID(1166)= ② ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=7000 LastQty(32)=3000	
(E) Quote Status Report <u>Note:</u> This message may be used by Execution Venues to report status on the remaining size. This message is optional and not shown in all subsequence scenarios			AI – QuoteStatusReport QuoteID(117)= ① QuoteMsgID(1166)= ② BidID(390)= ③ OfferID(1867)= ④ QuoteStatus (297)=Accepted(0) BidSize(134)= 7000 TotalBidSize(1749)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive > (Optional)	

Model FIX 5.0			
(F) Update (Replenish) Quote	→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❺ BidID(390)=❸ OfferID(1867)=❹ TotalBidSize(1749)=13000 BidPx(132) =<required if BidSize is positive> TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive >	
(G) Quote Status Report Note: This message may be used by Execution Venues to report status on the remaining size. This message is optional and not shown in all subsequence scenarios	←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❺ BidID(390)=❸ OfferID(1867)=❹ QuoteStatus (297)=Accepted(0) BidSize(134)=10000 TotalBidSize(1749)=13000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive > (Optional)	

Table 23: Scenario CLOB22 – Submit a Two-Sided Quote - Accepted – Partially Filled - Update (Replenished)

5.5 Scenario CLOB23 – Submit a Quote - Rejected

This scenario is where a Dealer submits a Quote to a Central Limit Order Book which is then rejected.

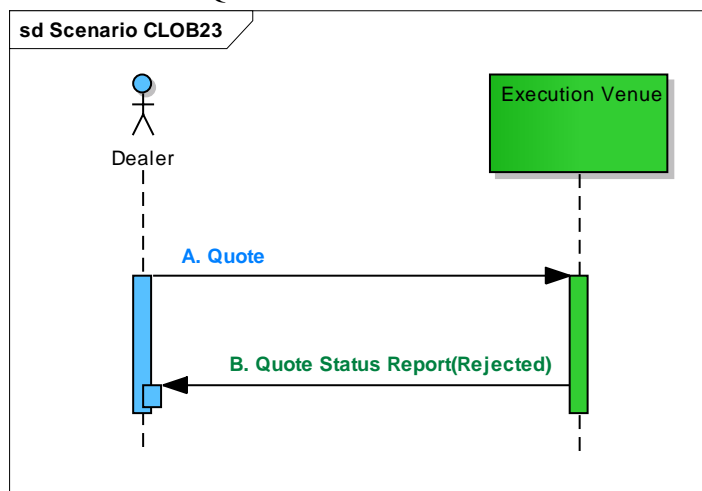


Figure 24: Scenario CLOB23 – Submit a Quote - Rejected

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote	Dealer	→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ QuoteType(537)=Tradeable(1)	Execution Venue
(B) Quote Rejected		←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❷ QuoteStatus (297)=Rejected(5)	

Table 24: Scenario CLOB23 – Submit a Quote - Rejected

5.6 Scenario CLOB24 – Submit One-Sided Quote – Accepted – Partially Filled – Filled

This scenario is where a Dealer submits a one-sided Quote to a Central Limit Order Book. The Quote is partially filled and then filled.

In this scenario, some Execution Venues remove the Quote from the market once it is fully filled. The scenario shows how Execution Venues do so. (Note: Other Execution Venues replenish the Quote on the Dealer's behalf. See scenario CLOB32).

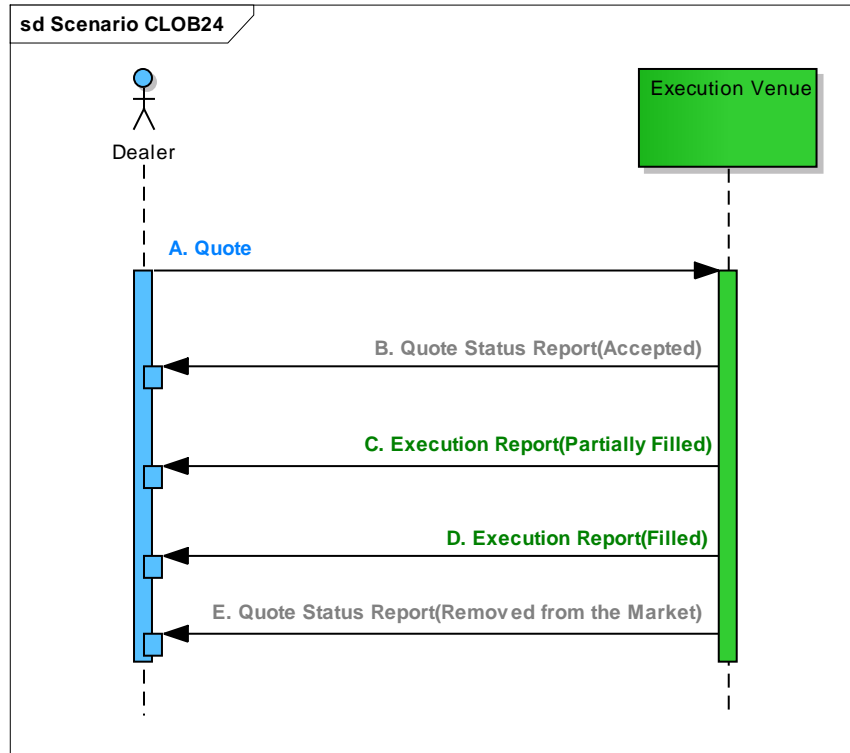


Figure 25: Scenario CLOB24 – Submit One-Sided Quote – Accepted – Partially Filled – Filled

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote	Dealer	→	S – Quote QuoteID(117)= ❶ QuoteMsgID(1166)= ❷ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive>	Execution Venue
(B) Accepted <u>Note:</u> This message is optionally sent according to QuoteResponseLevel(301) It is not shown in subsequence scenarios.		←	AI – QuoteStatusReport QuoteID(117)= ❶ QuoteMsgID(1166)= ❷ QuoteStatus (297)=Accepted(0) BidSize(134)=10000 TotalBidSize(1749)=10000 BidPx(132) =<required if BidSize is positive> (Optional)	
(C) Partially Filled		←	8 – ExecutionReport OrderID(37)= ❸ ExecID(17)= ❹ ClOrdID(11)= ❶ QuoteMsgID(1166)= ❷ ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=7000 LastQty(32)=3000	
(D) Filled		←	8 – ExecutionReport OrderID(37)= ❸ ExecID(17)= ❺ ClOrdID(11)= ❶ QuoteMsgID(1166)= ❷ ExecType(150) =Trade(F) OrdStatus(39)=Filled(2) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=0 LastQty(32)=7000	
(E) Removed From The Market		←	AI – QuoteStatusReport QuoteID(117)= ❶ QuoteMsgID(1166)= ❷ QuoteStatus (297)=Removed from Market(6) or Traded and Removed(22) BidSize(134)=0 TotalBidSize(1749)=10000 (Optional)	

Table 25: Scenario CLOB24 – Submit One-Sided Quote – Accepted – Partially Filled - Filled

5.7 Scenario CLOB25 – Submit Two-Sided Quote – Bid Side Partially Filled – Bid Side Filled - Offer Side Filled

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book. The Quote is executed three times: at first the bid side is partially filled; then the bid side is filled; lastly the offer side is filled.

In this scenario, some Execution Venues remove the Quote from the market once it is fully filled. The scenario shows how Execution Venues do so. (Note: Other Execution Venues replenish the Quote on the Dealer's behalf. See scenario CLOB32).

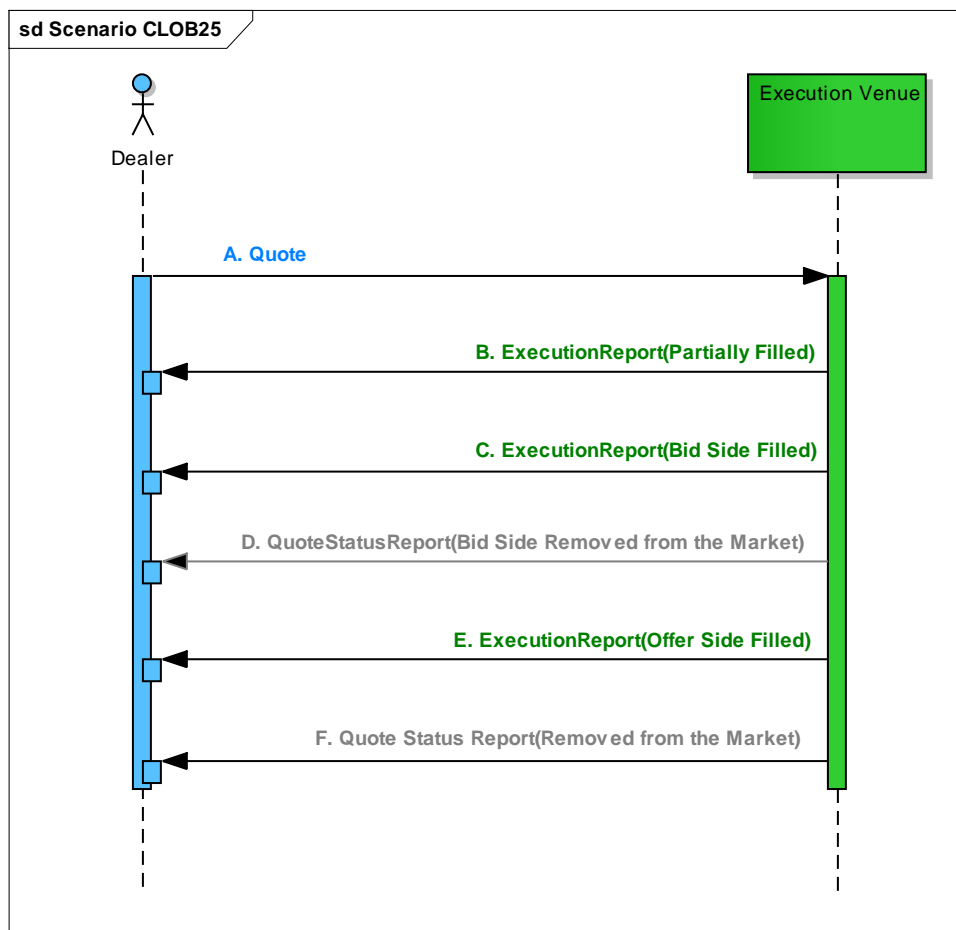


Figure 26: Scenario CLOB25 – Submit Two-Sided Quote – Bid Side Partially Filled – Bid Side Filled - Offer Side Filled

Model Flow

This table illustrates the flows expected when communicating with a venue implementing FIX 5.0 SP2.

Model FIX 5.0		
(A) Dealer Submits Quote	→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>
(B) Bid Side Partially Filled	←	8 – ExecutionReport OrderID(37)=❺ ExecID(17)=❻ CLOrdID(11)=❸ QuoteMsgID(1166)=❷ ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=7000 LastQty(32)=3000
(C) Bid Side Filled	←	8 – ExecutionReport OrderID(37)=❺ ExecID(17)=❸ CLOrdID(11)=❸ QuoteMsgID(1166)=❷ ExecType(150) =Trade(F) OrdStatus(39)=Filled(2) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=0 LastQty(32)=7000
(D) Bid Side Removed from the Market (Optional)	←	AI – QuoteStatusReport QuoteID(117)=❸ (Only bid side is removed) QuoteStatus (297)=Removed from Market(6) or Traded and Removed(22) BidSize(134)=0 TotalBidSize(1749)=10000 (Optional)
(E) Offer Side Filled	←	8 – ExecutionReport OrderID(37)=❺ ExecID(17)=❿ CLOrdID(11)=❹ QuoteMsgID(1166)=❷ ExecType(150) =Trade(F) OrdStatus(39)=Filled(2) Side(54)=Sell(2) OrderQty(38)=20000 LeavesQty(151)=0 LastQty(32)=2000
(F) Removed from the market	←	AI – QuoteStatusReport QuoteID(117)=❹ (Only offer side is removed) QuoteStatus (297)=Removed from Market(6) or Traded and Removed(22) OfferSize(135)=0 TotalOfferSize(1750)=20000 (Optional)

Table 26: Scenario CLOB25 – Submit Two-Sided Quote – Partially Filled – Bid Side Filled - Offer is Filled

5.8 Scenario CLOB26 – Submit Two-sided Quote – Update – Update - Partially Filled - Update

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book. The Dealer updates the bid size, then updates the offer size; The Quote is partially filled, and finally the Dealer updates both bid and offer sizes.

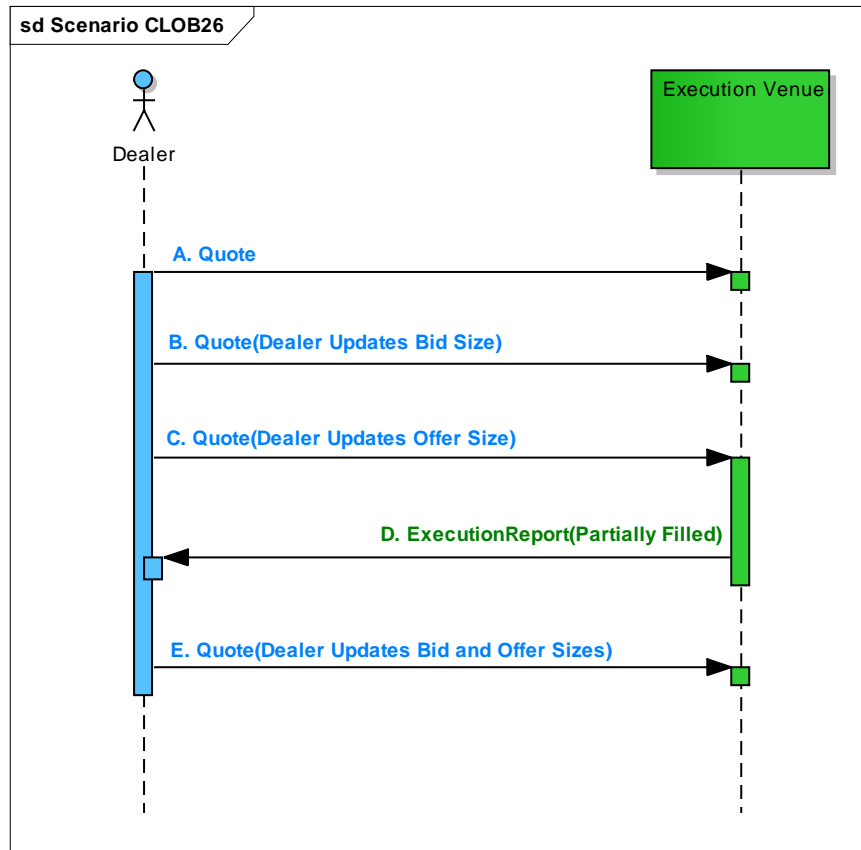


Figure 27: Scenario CLOB26 – Submit Two-sided Quote – Update – Update - Partially Filled - Update

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote	Dealer	→	S – Quote QuoteID(117)= ❶ QuoteMsgID(1166)= ❷ BidID(390)= ❸ OfferID(1867)= ❹ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>	Execution Venue
(B) Dealer Updates Quote (Bid Size)			S – Quote QuoteID(117)= ❶ QuoteMsgID(1166)= ❺ BidID(390)= ❸ OfferID(1867)= ❹ TotalBidSize(1749)=15000 BidPx(132) =<required if BidSize is positive> TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive>	
(C) Dealer Updates Quote (Offer Size)			S – Quote QuoteID(117)= ❶ QuoteMsgID(1166)= ❻ BidID(390)= ❸ OfferID(1867)= ❹ TotalBidSize(1749)=15000 BidPx(132) =<required if BidSize is positive> TotalOfferSize(1750)=25000 OfferPx(133) =<required if OfferSize is positive>	
(D) Bid Side Partially Filled			8 – ExecutionReport OrderID(37)= ❺ ExecID(17)= ❽ ClOrdID(11)= ❸ QuoteMsgID(1166)= ❻ ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=15000 LeavesQty(151)=12000 LastQty(32)=3000	
(E) Dealer Updates Quote (both Bid and Offer Sizes)			S – Quote QuoteID(117)= ❶ QuoteMsgID(1166)= ❼ BidID(390)= ❸ OfferID(1867)= ❹ TotalBidSize(1749)=17000 BidPx(132) =<required if BidSize is positive> TotalOfferSize(1750)=27000 OfferPx(133) =<required if OfferSize is positive>	

Table 27: Scenario CLOB26 – Submit Two-sided Quote – Update – Update - Partially Filled - Update

5.9 Scenario CLOB27 – Submit Two-Sided Quote – Cancel Bid side

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book, then the dealer cancels the bid side (and leaves the offer side untouched).

