



**THE FOUNDATION
FOR SECURE
MARKETS**

ENCORE – OTC Developer Reference Guide
Proprietary Transmissions

Version 1.4
August 2018

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Document Organization

This document is one of a set of two intended to provide a detailed description of all aspects of OCC's Over the Counter (OTC) inbound FIXML and outbound DDS transmissions:

Part One: Data Distribution Services Overview

This document is intended for a reader that needs to understand the Data Distribution Services (DDS) system. This part of the guide contains the design concepts and the data delivery services being developed and implemented.

Part Two: OTC Developer Reference Guide - Inbound/Outbound Proprietary Transmissions

This document is intended for a reader that needs to understand the OCC supported FIXML transmissions associated to OTC products which consist of the **Inbound FIXML Transmissions** and the **Outbound DDS Proprietary Transmissions**.

Inbound FIXML Transmissions

This section of Part Two provides a detailed description of Inbound FIXML message layouts for OTC products. It is intended for use as a transmission mapping reference for FIXML developers. This guide includes the FIXML elements, transmission layouts, message structures, and sample messages for each transmission type.

The Inbound FIXML OTC transmission is defined in the following section:

- OTC Exercise Notices

Outbound Data Distribution Services (DDS) Proprietary Transmissions

This section of Part Two is intended for use as an OTC Proprietary Transmission mapping reference for FIXML developers. This part of the guide includes FIXML elements, transmission layouts, message structures, and sample messages for each transmission.

The OTC Proprietary ENCORE DDS transmissions are defined in the following sections:

- OTC Deal
- OTC Position
- OTC Exercise Acknowledgements
- Cleared OTC Assignments
- Cleared OTC Settlement Activity

Glossary of Terms

You should be familiar with the following terms prior to reading this guide:

Batch – In a computer, a batch job is a program that is assigned to the computer to run without further user interaction. In larger commercial computers or servers, batch jobs are usually initiated by a system user. Some are defined to run automatically at a certain time.

DDS (Data Distribution Services) – The ENCORE module that supports both batch and real-time data delivery and utilizes the FIXML data formatting standard.

ENCORE – The clearing system utilized within OCC.

Event Driven Processing – A business event is a meaningful change in the state of the enterprise, such as the opening of a new customer account, clearing a trade, or the matching of a transfer. Event driven processing is system behavior that is initiated by these business events rather than system events, such as time based scheduling. Event driven systems possess the following attributes: 1) Individual treatment of transactions; 2) Push delivery systems; and 3) Electronic notification.

FIXML (Financial Information eXchange Markup Language) – The XML derived grammar of the FIX protocol. A FIXML implementation has message format validation, cleaner, more expressive structure, and leverage off existing standards. The initial goal is to provide the ability to embed FIXML messages within traditional FIX header and trailers to minimize the impact on existing implementations.

Messaging – There are two major messaging server models: the point-to-point model and the publish/subscribe model. Messaging allows programs to share common message-handling code, to isolate resources and interdependencies, and to easily handle an increase in message volume. Messaging also makes it easier for programs to communicate across different programming environments (languages, compilers, and operating systems) since the only thing that each environment needs to understand is the common messaging format and protocol.

Package – A Package is a collection of DDS transmissions that are grouped together based on selections made when the subscription was created.

Pull Delivery Model – In this information delivery model, the observer (or client) requests information from the information owner. An example of this model is the download of a document from a web page.

Push Delivery Model – In this information delivery model, the information owner distributes the data to the observer as it deems appropriate. An example of this model is the sending and delivery of an email message.

Real-Time – A level of computer responsiveness that a user senses as sufficiently immediate or that enables the computer to keep up with some external process (for example, to present trade data as trades are executed and cleared). *Real-time* is an adjective pertaining to computers or processes that operate in real time. Real-time describes a human rather than a machine sense of time.

Recipient – The entity (Clearing Member Organization, Exchange, Regulatory Agency or Service Bureau) that owns the systems where DDS delivers data for processing or retransmission.