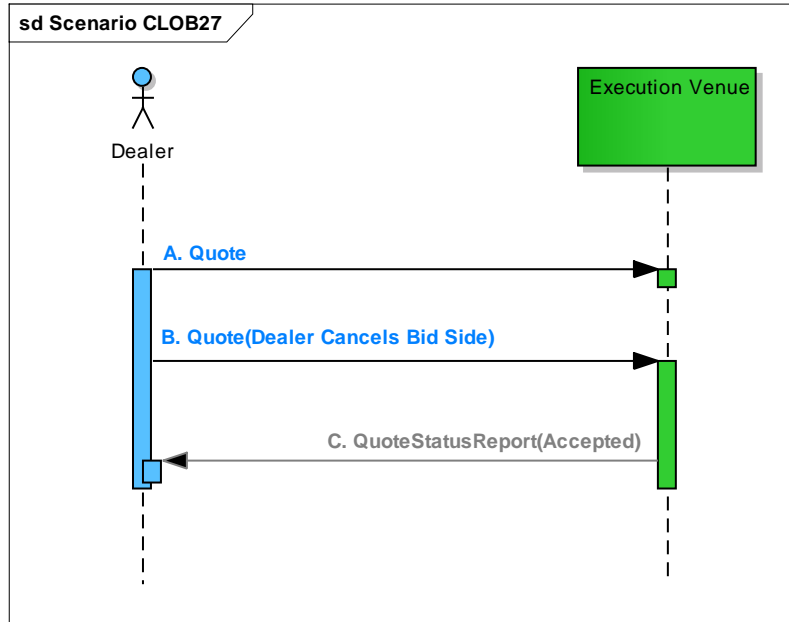


Figure 28: Scenario CLOB27 – Submit Two-Sided Quote – Cancel Bid side

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote	Dealer	→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>	Execution Venue
(B) Dealer Cancels Bid Side			S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ TotalBidSize(1749)=0 : Bid size is 0 – Bid is deleted. TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive>	
(C) Accepted <u>Note:</u> This message is optionally sent according to QuoteResponseLevel(301) It is not shown in subsequence all scenarios.		←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ QuoteStatus (297)=Active(16) BidSize(134)=0 TotalBidSize(1749)=0 OfferSize(135)=20000 TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive> (Optional)	

Table 28: Scenario CLOB27 – Submit Two-Sided Quote – Cancel Bid side

5.10 Scenario CLOB28 – Submit Two-Sided Quote – Cancel Both Sides

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book and then cancels his Quote.

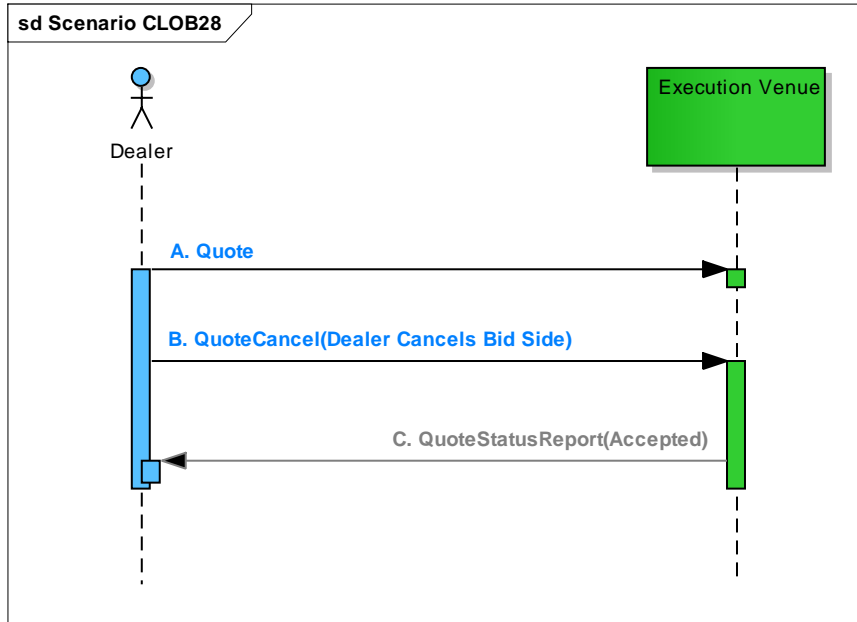


Figure 29: Scenario CLOB28 – Submit Two-Sided Quote – Cancel Both Sides

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote	Dealer	→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>	Execution Venue
(B) Dealer Cancels the Quote			Z – QuoteCancel QuoteID(117)=❶ QuoteMsgID(1166)=❺ BidID(390)=❸ OfferID(1867)=❹ QuoteCancelType(298)=Cancel Quote Specified in QuoteID(5)	
(C) Accepted <u>Note:</u> This message is optionally sent according to QuoteResponseLevel(301) It is not shown in subsequence all scenarios.		←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❺ BidID(390)=❸ OfferID(1867)=❹ QuoteStatus (297)=Cancelled(17) BidSize(134)=10000 TotalBidSize(1749)=10000 OfferSize(135)=20000 TotalOfferSize(1750)=10000 (Optional)	

Table 29: Scenario CLOB28 – Submit Two-Sided Quote – Cancel Both Sides

5.11 Scenario CLOB40 – Submit Two-Sided Quote – Quote is partially filled while quantity is being updated – Quantity filled is greater than updated quantity – Remaining quantity set to zero

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book. When the Dealer updates the quantity, it is being partially filled; the quantity filled is greater than the updated quantity. The remaining quantity is then set to zero.

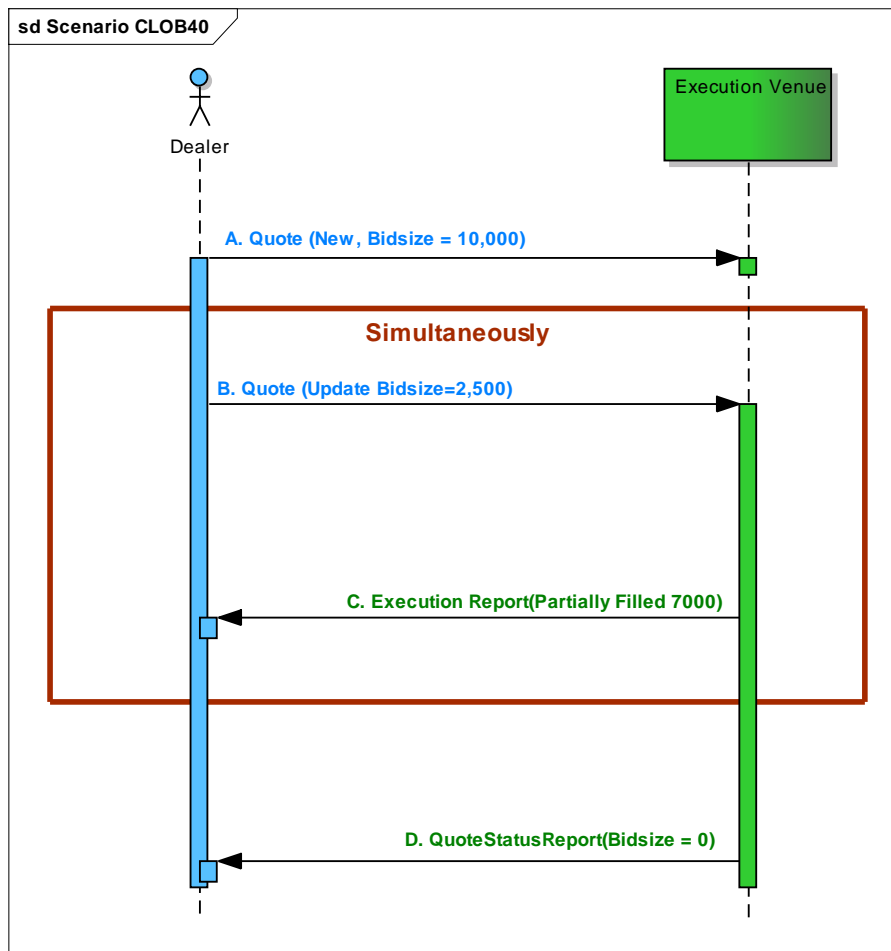


Figure 30: Scenario CLOB40 – Submit Two-Sided Quote – Quote is partially filled while quantity is being updated – Quantity filled is greater than updated quantity – Remaining quantity set to zero

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote		Dealer	→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>
Note: messages pass each other on the connection	(B) Dealer Updates Bid Side		→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ TotalBidSize(1749)=2500 BidPx(132) =<required if BidSize is positive> TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive>
	(C) Bid Side Partially Filled		←	8 – ExecutionReport OrderID(37)=❺ ExecID(17)=❷ ClOrdID(11)=❸ QuoteMsgID(1166)=❷ ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=3000 LastQty(32)=7000
	(D) Quote Update is Accepted New bid size is 0		←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ BidSize(134)=0 TotalBidSize(1749)=2,500 OfferID(1867)=❹ QuoteStatus (297)=Traded(21) OfferSize(135)= 20000 TotalOfferSize(1750)=20000
				Execution Venue

Table 30: Scenario CLOB40 – Submit Two-Sided Quote – Quote is partially filled while quantity is being updated – Quantity filled is greater than updated quantity – Remaining quantity set to zero

5.12 Scenario CLOB29 – Submit Two-Sided Quote – Partially filled while Quote is Updated – Update rejected

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book. When the Dealer updates the Quote, it is being partially filled; therefore the Quote update is rejected.

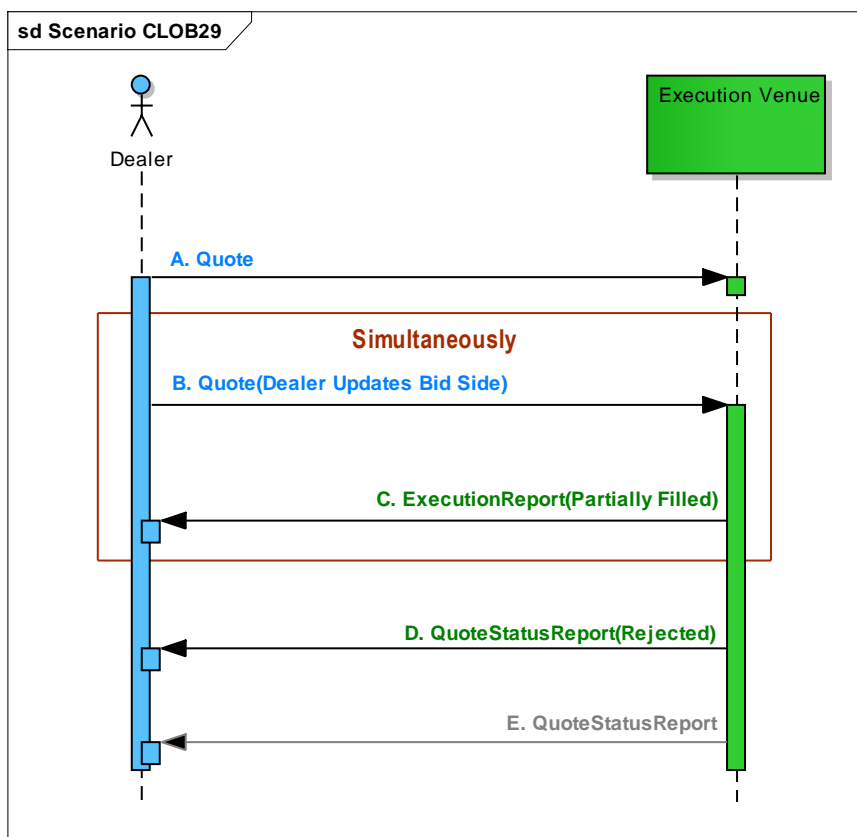


Figure 31: Scenario CLOB29 – Submit Two-Sided Quote – Partially filled while Quote is Updated – Update rejected

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
Note: messages pass each other on the connection	(A) Dealer Submits Quote		→	S – Quote QuoteID(117)= ① QuoteMsgID(1166)= ② BidID(390)= ③ OfferID(1867)= ④ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>
	(B) Dealer Updates Bid Side		→	S – Quote QuoteID(117)= ① QuoteMsgID(1166)= ⑤ BidID(390)= ③ OfferID(1867)= ④ TotalBidSize(1749)=2500 BidPx(132) =<required if BidSize is positive> TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive>
	(C) Bid Side Partially Filled		←	8 – ExecutionReport OrderID(37)= ⑥ ExecID(17)= ⑦ ClOrdID(11)= ③ QuoteMsgID(1166)= ② ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=7000 LastQty(32)=3000
	(D) Update is Rejected		←	AI – QuoteStatusReport QuoteID(117)= ① QuoteMsgID(1166)= ⑤ BidID(390)= ③ OfferID(1867)= ④ QuoteStatus (297)=Rejected(5)
	(E) Quote Status <u>Note:</u> This message is used by some Execution Venues usually to report status on the remaining size. This message is optional and not shown in all subsequence scenarios		←	AI – QuoteStatusReport QuoteID(117)= ① QuoteMsgID(1166)= ② BidID(390)= ③ OfferID(1867)= ④ QuoteStatus (297)=Active(16) BidSize(134)=7000 TotalBidSize(1749)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive> (Optional)

Table 31: Scenario CLOB29 – Submit Two-Sided Quote – Partially filled while Quote is Updated – Update rejected

5.13 Scenario CLOB41 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Remaining Quantity Removed From Market

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book. When the Dealer cancels the Quote, it is being partially filled on the Execution Venue; the remaining quantity is then removed from the market.

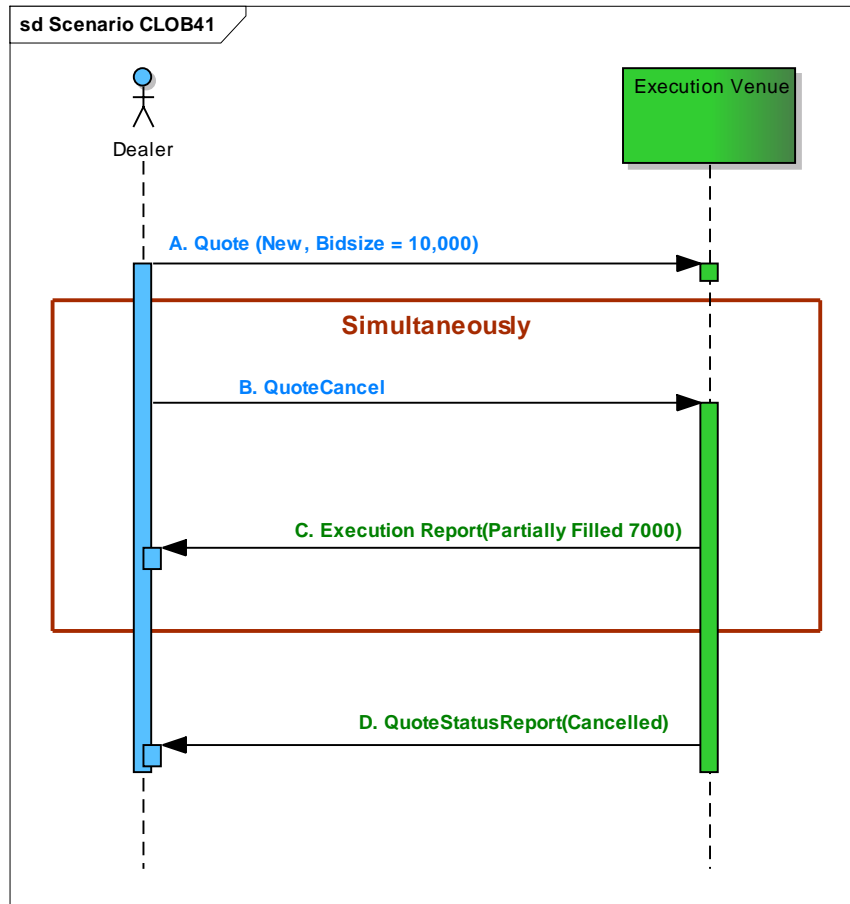


Figure 32: CLOB41 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Remaining Quantity Removed From Market

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
Note: messages pass each other on the connection	(A) Dealer Submits Quote		→	S – Quote QuoteID(117)= 1 QuoteMsgID(1166)= 2 BidID(390)= 3 OfferID(1867)= 4 BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>
	(B) Dealer Cancels the Quote		→	Z – QuoteCancel QuoteID(117)= 1 QuoteMsgID(1166)= 5 BidID(390)= 3 OfferID(1867)= 4 QuoteCancelType(298)=Cancel specific single quote(5)
	(C) Bid Side Partially Filled		←	8 – ExecutionReport OrderID(37)= 6 ExecID(17)= 7 ClOrdID(11)= 3 QuoteMsgID(1166)= 2 ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=3000 LastQty(32)=7000
	(D) Cancelled		←	AI – QuoteStatusReport QuoteID(117)= 1 QuoteMsgID(1166)= 5 BidID(390)= 3 OfferID(1867)= 4 QuoteStatus (297)=Cancelled(17)

Table 32: CLOB41 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Remaining Quantity Removed From Market

5.14 Scenario CLOB30 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Cancel Rejected

This scenario is where a Dealer submits a two-sided Quote to a Central Limit Order Book. When the Dealer cancels the Quote, it is being partially filled; therefore the Quote Cancel is rejected.

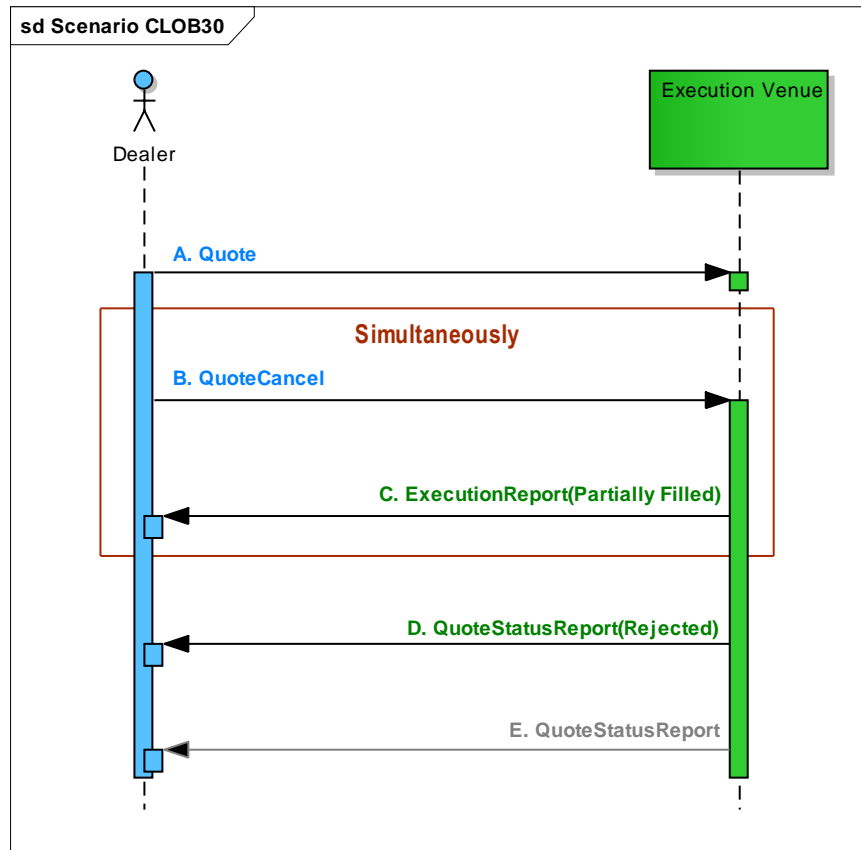


Figure 33: Scenario CLOB30 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Cancel Rejected

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
<div>Note: messages pass each other on the connection</div>	(A) Dealer Submits Quote		→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 OfferPx(133) =<required if OfferSize is positive>
	(B) Dealer Cancels the Quote		→	Z – QuoteCancel QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ QuoteCancelType(298)=Cancel for one or more securities(1)
	(C) Bid Side Partially Filled		←	8 – ExecutionReport OrderID(37)=❺ ExecID(17)=❻ ClOrdID(11)=❸ QuoteMsgID(1166)=❷ ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=7000 LastQty(32)=3000
	(D) Cancel is Rejected		←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ QuoteStatus (297)=Rejected(5)
	(E) Quote Status <u>Note:</u> This message is used by some Execution Venues usually to report status on the remaining size. This message is optional and not shown in all subsequence scenarios		←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ QuoteStatus (297)=Active(16) BidSize(134)=7000 TotalBidSize(1749)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive> (Optional)

Table 33: Scenario CLOB30 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Cancel Rejected

5.15 Scenario CLOB31 – Query Quote Status

This scenario is where a Dealer queries a Quote Status

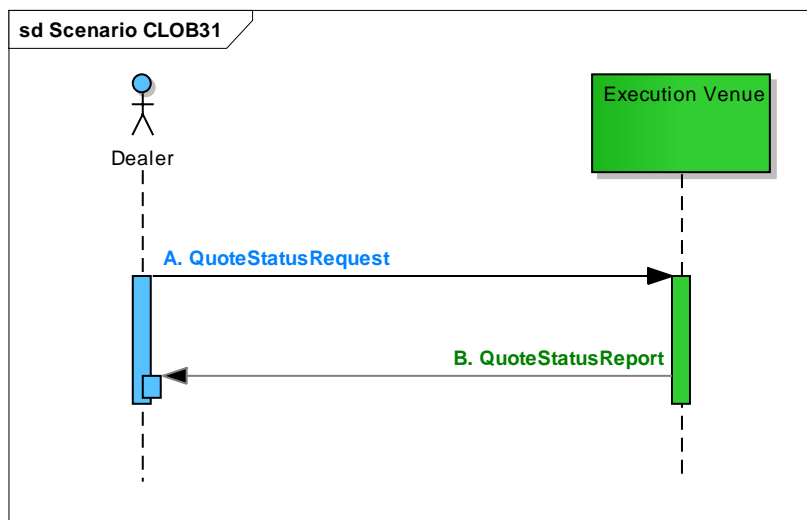


Figure 34: Scenario CLOB31 – Query Quote Status

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Quote Status Request	Dealer	→	a – QuoteStatusRequest QuoteID(117)=❶	Execution Venue
(B) Quote Status		←	AI – QuoteStatusReport QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidID(390)=❸ OfferID(1867)=❹ QuoteStatus (297)=Active(16) BidSize(134)=7000 TotalBidSize(1749)=10000 BidPx(132) =<required if BidSize is positive> OfferSize(135)=20000 TotalOfferSize(1750)=20000 OfferPx(133) =<required if OfferSize is positive>	

Table 34: Scenario CLOB31 – Query Quote Status

5.16 Scenario CLOB32 – Unsolicited Quote Reinstatement (Replenishment)

This scenario is where the Execution Venue takes an unsolicited action or sends a Quote reinstatement. Some Execution Venues, when the Quote size is exhausted, support the automatic replenishment with a pre-defined quantity (and moving the price). In such cases a restatement of the Quote is appropriate.

The following scenario starts when a Dealer sends a Quote of a bid size 10,000. When the quantity has been traded, the Execution Venue replenishes the Quote size back to the minimum Quote size (in this case 1,000).

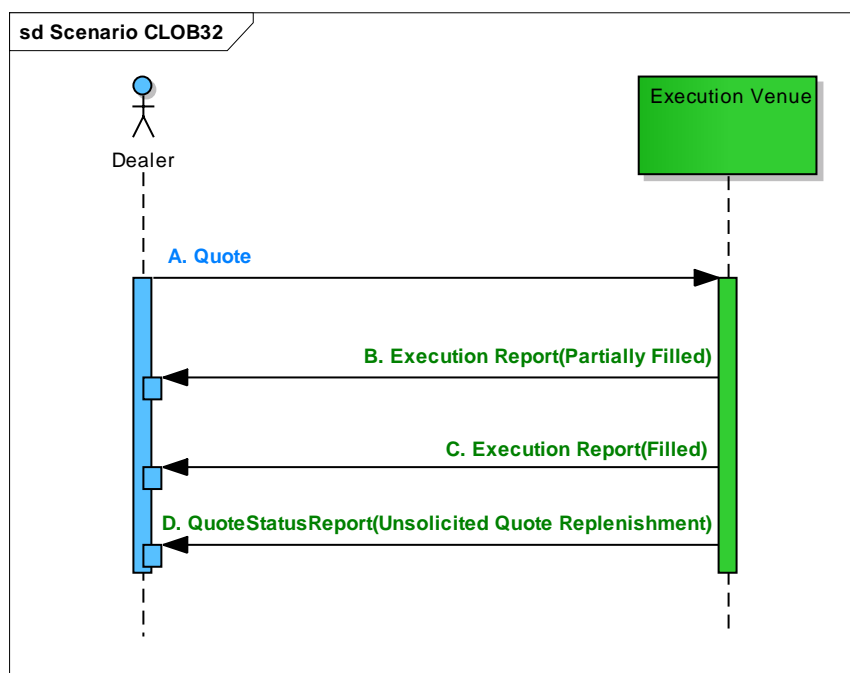


Figure 35: Scenario CLOB32 – Unsolicited Quote Reinstatement (Replenishment)

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Dealer Submits Quote	Dealer	→	S – Quote QuoteID(117)=❶ QuoteMsgID(1166)=❷ BidSize(134)=10000 BidPx(132) =<required if BidSize is positive>	Execution Venue
(B) Partially Filled		←	8 – ExecutionReport OrderID(37)=❸ ExecID(17)=❹ ClOrdID(11)=❶ QuoteMsgID(1166)=❷ ExecType(150) =Trade(F) OrdStatus(39)=Partially Filled(1) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=7000 LastQty(32)=3000	

Model FIX 5.0			
(C) Filled	←	8 – ExecutionReport OrderID(37)= ③ ExecID(17)= ⑤ ClOrdID(11)= ① QuoteMsgID(1166)= ② ExecType(150) =Trade(F) OrdStatus(39)=Filled(2) Side(54)=Buy(1) OrderQty(38)=10000 LeavesQty(151)=0 LastQty(32)=7000	
(D) Unsolicited Reinstatement Replenishment	←	AI – QuoteStatusReport QuoteID(117)= ① QuoteMsgID(1166)= ② QuoteStatus (297)=Unsolicited Quote Replenishment(18) BidSize(134)=1000 TotalBidSize(1749)=11000	

Table 35: Scenario CLOB32 – Unsolicited Quote Reinstatement (Replenishment)

5.17 Scenario CLOB33 – Mass Cancel all Quotes

This scenario is where the Dealer cancels all his Quotes in the market that are associated with this FIX session.

This scenario is identical to scenario PC3 in *Best Practices for Trading Fixed Income Instruments - CDS & IRS - Volume 2 – Common Workflows*.

6 Voice Trading

This section describes scenarios where the Dealer contacts a broker of the Execution Venue and submits an order through non-electronic means (e.g. telephone, email etc.).

There are two possible workflows to support voice orders:

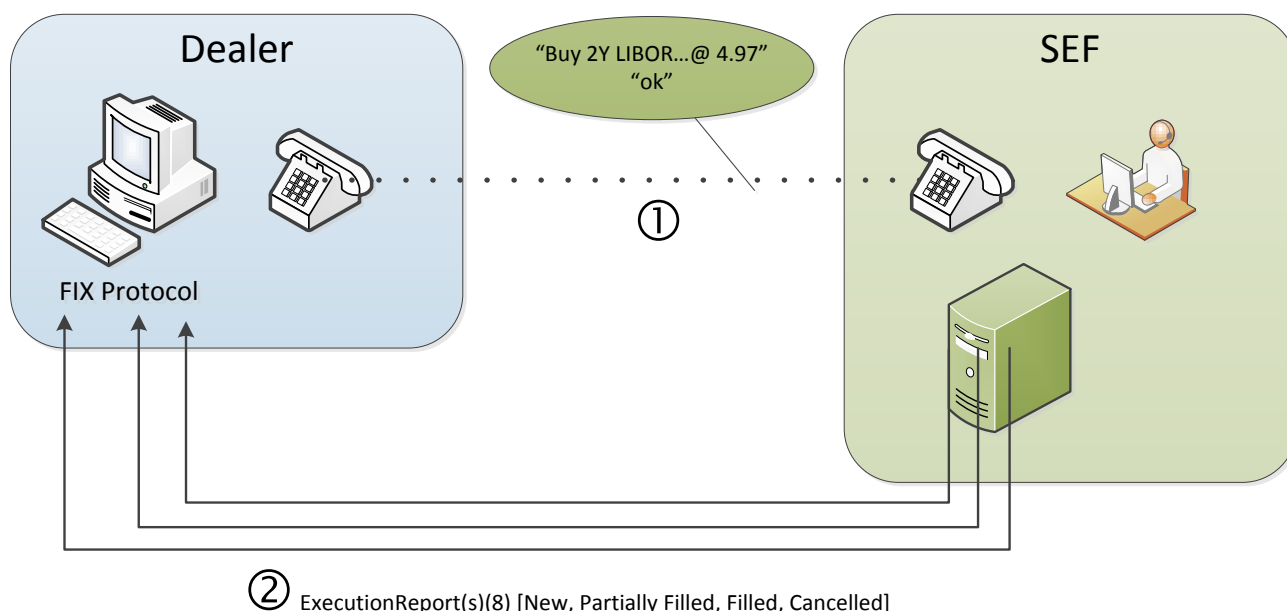
1. Voice Order followed electronically by Execution Reports
2. Voice Order followed electronically by Trade Capture Report

6.1 Voice Order Followed Electronically by Execution Reports

The typical scenario is where the Dealer contacts one of the Execution Venues' brokers and asks the broker to enter an order. Once the broker has entered the order, the Dealer receives all the execution reports that the order triggers.

6.1.1 Overview Diagram

The following diagram illustrates workflows where voice orders are followed electronically by ExecutionReports. These scenarios are described in this chapter.