STP (Straight-Through-Processing) – The seamless integration of systems and processes to automate the trade process from end-to-end (trade execution, confirmation and settlement) without the need for manual intervention or the re-keying of data.

Subscriber – The entity (a Clearing Member Organization, Exchange, or Regulatory Agency) that requests a package of transmissions and owns the data that is transmitted to recipients.

XML (eXtensible Markup Language) – A simple and flexible text format derived from SGML (ISO 8879). Originally designed to meet the challenges of large-scale electronic publishing, XML is also playing an increasingly important role in the exchange of a wide variety of data on the web and elsewhere. Special purpose XML languages and standards are commonly developed with several hundred already adopted since XML 1.0 was released in February 1998.

Inbound FIXML Transmissions

This section provides the FIXML file elements, transmissions layouts, message structures, and samples. The modifications support the submission of Post Trade transactions in FIXML format.

Implementation Considerations

Some considerations for the Inbound FIXML Transmission implementation consist of the following:

General

- All Strike Prices must be in decimal format for Inbound FIXML messages.
- The formatting of the sample messages contained in this document is for display purposes only. Actual FIXML messages will be contained on a single line and should not be broken into multiple lines or blocks. Messages formatted on more than one line will not be accepted.

Things to Remember

- Data tags are case sensitive and capital letters must be used where required. For example, for Position Maintenance Request the user must enter it as PosMntReq, not as posmntreq.
- Leading zeros are not required and numeric fields will be read the same way, regardless of whether or not the zeros are entered. For example, StrkPx="00030" and StrkPx="30" will be read as the same value.
- If a tag on a FIXML message exceeds the maximum length, the message is invalid. The only exception is for the Txt tag, in which case only the first 25 characters are written to the database. The Max Length column on all the message layouts presented below represent the allowed maximum length for each field.
- Business Date ("BizDt" - Tag 715) is a required field.

CFI Code

The Classification of Financial Instruments code (CFI Code) displays in every transmission that contains the Instrument Block (product/series/contract information). The standard for this code defines a six (6) character code in which each character's position value carries a special significance (attribute) and set of values.

In an Inbound FIXML message, the first character indicates the type of financial instrument, such as "O" for Option or "F" for Future. The second character is the Call/Put indicator and is entered as "C" for Call, "P" for Put. The remaining characters are not required to be entered and users must always type "X" to represent an unspecified or unknown attribute.

For example, CFI="OCXXXX" indicates that this is an Option Call, while CFI="FXXXXX" refers to Futures.