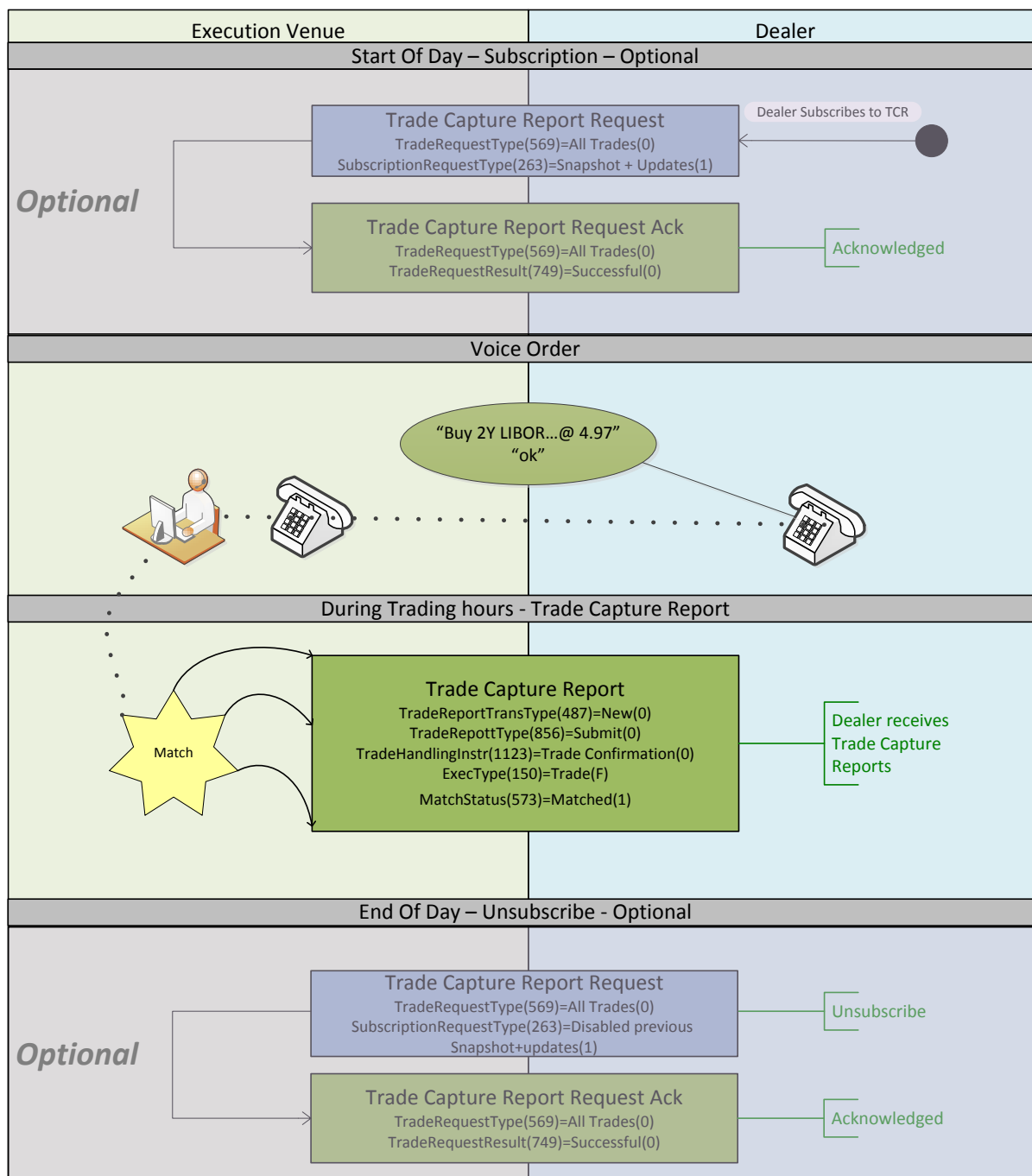
6.2 Voice Order Followed Electronically by Trade Capture Reports

The typical scenario is where the Dealer contacts one of the Execution Venues' brokers and asks the broker to trade one or more orders on his behalf. With each execution that the broker trades, the Dealer receives one or more TradeCaptureReports (MsgType=AE).

In some Execution Venues, there is a need for the Dealer to subscribe first in order to receive the TradeCaptureReports.

6.2.1 Activity Diagram

The following diagram illustrates workflows where voice orders are followed electronically by TradeCaptureReports. These scenarios are described in this chapter.



6.3 Message Flows Summary

The following scenarios illustrate the use of these messages.

Scenario	Description
CLOB35	Voice Order Followed Electronically by ExecutionReports
CLOB36	Voice Order Followed Electronically by TradeCaptureReports
CLOB37	Dealer Subscribes / Unsubscribes to TradeCaptureReports

6.4 Scenario CLOB35 – Voice Order Followed Electronically by Execution Reports

This scenario is where the Dealer contacts a broker of the Execution Venue and places a buy order of 10,000. The order is partially filled with 2,000, followed by another partial fill of 1,000, finally the order is fully filled. This scenario is explained in detail in *FIX specifications Version 5.0 Service Pack 2 – Volume 4 Order State change Matrices E.1.a*

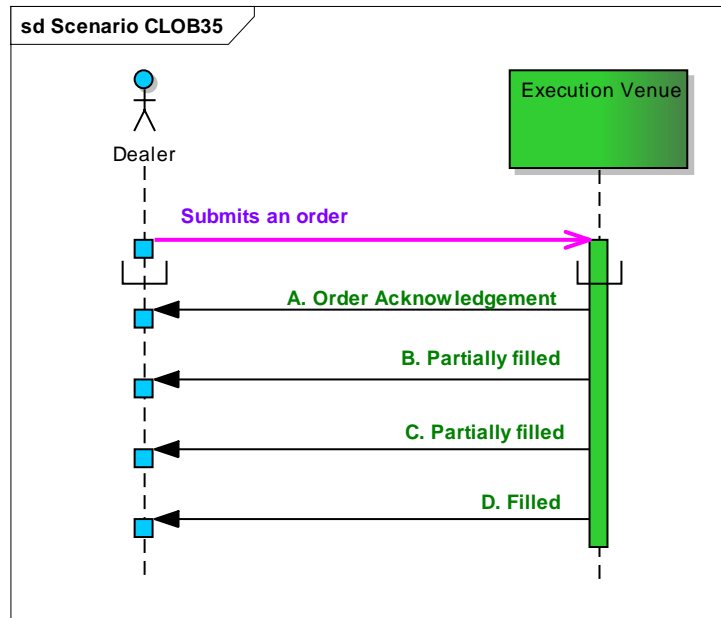


Figure 36: Scenario CLOB35 – Voice Order Followed Electronically by Execution Reports

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
Prerequisite: An order has been submitted by the Dealer			
(A) Order Acknowledgement	Dealer	←	8 – ExecutionReport OrderID(39)=❶ <agreed with Dealer> ExecID(17)=❷ <Assigned by Execution Venue > ExecType(150)=New(0) OrderStatus(39)=New(0) Instrument component=<required> Side(54)=Buy(1) LeavesQty(151)=10,000 CumQty(14)=0 LastQty(32)=0 CopyMsgIndicator(797)=Yes(Y)
(B) Partially Filled		←	8 – ExecutionReport OrderID(39)=❶ ExecID(17)=❸ ExecType(150)=Trade(F) OrderStatus(39)=Partially Filled(1) Instrument component=<required> Side(54)=Buy(1) LeavesQty(151)=8,000 CumQty(14)=2,000 LastQty(32)= 2,000 CopyMsgIndicator(797)=Yes(Y)
(C) Partially Filled		←	8 – ExecutionReport OrderID(39)=❶ ExecID(17)=❹ ExecType(150)=Trade(F) OrderStatus(39)=Partially Filled(1) Instrument component=<required> Side(54)=Buy(1) LeavesQty(151)=7,000 CumQty(14)=3,000 LastQty(32)= 1,000 CopyMsgIndicator(797)=Yes(Y)
(D) Filled		←	8 – ExecutionReport OrderID(39)=❶ ExecID(17)=❺ ExecType(150)=Trade(F) OrderStatus(39)= Filled(2) Instrument component=<required> Side(54)=Buy(1) LeavesQty(151)=0 CumQty(14)=10,000 LastQty(32)= 7,000 CopyMsgIndicator(797)=Yes(Y)

Table 36: Scenario CLOB35 – Voice Order Followed Electronically by Execution Reports

6.5 Scenario CLOB36 – Voice Order Followed Electronically by Trade Capture Report

This scenario is where the Dealer contacts a broker of the Execution Venue and places an order. Once the order is matched, the Dealer receives one or more TradeCaptureReports.

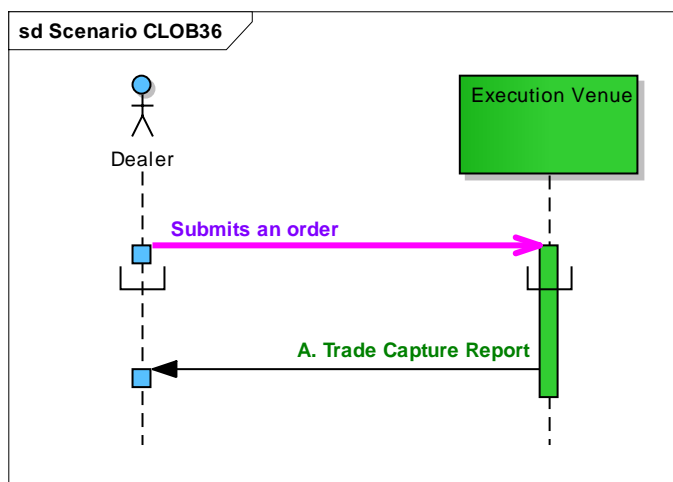


Figure 37: Scenario CLOB36 – Voice Order Followed Electronically by Trade Capture Report

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
Prerequisite: An order has been submitted by the Dealer			
(A) Trade Capture Report	Dealer	← AE – TradeCaptureReport TradeReportID(571)=① TradeID(1003)=② ExecID(17)=③ TradeReportTransType(487)=New(0) TradeRepottType(856)=Submit(0) TradeHandlingInstr(1123)=Trade Confirmation(0) ExecType(150)=Trade(F) MatchStatus(573)=Matched(1) CopyMsgIndicator(797)=Yes(Y)	Execution Venue

Table 37: Scenario CLOB36 – Voice Order Followed Electronically by Trade Capture Report

6.6 Scenario CLOB37 – Dealer Subscribes / Unsubscribes to Trade Capture Reports

This scenario is where the Dealer subscribes to receive TradeCaptureReports throughout the day and then unsubscribes at the end of the day.

This scenario entirely is optional. There are no obligations to subscribe to Trade Capture Reports for Drop Copy, yet some Execution Venues require subscription prior to receiving Trade Capture Reports.

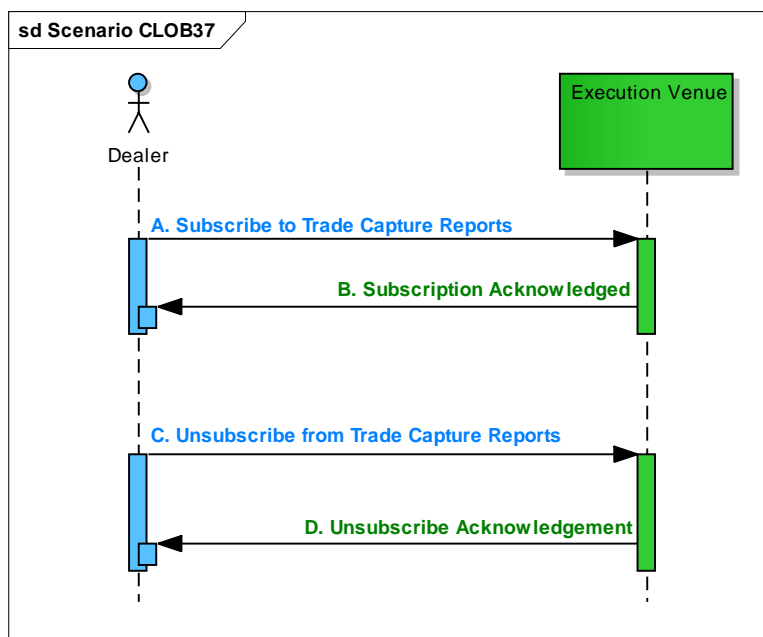


Figure 38: Scenario CLOB37 – Dealer Subscribes / Unsubscribes to Trade Capture Reports

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
Start of day - Subscribe				
(A) Subscribe to Trade Capture Report	Dealer	→	AD – TradeCaptureReportRequest TradeRequestID(568)=❶ TradeRequestType(569)=All Trades(0) SubscriptionRequestType(263)=Snapshot + Updates(1)	Execution Venue
(B) Subscription Acknowledgement		←	AQ – TradeCaptureReportRequestAck TradeRequestType(569)=All Trades(0) SubscriptionRequestType(263)=Snapshot + Updates(1) TradeRequestResult(749)=Successful(0)	
End of day - Unsubscribe				
(C) Unsubscribe from Trade Capture Report	Dealer	→	AD – TradeCaptureReportRequest TradeRequestID(568)=❶ TradeRequestType(569)=All Trades(0) SubscriptionRequestType(263)= Disable previous Snapshot+Updates(2)	Execution

Model FIX 5.0			
Start of day - Subscribe			
(D) Unsubscribe Acknowledgement		←	AQ – TradeCaptureReportRequestAck TradeRequestType(569)=All Trades(0) SubscriptionRequestType(263)= Disable previous Snapshot+Updates(2) TradeRequestResult(749)=Successful(0)

Table 38: Scenario CLOB37 – Dealer Subscribes / Unsubscribes to Trade Capture Reports

7 Auctions and Workups

Execution Venues often run auctions in order to increase the liquidity and the match between buyers to sellers. There are different types of auctions that exist today; Moreover, different execution venues have different rules during auctions and workups. Below is a partial list of such differences:

- Price discovery phase – Some execution venues have a ‘price discovery phase’ to determine the price of each instrument in the auction. Other may set the price during the announcement of the auction trading phase (e.g. as mid-price).
- Order types that are submitted to the auctions – different Execution Venues supports different OrdType(40) values during auction phases. It is recommended to use AuctionInstruction(1805) to indicate if an order is permitted in auctions.
- Time and length of the auctions are different between execution venues

The best practices provide the common usage of auctions without detailing the individual execution venues specific workflows.

In fixed income, workups are frequently used in order to increase trade sizes. Workups are specific category of auctions where:

- Workups are triggered by a trade
- Workups usually contains a single instrument
- The workup price, i.e. the auction price is usually set at the beginning of the workup and does not change throughout the workup phase
- Some workups have multiple phases:
 - Private phase limited to participants that traded the instrument
 - Intermediate phase, where the participants are limited to those who have orders in the order book for that instrument
 - Public phase – open to all

These phases are unique for each individual execution venue; the best practices recommends assigning TradingSessionSubID(625) values 100 and above for these phase.

7.1 Message Flows Summary

The following scenarios illustrate the use of these messages.

Scenario	Description
CLOB38	Execution Venue Initiates Intra-Day Auction – Dealer Submits Orders – Execution Venue Acknowledges – Continuous Trading Resumes – Execution Venue Sends Auction Results
CLOB39	Execution Triggers Private Workups session followed by Public Workups session

7.2 Scenario CLOB38 - Execution Venue Initiates Intra-Day Auction – Dealer Submits Orders – Execution Venue Acknowledges – Continuous Trading Resumes – Execution Venue Sends Auction Results

This scenario illustrates a typical auction workflow. The Execution Venue announces the auction by sending a trading session status message and provides the details of the auction in a market data message. The Dealer submits orders which are acknowledged by the Execution Venue. When the auction is finished, another trading session status message is sent indicating the return to continuous trading. Finally the results of the auction are sent from the Execution Venue to the Dealer.

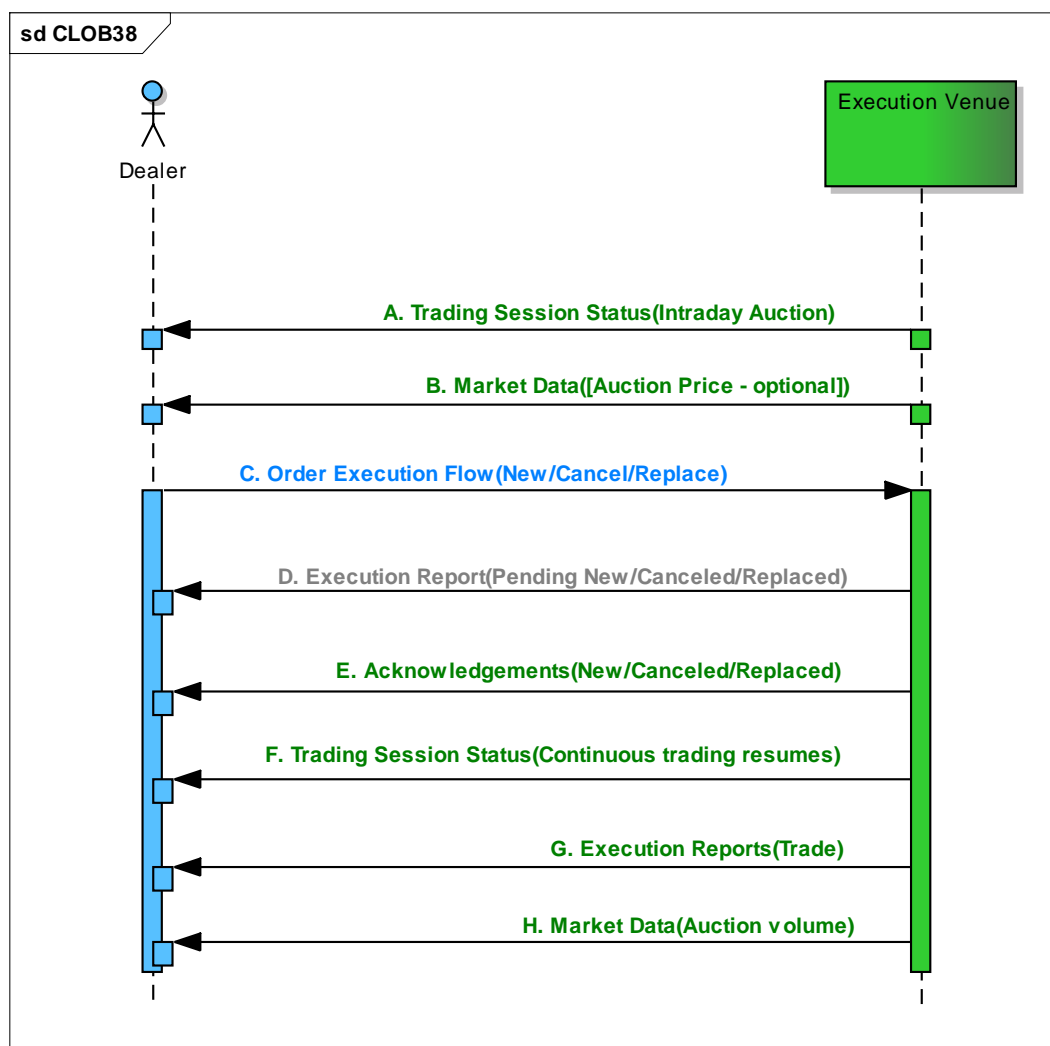


Figure 39: Scenario CLOB38 - Execution Venue Initiates Intra-Day Auction – Dealer Submits Orders – Execution Venue Acknowledges – Continuous Trading Resumes – Execution Venue Sends Auction Results

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0				
(A) Announce an intraday auction	Dealer	←	h – TradingSessionStatus TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Intraday Auction(6) TradSesStatus(340) = Open(2) TradingEvent(1368) = Change of Trading Subsession (2) TradSesEndTime(345) = <time Auction finishes in UTC format> SecurityID(48) = ❶ <for an auction on individual instruments>	Execution Venue
(B) Detail for the auction (Optional)		←	X – MarketDataIncrementalRefresh or W - MarketDataSnapshotFullRefresh NoMDEntries(268) = <required> [MDUpdateAction(279) = New(0)] MDEntryType(269) = Auction Clearing Price(Q) MDEntryPx(270) // Price of the auction TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Intraday Auction(6) SecurityTradingStatus(326) = Pre-Cross (24) ExpireTime(126) = <time Auction finishes in UTC format>	
(C) Dealer submits orders (new, replace, cancel)		→ → →	D – NewOrderSingle or F – OrderCancelRequest or G – OrderCancelReplaceRequest	
(D) Execution Venue Acknowledges (Optional)		← ← ←	8 – ExecutionReport ExecType(150) = Pending New(A) or Pending Cancel(6) or Pending Replace(E)	
(E) Execution Venue Acknowledges		← ← ←	8 – ExecutionReport ExecType(150) = new(0) or canceled(4) or replaced(5)	
(F) Resume to continuous trading		←	h = TradingSessionStatus TradingSessionID(336) = Day(1) TradingSessionSubID(625) = (Continuous) Trading(3) TradSesStatus(340) = Open(2) TradingEvent(1368) = Trading resumes(0) TradSesEndTime(345) = <time Auction finishes in UTC format> SecurityID(48) = ❶ <for an auction on individual instruments>	
(G) Execution Report (Trade)		← ← ←	8 – ExecutionReport ExecType(150) = Trade(F)	
(H) Auction results (Optional)		←	X – MarketDataIncrementalRefresh or W - MarketDataSnapshotFullRefresh NoMDEntries(268) = <required> [MDUpdateAction(279) = New(0)/Overlay(5)] MDEntryType(269) = Auction Clearing Price(Q) MDEntryPx(270) = <required> // Price of the auction MDEntrySize(271) // Auction volume TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Intraday Auction(6) SecurityTradingStatus(326) = Cross (25)	

Table 39: Scenario CLOB38 - Execution Venue Initiates Intra-Day Auction – Dealer Submits Orders – Execution Venue Acknowledges – Continuous Trading Resumes – Execution Venue Sends Auction Results

7.3 Scenario CLOB39 - Execution Triggers Private Workups session followed by Public Workups session

This scenario starts when a trade triggers a private workup phase, when the private phase finishes a public phase starts. Finally the results of the workup phases are sent from the Execution Venue to the Dealer.

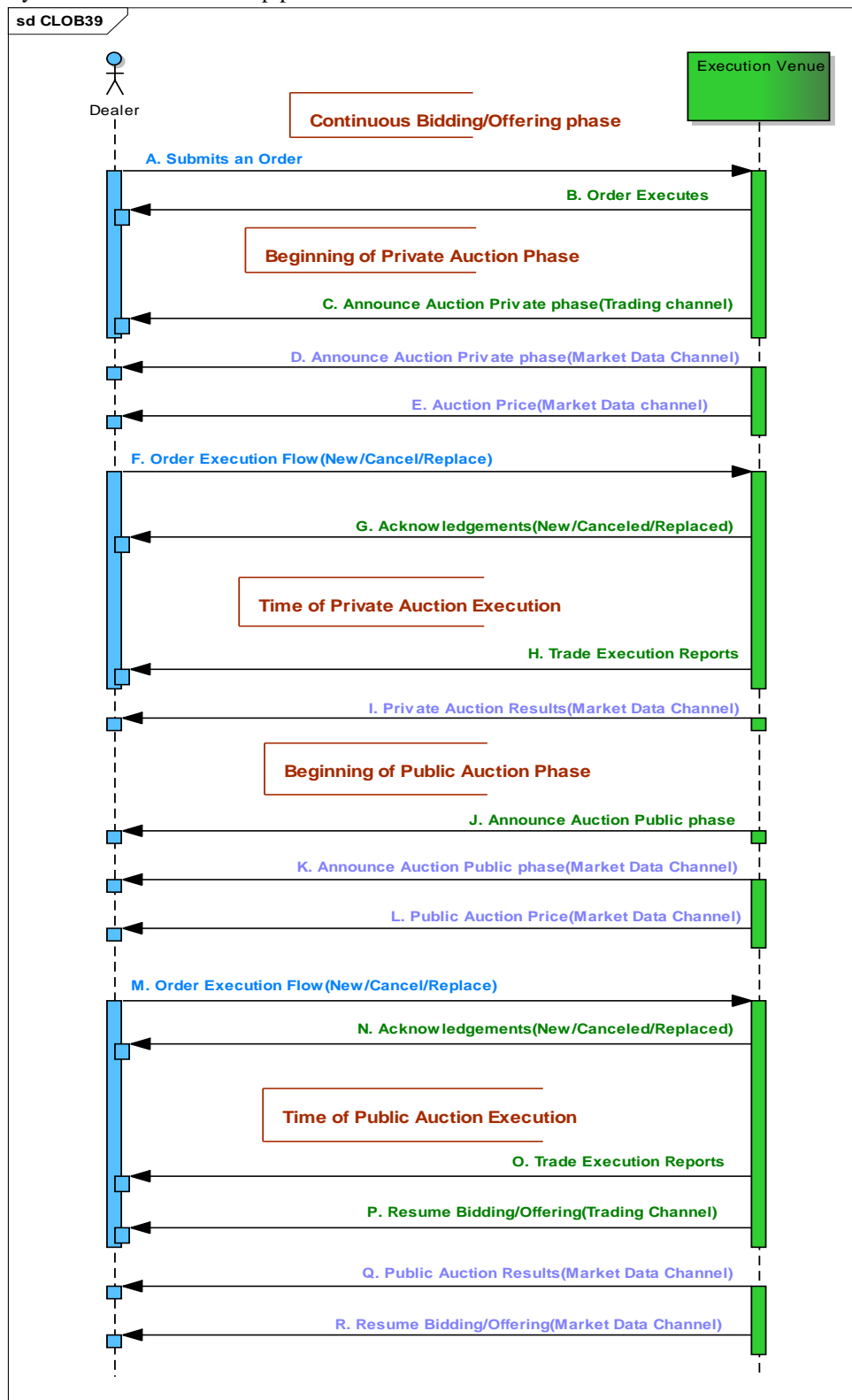


Figure 40: Scenario CLOB39 - Execution Triggers Private Workups session followed by Public Workups session

Continuous Bidding/Offering phase					
(A) Order Submit	Dealer	→	D – NewOrderSingle ClOrdId(11)=❶ OrderQty(38)=10000 TimeInForce(59)=ImmediateOrCancel(3) FillOrKill(4) SecurityID(48) = ❸	Execution Venue	
(B) Filled		←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId(37)=❷ <assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=10000 LeavesQty(151)=0 ExecType(150)=Trade(F) OrdStatus(39)=Filled(2) SecurityID(48) = ❸		
A trade triggers private auction					
(C) Announce private workups phase in Trading channel	Dealer	←	h – TradingSessionStatus TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Private Auction(11) TradSesStatus(340) = Open(2) TradingSessionEvent(1368) = Change of Trading Subsession (2) TradSesEndTime(345) = <time Auction finishes in UTC format > SecurityID(48) = ❸	Execution Venue	
(D) Announce private workups phase in the Market Data channel		←	f – SecurityStatus SecurityID(48) = ❸ TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Private Auction(11) SecurityTradingStatus(326)=Pre Cross(23) SecurityTradingEvent(1174) = Change of Trading Subsession (5) or Change of Security Trading Status(6) NextAuctionTime(2116) =<Private auction time UTC format>		Security Status And Market Data updates may be sent on a different channel, i.e. different FIX session
(E) Detail for the auction (Optional)		←	X – MarketDataIncrementalRefresh or W - MarketDataSnapshotFullRefresh NoMDEntries(268) = <required> [MDUpdateAction(279) = New(0)] MDEntryType(269) = Auction Clearing Price(Q) MDEntryPx(270) = <Price of the auction> TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Private Auction(11) SecurityTradingStatus(326) = Pre-Cross (24) ExpireTime(126) = <Private auction time UTC format>		
(F) Dealer submits orders (new, replace, cancel)		→ → →	D – NewOrderSingle or F – OrderCancelRequest or G – OrderCanceReplaceRequest		Order execution flow during Workups phase
(G) Execution Venue Acknowledges	← ← ←	8 – ExecutionReport ExecType(150) = new(0) or canceled(4) or replaced(5)			

Time of private auction execution				
(H) Execution Report (Trade)	Dealer	←	8 – ExecutionReport	
		←	ExecType(150) = Trade(F)	
(I) Private Auction results (Optional)	Dealer	←	X – MarketDataIncrementalRefresh or W - MarketDataSnapshotFullRefresh NoMDEntries(268) = <required> [MDUpdateAction(279) = New(0)/Overlay(5)] MDEntryType(269) = Auction Clearing Price(Q) MDEntryPx(270) = <required> <Price of the auction> MDEntrySize(271)= <Auction volume> TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Intraday Auction(6) SecurityTradingStatus(326) = Cross(25)	
Beginning of public auction phase				
(J) Announce public workups phase in Trading channel	Dealer	←	h – TradingSessionStatus TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Public Auction(12) TradSesStatus(340) = Open(2) TradingEvent(1368) = Change of Trading Subsession (2) TradSesEndTime(345) = <time Auction finishes in UTC format > SecurityID(48) = 3	
(K) Announce public workups phase in the Market Data channel		←	f – SecurityStatus SecurityID(48) = 3 TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Public Auction(12) SecurityTradingStatus(326) = Pre-Cross (24) SecurityTradingEvent(1174) = Change of Trading Subsession (5) or Change of Security Trading Status(6) NextAuctionTime(2116) =<Public auction time UTC format>	
(L) Detail for the auction (Optional)		←	X – MarketDataIncrementalRefresh or W - MarketDataSnapshotFullRefresh NoMDEntries(268) = <required> [MDUpdateAction(279) = New(0)] MDEntryType(269) = Auction Clearing Price(Q) MDEntryPx(270) = <Price of the auction> TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Intraday Auction(6) SecurityTradingStatus(326) = Pre-Cross (24) ExpireTime(126) =<time Auction finishes in UTC format>	
(M) Dealer submits orders (new, replace, cancel)		→ → →	D – NewOrderSingle or F – OrderCancelRequest or G – OrderCanceReplaceRequest	Order execution flow during Workups phase
(N) Execution Venue Acknowledges		← ← ←	8 – ExecutionReport ExecType(150) = new(0) or canceled(4) or replaced(5)	

Time of public auction execution					
(O) Execution Report (Trades)	Dealer	←	8 – ExecutionReport ExecType(150) = Trade(F)		Security Status And Market Data updates may be sent on a different channel, i.e. different FIX session
(P) Resume Bidding/Offering in Trading channel		←	h = TradingSessionStatus TradingSessionID(336) = Day(1) TradingSessionSubID(625) = (Continuous) Trading(3) TradSesStatus(340) = Open(2) TradingEvent(1368) = Trading resumes(0) TradSesEndTime(345) = <End of trading session time> SecurityID(48) = ❸		
(Q) Auction results + Resume Bidding/Offering		←	X – MarketDataIncrementalRefresh or W - MarketDataSnapshotFullRefresh NoMDEntries(268) = <required> [MDUpdateAction(279) = New(0)/Overlay(5)] MDEntryType(269) = Auction Clearing Price(Q) MDEntryPx(270) = <required> < Price of the auction> MDEntrySize(271) <Auction volume> TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Intraday Auction(6) SecurityTradingStatus(326) = Resume(3) or Ready To Trade(17)		
(R) Resume Bidding/Offering in Market Data channel		←	f – SecurityStatus SecurityID(48) = ❸ TradingSessionID(336) = Day(1) TradingSessionSubID(625) = Trading(3) SecurityTradingStatus(326) = Resume(3) or Ready To Trade(17) SecurityTradingEvent(1174) = Change of Trading Subsession (5) or Change of Security Trading Status(6)		

Table 40: Scenario CLOB39 - Execution Triggers Private Workups session followed by Public Workups session

8 Stop orders, Iceberg Orders & Peg orders

This section describes different instructions that may be attached to an order to change its behaviour in the market.

Such instructions are categorized as:

- Stop instructions
- Triggering instructions (predefined attributes that support automatic modification of an order)
- Peg instructions (predefined attributes that support automatic modification of the price of an order)
- Display instructions (predefined attributes that support hiding an order or hiding part of the order's quantity) i.e. icebergs

8.1 Stop orders

FIX provides a standard way to place stop orders:

- OrdType(40) = Stop/Stop Loss(3) *A stop order that is triggered as a result of a trade in the market at which point the stopped order becomes a market order*
- OrdType(40) = Stop Limit(4) *A stop limit order that is triggered as a result of a trade in the market at which point the stopped order becomes a limit order*

When these order types are set, it is required that the order will contain StopPx(99) field to indicate the stop price.

When a stop order is triggered, the venue should send an ExecutionReport(35=8) message with OrdStatus(39)=Stopped(7) and ExecType(150)=Stopped(7).

8.1.1 Scenario CLOB42: Stop Loss order

This scenario is where a dealer submits a stop loss order, the order is accepted, later it is triggered and fully filled.

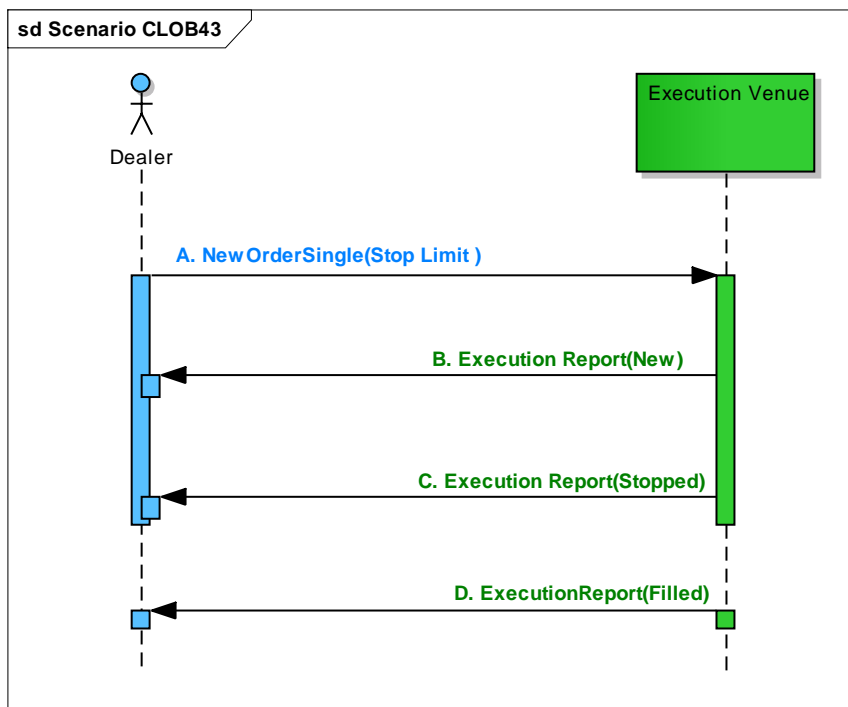


Figure 41: Scenario CLOB42: Stop Loss order

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Stop Order Submit	Dealer	→	D – NewOrderSingle ClOrdID(11)=❶ OrderQty(38)=10000 OrdType(40)=Stop/Stop Loss(3) StopPx(99)=50.61 Side(54)=Sell(2)
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11)=❶ OrderID(37)=❷<assigned by the Execution Venue> OrdType(40)=Stop/Stop Loss(3) OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 StopPx(99)=50.61 Side(54)=Sell(2) ExecType(150)=New(0) OrdStatus(39)=New(0)
			Execution Venue

Model FIX 5.0			
(C) Order is triggered		<p>←</p> <p>8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 Side(54)=Sell(2) ExecType(150)=Stopped(7) OrdStatus(39)= Stopped(7)</p>	
(C) Filled		<p>←</p> <p>8 – ExecutionReport ClOrdID(11)=❶ OrderId(37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=10000 LeavesQty(151)=0 ExecType(150)=Trade(F) OrdStatus(39)=Filled(2) Price(44)=49.68</p>	

Table 41 Scenario CLOB43: Stop Loss order

8.1.2 Scenario CLOB43: Stop Limit order

This scenario is where a dealer submits a stoplimit order, the order accepted, later it is triggered and fully filled at a better price than the limit.

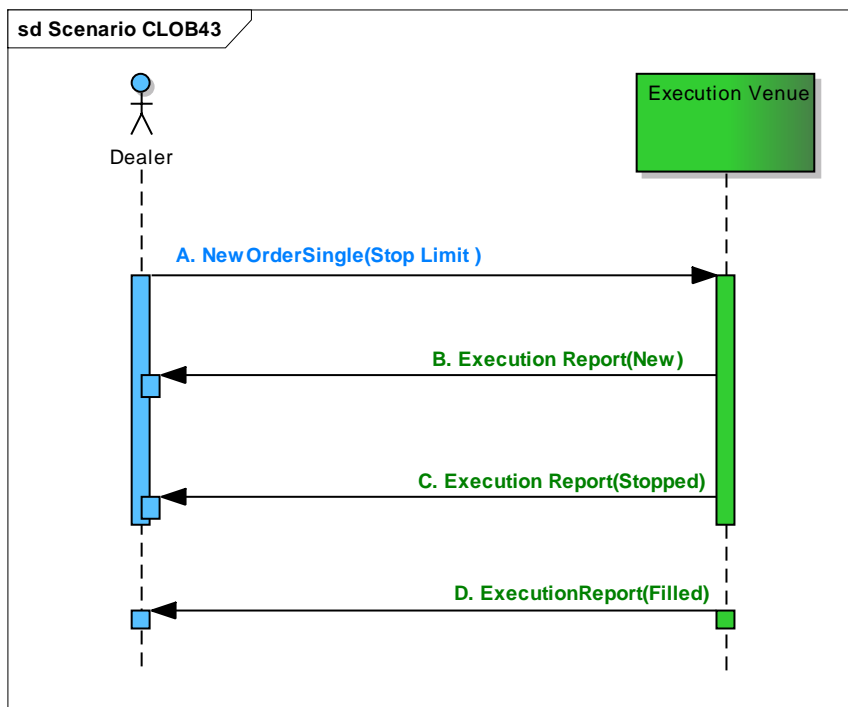


Figure 42: Scenario CLOB43: Stop Limit order

Model Flow

The following table illustrates the flows expected when communicating with an Execution Venue implementing FIX 5.0 SP2.

Model FIX 5.0			
(A) Stop Order Submit	Dealer	→	D – NewOrderSingle ClOrdId(11)=❶ OrderQty(38)=10000 OrdType(40)=Stop Limit (4) Price(44) = 49.9 <Limit price> StopPx(99)=50.61 <Stop price> Side(54)=Sell(2)
(B) Order Accept		←	8 – ExecutionReport ClOrdID(11) =❶ OrderId (37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 OrdType(40)=Stop Limit (4) Price(44) = 49.9 Side(54)=Sell(2) ExecType(150)=New(0) OrdStatus(39)=New(0)
			Execution Venue

Model FIX 5.0			
(C) Limit order is triggered (Last price is at stop price or better)	←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId (37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)=0 LeavesQty(151)=10000 Side(54)=Sell(2) ExecType(150)=Stopped(7) OrdStatus(39)= Stopped(7)	
(D) Order is filled at price which is better than the limit price	←	8 – ExecutionReport ClOrdID(11) = ❶ OrderId (37)=❷<assigned by the Execution Venue> OrderQty(38)=10000 CumQty(14)= 10000 LeavesQty(151)=0 LastQty = 10000 Side(54)=Sell(2) ExecType(150)=Trade(F) OrdStatus(39)= Filled(2) Price(44)=50.0	

Table 42 Scenario CLOB43: Stop Limit order

8.2 Triggering Instructions

The TriggeringInstruction component specifies the conditions under which an order will be triggered as well as the behaviour of the order in the market once it is triggered.

Once an order is triggered, the execution venue sends an execution report with ExecType(150)=Triggered or Activated by System(L).

See: [Triggering Instructions component](#) for the list of triggering instructions attributes.

8.3 Peg Instructions

The PegInstructions component is used to tie the limit price of an order to a market data change event such as opening price, mid-price, best price. The market data event may be either on the same instrument as the order, or a different instrument.

In most cases, Dealers do not receive indications of when the event has been triggered, yet venues may send an execution report with ExecType(150)=Triggered or Activated by System(L) to indicate it.

See: [Peg Instructions component](#) for the list of peg instructions attributes.

8.4 Display Instructions (Icebergs)

The DisplayInstruction component is used to determine how an order is to be handled in terms of when and how much of the order quantity is to be displayed to the market.

In most cases, Dealers do not receive indications of when the event has been triggered, yet venues may send an execution report with ExecType(150)=Triggered or Activated by System(L) to indicate it.

See: [Display Instructions component](#) for the list of display instructions attributes.

9 Message Detail

This section describes in detail all FIX application messages used in this volume. A summary of all the messages described in this volume is given below.

MsgType	Description
D	NewOrderSingle
8	ExecutionReport
F	OrderCancelRequest
G	OrderCancelReplaceRequest
9	OrderCancelReject
q	OrderMassCancelRequest
r	Order Mass Cancel Report
H	OrderStatusRequest
S	Quote
AI	QuoteStatusReport
a	QuoteStatusRequest
AE	Trade Capture Report
AD	Trade Capture Report Request
AQ	Trade Capture Report Request Ack

9.1 NewOrderSingle (MsgType=D)

NewOrderSingle (D)			Dealer -> Execution Venue	
The new order message type is used by institutions wishing to electronically submit securities and forex orders to a broker for execution. The New Order message type may also be used by institutions or retail intermediaries wishing to electronically submit Collective Investment Vehicle (CIV) orders to a broker or fund manager for execution.				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =D	
11	ClOrdID	Y	Unique identifier of the order as assigned by the Dealer	
	Parties	N	For use by the Dealer to specify the trader/desk who placed the order	
1	Account	N	Account mnemonic as agreed between Dealer and Execution Venue	
	Instrument	Y	Use of instrument identifiers is described in a separate section	
54	Side	Y	Side of order	
60	TransactTime	Y	Time this order request was initiated/released by the trader, trading system, or intermediary.	
	OrderQtyData	Y	Order Quantity	
38	OrderQty	N	the notional amount for outright IRS and CDS orders.	Required on the NewOrderSingle and OrderCancelReplaceRequest Optionally Echoed by Execution Venue
40	OrdType	Y	Order type.	Typically Market(1) or Limit(2)
423	PriceType	N	Price Type	
44	Price	N	Required for limit OrdTypes.	
59	TimeInForce	N	Absence of this field indicates Day order	
432	ExpireDate	N	Conditionally required if TimeInForce =GTD and ExpireTime is not specified.	
126	ExpireTime	N	Conditionally required if TimeInForce =GTD and ExpireDate is not specified.	
	StandardTrailer	Y	The standard FIX message trailer	

Table 43: NewOrderSingle (MsgType=D)

9.2 ExecutionReport (MsgType=8)

ExecutionReport (8)			Execution Venue -> Dealer	
The execution report message is used to: 1. confirm the receipt of an order 2. confirm changes to an existing order (i.e. accept cancel and replace requests) 3. relay order status information 4. relay fill information on working orders 5. relay fill information on tradeable or restricted tradeable quotes 6. reject orders 7. report post-trade fees calculations associated with a trade				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =8	
37	OrderID	Y	OrderID is required to be unique for each chain of orders. Generated by Execution Venue.	
11	ClOrdID	N	Required when referring to orders that were electronically submitted over FIX or otherwise assigned a ClOrdID(11). In the case of quotes can be mapped to: <ul style="list-style-type: none">QuoteID(117) of a single QuoteQuoteEntryID(299) of a MassQuoteBidID(390) or OfferID(1867) of a two-sided Quote	
1166	QuoteMsgID	N	In the case of quotes can be mapped to: <ul style="list-style-type: none">QuoteMsgID(1166) of a single QuoteQuoteID(117) of a Mass Quote	
41	OrigClOrdID	N	Conditionally required for response to a Cancel or Cancel/Replace request (ExecType=PendingCancel, Replace, or Canceled) when referring to orders that were electronically submitted over FIX or otherwise assigned a ClOrdID(11). ClOrdID of the previous accepted order (NOT the initial order of the day) when canceling or replacing an order.	
790	OrdStatusReqID	N	Required if responding to and if provided on the Order Status Request message. Echo back the value provided by the requester.	
	Parties	N	Should be used when providing details of the contra party to the trade - it may be more than one party	
17	ExecID	Y	Unique identifier of execution message as assigned by the Execution Venue (will be 0 (zero) forExecType=I (Order Status)).	

150	ExecType	Y	Describes the purpose of the execution report.	
39	OrdStatus	Y	Describes the current state of a CHAIN of orders, same scope as OrderQty, CumQty, LeavesQty, and AvgPx	
103	OrdRejReason	N	For optional use with ExecType =8 (Rejected)	
1	Account	N	Account mnemonic as agreed between Dealer and Execution Venue	Echoed from original message
	Instrument	Y	Use of instrument identifiers is described in a separate section	
54	Side	Y	Echoed from original message	
	OrderQtyData	N	Order Quantity component	Echoed from original message
38	OrderQty	N	the notional amount for outright IRS and CDS orders.	Required on the NewOrderSingle and OrderCancelReplaceRequest Optionally Echoed by Execution Venue
40	OrdType	N	Order Type	Echoed from original message
423	PriceType	N	Price Type	Echoed from original message
44	Price	N	Required if specified on the order	Echoed from original message
59	TimeInForce	N	Absence of this field indicates Day order	Echoed from original message
432	ExpireDate	N	Conditionally required if TimeInForce =GTD and ExpireTime is not specified.	Echoed from original message
126	ExpireTime	N	Conditionally required if TimeInForce =GTD and ExpireDate is not specified.	Echoed from original message
32	LastQty	N	Quantity (e.g. shares) bought/sold on this (last) fill. Required if ExecType =Trade or Trade Correct. If ExecType=Stopped, represents the quantity stopped/guaranteed/protected for.	
31	LastPx	N	Price of this (last) fill. Required if ExecType =Trade or Trade Correct. Should represent the "all-in" (LastSpotRate + LastForwardPoints) rate for F/X orders.). If ExecType=Stopped, represents the price stopped/guaranteed/protected at. Not required for FX Swap when ExecType =Trade or Trade Correct as there is no "all-in" rate that applies to both legs of the FX Swap.	
151	LeavesQty	Y	Quantity open for further	

			execution. If the OrdStatus is Canceled, DoneForTheDay, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty - CumQty.	
14	CumQty	Y	Currently executed quantity for chain of orders.	
6	AvgPx	N	Calculated average price of all fills on this order.	
424	DayOrderQty	N	For GT orders on days following the day of the first trade.	
425	DayCumQty	N	For GT orders on days following the day of the first trade.	
426	DayAvgPx	N	For GT orders on days following the day of the first trade.	
60	TransactTime	N	Time the transaction represented by this ExecutionReport occurred	
	InstrmtLegExecGrp	N	Number of legs Identifies a Multi-leg Execution if present and non-zero.	
555	NoLegs	N	Number of legs Identifies a Multi-leg Execution if present and non-zero.	
->	InstrumentLeg	N	Must be provided if Number of legs > 0	
->654	LegRefID	N	Used to identify a specific leg.	
->637	LegLastPx	N	Used to report the execution price assigned to the leg of the multileg instrument	
->1418	LegLastQty	N	Fill quantity for the leg instrument	
	StandardTrailer	Y	The standard FIX message trailer	

Table 44: ExecutionReport (MsgType=8)

9.3 OrderCancelRequest (MsgType=F)

OrderCancelRequest (F)			Dealer -> Execution Venue	
The order cancel request message requests the cancellation of all of the remaining quantity of an existing order. Note that the Order Cancel/Replace Request should be used to partially cancel (reduce) an order).				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =F	
41	OrigClOrdID	Y	Original Client Order Id	
37	OrderID	N	Unique ID of cancel request as assigned by the Dealer	
11	ClOrdID	Y	Latest Client Order ID	
	Parties	N	For use by the Dealer to specify the trader/desk who placed the order	
	Instrument	Y	Use of instrument identifiers is described in a separate section	
54	Side	Y	Side of order	
60	TransactTime	Y	Time this order request was initiated/released by the trader or trading system.	
	OrderQtyData	N	Order Quantity component	
38	OrderQty	N	the notional amount for outright IRS and CDS orders.	Required on the NewOrderSingle and OrderCancelReplaceRequest Optionally Echoed by Execution Venue
	StandardTrailer	Y	The standard FIX message trailer	

Table 45: OrderCancelRequest (MsgType=F)

9.4 OrderCancelReplaceRequest (MsgType=G)

OrderCancelReplaceRequest (G)			Dealer -> Execution Venue	
The order cancel/replace request is used to change the parameters of an existing order. Do not use this message to cancel the remaining quantity of an outstanding order, use the Order Cancel Request message for this purpose.				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =G	
37	OrderID	N	Original Client Order Id	
	Parties	N	For use by the Dealer to specify the trader/desk who placed the order	
41	OrigClOrdID	N	Original Client Order Id	
11	ClOrdID	Y	Unique ID of cancel/Replace request as assigned by the Dealer.	
	Instrument	Y	Use of instrument identifiers is described in a separate section	
54	Side	Y	Should match original order's side	
60	TransactTime	Y	Time this order request was initiated/released by the trader or trading system.	
	OrderQtyData	Y	Insert here the set of "OrderQtyData" fields defined in "Common Components of Application Messages"	
38	OrderQty	N	the notional amount for outright IRS and CDS orders.	Required on the NewOrderSingle and OrderCancelReplaceRequest Optionally Echoed by Execution Venue
40	OrdType	Y	Order type.	
423	PriceType	N	Price Type	
44	Price	N	Required for limit OrdTypes.	
59	TimeInForce	N	Absence of this field indicates Day order	
432	ExpireDate	N	Conditionally required if TimeInForce =GTD and ExpireTime is not specified.	
126	ExpireTime	N	Conditionally required if TimeInForce =GTD and ExpireDate is not specified.	
	StandardTrailer	Y	The standard FIX message trailer	

Table 46: Order Cancel Replace (MsgType=G)

9.5 OrderCancelReject (MsgType=9)

OrderCancelReject (9)			Execution Venue -> Dealer	
The order cancel reject message is issued by the broker upon receipt of a cancel request or cancel/replace request message which cannot be honored.				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =9	
37	OrderID	Y	If CxlRejReason="Unknown order", specify "NONE".	
11	ClOrdID	Y	Unique order id assigned by institution or by the intermediary with closest association with the investor. to the cancel request or to the replacement order.	
41	OrigClOrdID	Y	ClOrdID(11) which could not be canceled/replaced. ClOrdID of the previous accepted order (NOT the initial order of the day) when canceling or replacing an order.	
39	OrdStatus	Y	OrdStatus value after this cancel reject is applied. If CxlRejReason ="Unknown Order", specify Rejected.	
636	WorkingIndicator	N	For optional use with OrdStatus =0 (New)	
60	TransactTime	N	Timestamp when the business transaction represented by the message occurred.	
434	CxlRejResponseTo	Y	Identifies the type of request that a Cancel Reject is in response to.	
102	CxlRejReason	N	Code to identify reason for cancel rejection.	
	StandardTrailer	Y	The standard FIX message trailer	

Table 47: OrderCancelReject (MsgType=9)

9.6 OrderMassCancelRequest (MsgType=q)

OrderMassCancelRequest (q)			Dealer -> Execution Venue	
The order mass cancel request message requests the cancellation of all of the remaining quantity of a group of orders matching criteria specified within the request. NOTE: This message can only be used to cancel order messages (reduce the full quantity).				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =q (lowercase Q)	
11	ClOrdID	Y	Unique ID of Order Mass Cancel Request as assigned by the Dealer.	
530	MassCancelRequestType	Y	Specifies the type of cancellation requested	
	Parties	N	For use by the Dealer to specify the trader/desk who placed the order	
54	Side	N	Optional qualifier used to indicate the side of the market for which orders are to be canceled. Absence of this field indicates that orders are to be canceled regardless of side.	
60	TransactTime	Y	Time this order request was initiated/released by the trader or trading system.	
	StandardTrailer	Y	The standard FIX message trailer	

Table 48: OrderMassCancelRequest (MsgType=q)

9.7 Order Mass Cancel Report (MsgType=r)

OrderMassCancelReport (r)			Execution Venue -> Dealer	
The Order Mass Cancel Report is used to acknowledge an Order Mass Cancel Request. Note that each affected order that is canceled is acknowledged with a separate Execution Report or Order Cancel Reject message.				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =r (lowercase R)	
11	ClOrdID	N	ClOrdID provided on the Order Mass Cancel Request.	
1369	MassActionReportID	Y	Unique Identifier for the Order Mass Cancel Report assigned by the Execution Venue	
530	MassCancelRequestType	Y	Order Mass Cancel Request Type accepted by the system	
531	MassCancelResponse	Y	Indicates the action taken by the counterparty order handling system as a result of the Cancel Request 0 - Indicates Order Mass Cancel Request was rejected.	
532	MassCancelRejectReason	N	Indicates why Order Mass Cancel Request was rejected Required if MassCancelResponse =0	
	Parties	N	For use by the Dealer to specify the trader/desk who placed the Cancel request	
	TargetParties	N	Should be populated with the values provided on the associated OrderMassCancelRequest(MsgType=Q).	
54	Side	N	Side of the market specified on the Order Mass Cancel Request	Echoed from Mass Cancel Request message
	StandardTrailer	Y	The standard FIX message trailer	

Table 49: Order Mass Cancel Report (MsgType=r)

9.8 OrderStatusRequest (MsgType=H)

OrderStatusRequest (H)			Dealer -> Execution Venue	
The order status request message is used by the institution to generate an order status message back from the broker.				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =H	
37	OrderID	N	OrderID is required to be unique for each chain of orders. Generated by Execution Venue.	Conditionally required if the CLOrdID(11) is not provided. Either OrderID or CLOrdID must be provided.
11	CIOrdID	N	Latest Client Order ID	Conditionally required if the OrderID(37) is not provided. Either OrderID or CLOrdID must be provided.
	Parties	N	Should be used when providing details of the contra party to the trade - it may be more than one party	
	Instrument	Y	Use of instrument identifiers is described in a separate section	
54	Side	Y	Side of order	
	StandardTrailer	Y	The standard FIX message trailer	

Table 50: OrderStatusRequest (MsgType=H)

9.9 Quote (MsgType=S)

Quote (S)			Dealer -> Execution Venue	
The Quote message is used as the response to a Quote Request or a Quote Response message in both indicative, tradeable, and restricted tradeable quoting markets.				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =S	
117	QuoteID	Y	Unique identifier for quote	A unique Quote ID assigned by the Dealer for the quote
390	BidID	N	Unique identifier for the bid side of the quote	
1867	OfferID	N	Unique identifier for the Offer side of the quote	
1166	QuoteMsgID	N	Optionally used to supply a message identifier for a quote.	A unique Quote ID assigned by the Dealer for rsch Quote or quote Cancel message
	Parties	N	Insert here the set of "Parties" (firm identification) fields defined in "Common Components of Application Messages"	
	Instrument	Y	Insert here the set of "Instrument" (symbology) fields defined in "Common Components of Application Messages"	
132	BidPx	N	If F/X quote, should be the "all-in" rate (spot rate adjusted for forward points). Note that either BidPx, OfferPx or both must be specified.	
133	OfferPx	N	If F/X quote, should be the "all-in" rate (spot rate adjusted for forward points). Note that either BidPx, OfferPx or both must be specified.	
647	MinBidSize	N	Specifies the minimum bid size. Used for markets that use a minimum and maximum bid size.	
134	BidSize	N	Specifies the bid size. If MinBidSize is specified, BidSize is interpreted to contain the maximum bid size.	Existence of BidSize means insertion of new Quote to the market
1749	TotalBidSize	N	Specifies the Total bid size.	Existence of TotalBidSize means modification of the Quote
648	MinOfferSize	N	Specifies the minimum offer size. If MinOfferSize is specified, OfferSize is interpreted to contain the maximum offer size.	
135	OfferSize	N	Specified the offer size. If MinOfferSize is specified, OfferSize is interpreted to contain the maximum offer size.	Existence of OfferSize means insertion of new Quote to the market
1750	TotalOfferSize	N	Specifies the Total offer size.	Existence of TotalOfferSize means

				modification of the Quote
423	PriceType	N	Code to represent the price type. (For Financing transactions PriceType implies the "repo type" - Fixed or Floating - 9 (Yield) or 6 (Spread) respectively - and Price (44) gives the corresponding "repo rate". See Volume : "Glossary" for further value definitions)	
	StandardTrailer	Y	The standard FIX message trailer	

Table 51: Quote(MsgType=S)

9.10 QuoteStatusReport(MsgType=AI)

QuoteStatusReport (AI)			Execution Venue -> Dealer	
The quote status report message is used: • as the response to a Quote Status Request message • as a response to a Quote Cancel message • as a response to a Quote Response message in a negotiation dialog (see Volume 7 – PRODUCT: FIXED INCOME and USER GROUP: EXCHANGES AND MARKETS)				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =AI	
649	QuoteStatusReqID	N	Unique identifier for Quote Status Request.	
117	QuoteID	N	Maps to QuoteID(117) of a single Quote(MsgType=S) or QuoteEntryID(299) of a MassQuote(MsgType=i).	
1166	QuoteMsgID	N	Maps to QuoteComponentID(1166) of a single Quote(MsgType=S) or QuoteID(117) of a MassQuote(MsgType=i).	
	Parties	N	Insert here the set of "Parties" (firm identification) fields defined in "Common Components of Application Messages"	
	Instrument	N	Conditionally required when reporting status of a single security quote.	
132	BidPx	N	If F/X quote, should be the "all-in" rate (spot rate adjusted for forward points). Note that either BidPx, OfferPx or both must be specified.	
133	OfferPx	N	If F/X quote, should be the "all-in" rate (spot rate adjusted for forward points). Note that either BidPx, OfferPx or both must be specified.	
134	BidSize	N	Specifies the bid size. If MinBidSize is specified, BidSize is interpreted to contain the maximum bid size.	
135	OfferSize	N	Specified the offer size. If MinOfferSize is specified, OfferSize is interpreted to contain the maximum offer size.	
297	QuoteStatus	N	Quote Status	
300	QuoteRejectReason	N	Reason Quote was rejected	
58	Text	N	Free format text string (Note: this field does not have a specified maximum length)	
	StandardTrailer	Y	The standard FIX message trailer	

Table 52: QuoteStatusReport(MsgType=AI)

9.11 QuoteStatusRequest (MsgType=a)

QuoteStatusRequest (a)			Dealer -> Execution Venue	
<i>The quote status request message is used for the following purposes in markets that employ tradeable or restricted tradeable quotes: • For the issuer of a quote in a market to query the status of that quote (using the QuoteID to specify the target quote). • To subscribe and unsubscribe for Quote Status Report messages for one or more securities.</i>				
Tag	FieldName	Req'd	Description	Comment
	StandardHeader	Y	MsgType =a (lowercase)	
649	QuoteStatusReqID	N	Unique identifier for Quote Status Request.	
117	QuoteID	N	Maps to: - QuoteID(117) of a single Quote - QuoteEntryID(299) of a Mass Quote.	
	Instrument	N	Conditionally required when requesting status of a single security quote.	
	StandardTrailer	Y	The standard FIX message trailer	

Table 53: QuoteStatusRequest (MsgType=a)

9.12 TradeCaptureReport (MsgType=AE)

TradeCaptureReport (AE)			Execution Venue -> Dealer	
The Trade Capture Report message can be: • Used to report trades between counterparties. • Used to report trades to a trade matching system • Can be sent unsolicited between counterparties. • Sent as a reply to a Trade Capture Report Request. • Can be used to report unmatched and matched trades.				
Tag	FieldName	Req'd	Description	Comment
571	TradeReportID	N	TradeReportID is conditionally required in a message-chaining model in which a subsequent message may refer to a prior message via TradeReportRefID. The alternative to a message-chain model is an entity-based model in which TradeID is used to identify a trade. In this case, TradeID is required and TradeReportID can be optionally specified.	
1003	TradeID	N	The unique ID assigned to the trade entity once it is received or matched by the exchange or central counterparty.	
1040	SecondaryTradeID	N	Used to carry an internal trade entity ID which may or may not be reported to the firm	
1041	FirmTradeID	N	The ID assigned to a trade by the Firm to track a trade within the Firm system. This ID can be assigned either before or after submission to the exchange or central counterparty	
1042	SecondaryFirmTradeID	N	Used to carry an internal firm assigned ID which may or may not be reported to the exchange or central counterparty	
487	TradeReportTransType	N	Identifies Trade Report message transaction type.	
856	TradeReportType	N	Type of Trade Report	
939	TrdRptStatus	N	Status of Trade Report In 3 party listed derivatives model used to convey status of a trade to a counterparty. Used specifically in a "claim" model.	
568	TradeRequestID	N	Request ID if the Trade Capture Report is in response to a Trade Capture Report Request	
828	TrdType	N	Type of Trade:	
829	TrdSubType	N	Further qualification to the trade type	
1123	TradeHandlingInstr	N	Specified how the Trade Capture Report should be handled by the Respondent.	
1124	OrigTradeHandlingInstr	N	Optionally used with TradeHandlingInstr = 0 to relay the trade handling instruction used when reporting the trade to the marketplace. Same values as	

			TradeHandlingInstr (1123)	
1125	OrigTradeDate	N	Used to preserve original trade date when original trade is being referenced in a subsequent trade transaction such as a transfer	
1126	OrigTradeID	N	Used to preserve original trade id when original trade is being referenced in a subsequent trade transaction such as a transfer	
1127	OrigSecondaryTradeID	N	Used to preserve original secondary trade id when original trade is being referenced in a subsequent trade transaction such as a transfer	
830	TransferReason	N	Reason trade is being transferred	
150	ExecType	N	Type of Execution being reported: Uses subset of ExecType for Trade Capture Reports	
325	UnsolicitedIndicator	N	Set to 'Y' if message is sent as a result of a subscription request or out of band configuration as opposed to a Position Request.	
263	SubscriptionRequestType	N	Used to subscribe / unsubscribe for trade capture reports. If the field is absent, the value 0 will be the default	
572	TradeReportRefID	N	The TradeReportID that is being referenced for some action, such as correction or cancellation	
820	TradeLinkID	N	Used to associate a group of trades together. Useful for average price calculations.	
17	ExecID	N	Market (Exchange) assigned Execution Identifier	
378	ExecRestatementReason	N	Reason for restatement	
570	PreviouslyReported	N	Indicates if the trade capture report was previously reported to the counterparty	
423	PriceType	N	Can be used to indicate cabinet trade pricing	
	RootParties	N	Insert here the set of "Root Parties" fields defined in "common components of application messages" Used for acting parties that applies to the whole message, not individual legs, sides, etc..	
1430	VenueType	N	Identifies the type of venue where a trade was executed	
1300	MarketSegmentID	N	Identifies the market segment	
1301	MarketID	N	Identifies the Market	
	Instrument	Y	Insert here the set of "Instrument" (symbology) fields defined in "Common Components of Application Messages"	
48	SecurityID	N	Takes precedence in identifying security to counterparty over	

			SecurityAltID block. Requires SecurityIDSource if specified.	
22	SecurityIDSource	N	Required if SecurityID is specified.	
	FinancingDetails	N	Insert here the set of "FinancingDetails" fields defined in "Common Components of Application Messages"	
854	QtyType	N	Type of quantity specified in a quantity field:	
	YieldData	N	Insert here the set of "YieldData" fields defined in "Common Components of Application Messages"	
32	LastQty	Y	Trade Quantity.	
31	LastPx	Y	Trade Price.	
15	Currency	N	Primary currency of the specified currency pair. Used to qualify LastQty and GrossTradeAmout	
120	SettlCurrency	N	Contra currency of the deal. Used to qualify CalculatedCcyLastQty	
669	LastParPx	N	Last price expressed in percent-of-par. Conditionally required for Fixed Income trades when LastPx is expressed in Yield, Spread, Discount or any other price type that is not percent-of-par.	
75	TradeDate	N	Used when reporting other than current day trades.	
715	ClearingBusinessDate	N	The "Clearing Business Date" referred to by this maintenance request.	
442	MultiLegReportingType	N	Type of report if multileg instrument. Provided to support a scenario for trades of multileg instruments between two parties.	
824	TradeLegRefID	N	Reference to the leg of a multileg instrument to which this trade refers Used when MultiLegReportingType = 2 (Single Leg of a Multileg security)	
	TrdInstrmtLegGrp	N	Number of legs Identifies a Multi-leg Execution if present and non-zero.	
60	TransactTime	N	Time the transaction represented by this Trade Capture Report occurred. Execution Time of trade. Also describes the time of block trades.	
	TrdRegTimestamps	N	The TrdRegTimestamps component block is used to express timestamps for an order or trade that are required by regulatory agencies These timestamps are used to identify the timeframes for when an order or trade is received on the floor, received and executed by the broker, etc.	

63	SettlType	N	Indicates order settlement period. If present, SettlDate (64) overrides this field. If both SettlType (63) and SettlDate (64) are omitted, the default for SettlType (63) is 0 (Regular). Regular is defined as the default settlement period for the particular security on the exchange of execution. In Fixed Income the contents of this field may influence the instrument definition if the SecurityID (48) is ambiguous. In the US an active Treasury offering may be re-opened, and for a time one CUSIP will apply to both the current and "when-issued" securities. Supplying a value of "7" clarifies the instrument description; any other value or the absence of this field should cause the respondent to default to the active issue. Additionally the following patterns may be used as well as enum values: Dx = FX tenor expression for "days", e.g. "D5", where "x" is any integer > 0; Mx = FX tenor expression for "months", e.g. "M3", where "x" is any integer > 0; Wx = FX tenor expression for "weeks", e.g. "W13", where "x" is any integer > 0; Yx = FX tenor expression for "years", e.g. "Y1", where "x" is any integer > 0. Noted that for FX the tenors expressed using Dx, Mx, Wx, and Yx values do not denote business days, but calendar days.	
64	SettlDate	N	Takes precedence over SettlType value and conditionally required/omitted for specific SettlType values.	
	TrdCapRptSideGrp	Y	Number of sides	
1134	ReportedPxDiff	N	The reason(s) for the price difference should be stated by using field (Tag 828) TrdType and, if required, field (Tag 829) TrdSubType as well.	
1328	RejectText	N	Those will be used by Firms to send a reason for rejecting a trade in an allocate claim model.	

Table 54: TradeCaptureReport (MsgType=AE)

9.13 TradeCaptureReportRequest (MsgType=AD)

TradeCaptureReportRequest (AD)			Dealer -> Execution Venue	
The Trade Capture Report Request can be used to: • Request one or more trade capture reports based upon selection criteria provided on the trade capture report request • Subscribe for trade capture reports based upon selection criteria provided on the trade capture report request.				
Tag	FieldName	Req'd	Description	Comment
568	TradeRequestID	Y	Identifier for the trade request	
1003	TradeID	N	The unique ID assigned to the trade entity once it is received or matched by the exchange or central counterparty.	
1040	SecondaryTradeID	N	Used to carry an internal trade entity ID which may or may not be reported to the firm	
569	TradeRequestType	Y	Type of Trade Capture Report.	
263	SubscriptionRequestType	N	Used to subscribe / unsubscribe for trade capture reports If the field is absent, the value 0 will be the default (snapshot only - no subscription)	
571	TradeReportID	N	To request a specific trade report	
17	ExecID	N	Unique identifier of execution message as assigned by sell-side (broker, exchange, ECN) (will be 0 (zero) for ExecType (150)=I (Order Status)). Uniqueness must be guaranteed within a single trading day or the life of a multi-day order. Firms which accept multi-day orders should consider embedding a date within the ExecID field to assure uniqueness across days. (Prior to FIX 4.1 this field was of type int).	
150	ExecType	N	To request all trades of a specific execution type	
37	OrderID	N	Unique identifier for Order as assigned by sell-side (broker, exchange, ECN). Uniqueness must be guaranteed within a single trading day. Firms which accept multi-day orders should consider embedding a date within the OrderID field to assure uniqueness across days.	
11	ClOrdID	N	Unique identifier for Order as assigned by the buy-side (institution, broker, intermediary etc.) (identified by SenderCompID (49) or OnBehalfOfCompID (5) as appropriate). Uniqueness must be guaranteed within a single trading day. Firms, particularly those which electronically submit multi-day orders, trade globally or throughout market close periods, should ensure uniqueness across days, for example	

			by embedding a date within the ClOrdID field.	
573	MatchStatus	N	The status of this trade with respect to matching or comparison.	
828	TrdType	N	To request all trades of a specific trade type	
829	TrdSubType	N	To request all trades of a specific trade sub type	
1123	TradeHandlingInstr	N	Specified how the Trade Capture Report should be handled by the Respondent.	
830	TransferReason	N	To request all trades for a specific transfer reason	
855	SecondaryTrdType	N	To request all trades of a specific trade sub type	
820	TradeLinkID	N	To request all trades of a specific trade link id	
880	TrdMatchID	N	To request a trade matching a specific TrdMatchID	
	Parties	N	Used to specify the parties for the trades to be returned (clearing firm, execution broker, trader id, etc.) ExecutingBroker ClearingFirm ContraBroker ContraClearingFirm SettlementLocation - depository, CSD, or other settlement party ExecutingTrader InitiatingTrader OrderOriginator	
	Instrument	N	Insert here the set of "Instrument" (symbology) fields defined in "Common Components of Application Messages"	
48	SecurityID	N	Takes precedence in identifying security to counterparty over SecurityAltID block. Requires SecurityIDSource if specified.	
22	SecurityIDSource	N	Required if SecurityID is specified.	
	InstrumentExtension	N	Insert here the set of "InstrumentExtension" fields defined in "Common Components of Application Messages"	
	FinancingDetails	N	Insert here the set of "FinancingDetails" fields defined in "Common Components of Application Messages"	
	UndInstrmtGrp	N		
	InstrmtLegGrp	N		
	TrdCapDtGrp	N	Number of date ranges provided (must be 1 or 2 if specified)	
715	ClearingBusinessDate	N	To request trades for a specific clearing business date.	
336	TradingSessionID	N	To request trades for a specific trading session.	
625	TradingSessionSubID	N	To request trades for a specific trading session.	

943	TimeBracket	N	To request trades within a specific time bracket.	
54	Side	N	To request trades for a specific side of a trade.	
442	MultiLegReportingType	N	Used to indicate if trades are to be returned for the individual legs of a multileg instrument or for the overall instrument.	
578	TradeInputSource	N	To requests trades that were submitted from a specific trade input source.	
579	TradeInputDevice	N	To request trades that were submitted from a specific trade input device.	
726	ResponseDestination	N	URI destination name. Used if ResponseTransportType is out-of-band.	
58	Text	N	Used to match specific values within Text fields	

Table 55: TradeCaptureReportRequest (MsgType=AD)

9.14 TradeCaptureReportRequestAck (MsgType=AQ)

TradeCaptureReportRequestAck (AQ)			Execution Venue -> Dealer	
<i>The Trade Capture Request Ack message is used to: • Provide an acknowledgement to a Trade Capture Report Request in the case where the Trade Capture Report Request is used to specify a subscription or delivery of reports via an out-of-band ResponseTransmissionMethod. • Provide an acknowledgement to a Trade Capture Report Request in the case when the return of the Trade Capture Reports matching that request will be delayed or delivered asynchronously. This is useful in distributed trading system environments. • Indicate that no trades were found that matched the selection criteria specified on the Trade Capture Report Request • The Trade Capture Request was invalid for some business reason, such as request is not authorized, invalid or unknown instrument, party, trading session, etc.</i>				
Tag	FieldName	Req'd	Description	Comment
568	TradeRequestID	Y	Identifier for the trade request	
1003	TradeID	N	The unique ID assigned to the trade entity once it is received or matched by the exchange or central counterparty.	
1040	SecondaryTradeID	N	Used to carry an internal trade entity ID which may or may not be reported to the firm	
569	TradeRequestType	Y	Type of Trade Capture Report.	
263	SubscriptionRequestType	N	Used to subscribe / unsubscribe for trade capture reports If the field is absent, the value 0 will be the default	
748	TotNumTradeReports	N	Number of trade reports returned	
749	TradeRequestResult	Y	Result of Trade Request	
750	TradeRequestStatus	Y	Status of Trade Request	

Table 56: TradeCaptureReportRequestAck (MsgType=AQ)

Appendix I - Document Figures

Figure 1: Scenario CLOB1 – Submits Aggressive Order - Expires.....	15
Figure 2: Scenario CLOB2 – Submits Aggressive Order - Partially Fills – Expires	16
Figure 3: Scenario CLOB3 – Submits Aggressive Order - Fills	18
Figure 4: Scenario CLOB4 – Submits Passive Order - Expires	20
Figure 5: Scenario CLOB5 – Submits Passive Order - Partially Fills – Expires	21
Figure 6: Scenario CLOB6 – Submits Passive Order - Fills	23
Figure 7: Scenario CLOB7 – Submits Passive Order - Amends – Expires	25
Figure 8: Scenario CLOB8 – Submits Passive Order – Partially Fills - Amends – Fills.....	27
Figure 9: Scenario CLOB9 – Submits Passive Order –Amends – Rejects	29
Figure 10: Scenario CLOB10 – Submits Passive Order - Partially Fills - Cancels	31
Figure 11: Scenario CLOB11 – Submits Passive Order - Cancels – Rejects	33
Figure 12: Scenario CLOB12 – Submits Order - Rejects	35
Figure 13: Scenario CLOB13 – Unsolicited Cancel by the Execution Venue.....	36
Figure 14: Scenario CLOB14 – Cancels All Orders (Mass Cancel)	37
Figure 15: Scenario CLOB15 – Requests / Receives Order Status	38
Figure 16: Scenario CLOB16 - Submits Order Partially Fills - Amends Order - Amends Order - Execution Venue Processes Sequentially	39
Figure 17: Scenario CLOB17 – Submits Order – Partially Fills – Amends Order – Amends Order – Execution Venue Processes Pending Replaces Before Replaces	42
Figure 18: Scenario CLOB18 – Submits Order – Partially Fills - Amends Decrease Order Quantity whilst Partial Fill being reported - Partially Fills whilst the Amendment is Pending – Amend Accepts - Order Fills	45
Figure 19: Scenario CLOB19 – Submits Order – Partially Fills - Amends Order Quantity Down whilst partial fill being reported	48
Figure 20: Scenario CLOB20 – Submits Order – Partially Fills – Remaining Quantity is less than the required minimum match size	50
Figure 21: Scenario CLOB21 – Submits Order – Partially Fills – Two amends are sent – 2nd amend is rejected by the Execution Venue - Filled.....	52
Figure 22: Scenario CLOB34 – Execution Report Reject (Don't Know Trade)	55
Figure 23: Scenario CLOB22 – Submit a Two-Sided Quote - Accepted – Partially Filled - Update (Replenished)	59
Figure 24: Scenario CLOB23 – Submit a Quote - Rejected	62
Figure 25: Scenario CLOB24 – Submit One-Sided Quote – Accepted – Partially Filled - Filled	63
Figure 26: Scenario CLOB25 – Submit Two-Sided Quote – Bid Side Partially Filled – Bid Side Filled - Offer Side Filled	65
Figure 27: Scenario CLOB26 – Submit Two-sided Quote – Update – Update - Partially Filled - Update	67
Figure 28: Scenario CLOB27 – Submit Two-Sided Quote – Cancel Bid side	69
Figure 29: Scenario CLOB28 – Submit Two-Sided Quote – Cancel Both Sides	71
Figure 30: Scenario CLOB40 – Submit Two-Sided Quote – Quote is partially filled while quantity is being updated – Quantity filled is greater than updated quantity – Remaining quantity set to zero	73
Figure 31: Scenario CLOB29 – Submit Two-Sided Quote – Partially filled while Quote is Updated – Update rejected	75
Figure 32: CLOB41 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Remaining Quantity Removed From Market	77
Figure 33: Scenario CLOB30 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Cancel Rejected	79
Figure 34: Scenario CLOB31 – Query Quote Status	81
Figure 35: Scenario CLOB32 – Unsolicited Quote Reinstatement (Replenishment)	82
Figure 36: Scenario CLOB35 – Voice Order Followed Electronically by Execution Reports	88
Figure 37: Scenario CLOB36 – Voice Order Followed Electronically by Trade Capture Report	90
Figure 38: Scenario CLOB37 – Dealer Subscribes / Unsubscribes to Trade Capture Reports.....	91
Figure 39: Scenario CLOB38 - Execution Venue Initiates Intra-Day Auction – Dealer Submits Orders – Execution Venue Acknowledges – Continuous Trading Resumes – Execution Venue Sends Auction Results	94
Figure 40: Scenario CLOB39 - Execution Triggers Private Workups session followed by Public Workups session	96
Figure 41: Scenario CLOB42: Stop Loss order	101
Figure 42: Scenario CLOB43: Stop Limit order	103

Appendix II - Document Tables

Table 1: Scenario CLOB1 – Submits Aggressive Order - Expires.....	15
Table 2: Scenario CLOB2 – Submits Aggressive Order - Partially Fills – Expires	17
Table 3: Scenario CLOB3 – Submits Aggressive Order - Fills	18
Table 4: Scenario CLOB4 – Submits Passive Order - Expires	20
Table 5: Scenario CLOB5 – Submits Passive Order - Partially Fills – Expires	22
Table 6: Scenario CLOB6 – Submits Passive Order - Fills.....	23
Table 7: Scenario CLOB7 – Submits Passive Order - Amends – Expires	26
Table 8: Scenario CLOB8 – Submits Passive Order – Partially Fills - Amends – Fills	28
Table 9: Scenario CLOB9 – Submits Passive Order –Amends – Rejects	30
Table 10: Scenario CLOB10 – Submits Passive Order - Partially Fills - Cancels	32
Table 11: Scenario CLOB11 – Submits Passive Order - Cancels – Rejects	34
Table 12: Scenario CLOB12 – Submits Order - Rejects.....	35
Table 13: Scenario CLOB13 – Unsolicited Cancel by the Execution Venue	36
Table 14: Scenario CLOB14 – Cancels All Orders (Mass Cancel)	37
Table 15: Scenario CLOB15 – Requests / Receives Order Status	38
Table 16: Scenario CLOB16 – A - Submits Order – Partially Fills – Amends Order – Amends Order - Execution Venue Processes sequentially	41
Table 17: Submits Order - Partially Fills - Amends Order - Amends Order - Execution Venue Processes Pending Replaces Before Replaces	44
Table 18: Scenario CLOB18 – Submits Order – Partially Fills - Amends Order Quantity Up whilst partial fill being reported .	47
Table 19: Scenario CLOB19 – Submits Order – Partially Fills - Amends Order Quantity Down whilst partial fill being reported	49
Table 20: Scenario CLOB20 – Submits Order – Partially Fills – Remaining Quantity is less than the required minimum match size	51
Table 21: Scenario CLOB21 – Submits Order – Partially Fills – Two amends are sent – 2nd amend is rejected by the Execution Venue - Filled.....	54
Table 22: Scenario CLOB34 – Execution Report Reject (Don't Know Trade).....	55
Table 23: Scenario CLOB22 – Submit a Two-Sided Quote - Accepted – Partially Filled - Update (Replenished)	61
Table 24: Scenario CLOB23 – Submit a Quote - Rejected	62
Table 25: Scenario CLOB24 – Submit One-Sided Quote – Accepted – Partially Filled - Filled	64
Table 26: Scenario CLOB25 – Submit Two-Sided Quote – Partially Filled – Bid Side Filled - Offer is Filled	66
Table 27: Scenario CLOB26 – Submit Two-sided Quote – Update – Update - Partially Filled - Update	68
Table 28: Scenario CLOB27 – Submit Two-Sided Quote – Cancel Bid side.....	70
Table 29: Scenario CLOB28 – Submit Two-Sided Quote – Cancel Both Sides	72
Table 30: Scenario CLOB40 – Submit Two-Sided Quote – Quote is partially filled while quantity is being updated – Quantity filled is greater than updated quantity – Remaining quantity set to zero	74
Table 31: Scenario CLOB29 – Submit Two-Sided Quote – Partially filled while Quote is Updated – Update rejected	76
Table 32: CLOB41 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Remaining Quantity Removed From Market	78
Table 33: Scenario CLOB30 – Submit Two-Sided Quote – Partially filled while Quote is Cancelled – Cancel Rejected	80
Table 34: Scenario CLOB31 – Query Quote Status.....	81
Table 35: Scenario CLOB32 – Unsolicited Quote Reinstatement (Replenishment)	83
Table 36: Scenario CLOB35 – Voice Order Followed Electronically by Execution Reports.....	89
Table 37: Scenario CLOB36 – Voice Order Followed Electronically by Trade Capture Report	90
Table 38: Scenario CLOB37 – Dealer Subscribes / Unsubscribes to Trade Capture Reports.....	92
Table 39: Scenario CLOB38 - Execution Venue Initiates Intra-Day Auction – Dealer Submits Orders – Execution Venue Acknowledges – Continuous Trading Resumes – Execution Venue Sends Auction Results	95
Table 40: Scenario CLOB39 - Execution Triggers Private Workups session followed by Public Workups session.....	99
Table 41 Scenario CLOB43: Stop Loss order	102
Table 42 Scenario CLOB43: Stop Limit order	104
Table 43: NewOrderSingle (MsgType=D).....	106
Table 44: ExecutionReport (MsgType=8).....	109
Table 45: OrderCancelRequest (MsgType=F).....	110
Table 46: Order Cancel Replace (MsgType=G).....	111
Table 47: OrderCancelReject (MsgType=9).....	112
Table 48: OrderMassCancelRequest (MsgType=q)	113
Table 49: Order Mass Cancel Report (MsgType=r)	114

Table 50: OrderStatusRequest (MsgType=H)	115
Table 51: Quote(MsgType=S)	117
Table 52: QuoteStatusReport(MsgType=AI)	118
Table 53: QuoteStatusRequest (MsgType=a)	119
Table 54: TradeCaptureReport (MsgType=AE)	123
Table 55: TradeCaptureReportRequest (MsgType=AD)	126
Table 56: TradeCaptureReportRequestAck (MsgType=AQ)	127