ENCORE Transmission: OTC Exercise Notices

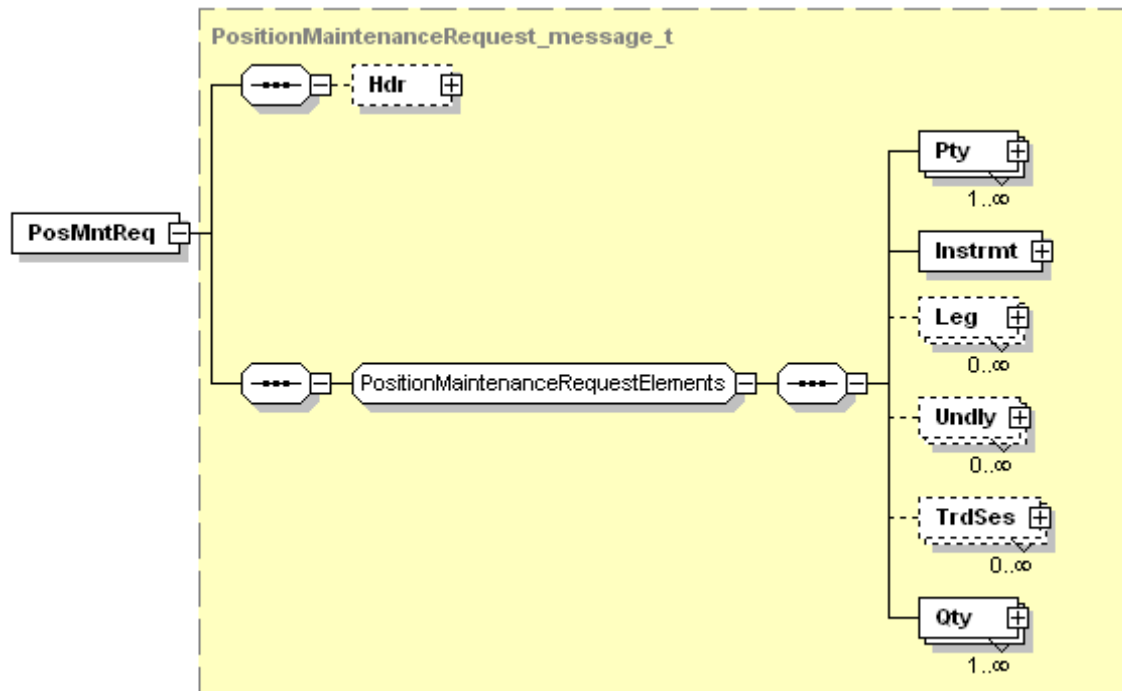
FIX Message: CM to OCC	Position Maintenance Request
------------------------	------------------------------

Overview

OTC Exercise Notices are instructions submitted by the Clearing Members to OCC to exercise non-expiring OTC option positions.

OTC Exercises can only be submitted against American style OTC options.

Message Structure



Message Layout – OTC Exercise Notices

Position Maintenance Request – OTC Exercise Notices

FIXML Message							Definitions		
Tag #	Report	Comp	Sub Comp	Sub Sub Comp	Field Name	Data	Data Type	Sample Data	Max Length
	PosMntReq								
709					TxnTyp	1 = Exercise	Integer	1	1
715					BizDt	Business Date	LocalMkt Date	2005-11-28	10
712					Actn	1 = New	Integer	1	1
	→	Pty							
448					ID	Clearing Member Number	String	00123	5
452					R	Party Role 4 = Clearing Firm	Integer	4	3
	→	→	Sub						
523					ID	Account Type (C/F/M)	String	M	1
803					Typ	26 = Position Account Type	Integer	26	3
	→	→	/Sub						
	→	/Pty							
	→	Pty							
448					ID	Sub Account ID	String	KTZ	4
452					R	Party Role 38 = Position Account	Integer	38	3
	→	/Pty							
	→	Pty							
448					ID	Client ID	String	DF6312	20
452					R	Party Role 24= Client ID	Integer	24	3
	→	/Pty							
	→	Instrmt							
55					Sym	Symbol - Reuters Instrument Code ¹	String	.SPX	6

FIXML Message							Definitions		
Tag #	Report	Comp	Sub Comp	Sub Sub Comp	Field Name	Data	Data Type	Sample Data	Max Length
461					CFI	CHAR 1: O for Option CHAR 2: C for Call, P for Put	String	OCXXXX	6
167					SecTyp	OPT for options trade	String	OPT	3
762					SubTyp	OTC for OTC trade	String	OTC	3
201					PutCall	Put or Call 0=Put 1=Call	Integer	1	1
1194					ExerStyle	Exercise Style 1= American	Integer	1	1
200					MMY	Series/Contract Year, Month, Date	MonthYear	20051214	8 (4 for year, 2 for month, 2 for day)
202					StrkPx	Strike Price (Decimal Format only)	Price	30.50	14 (5 for the strike whole, 9 for the strike decimal)
231					Mult	Multiplier	Float	100	4
966					SettleOn OpenFlag	Settle On Open Flag (Y/N)	String	Y	1
	→	/Instrmt							
	→	Qty							
703					Typ	EX = Option Exercise Qty	String	EX	6
704					Long	Exercise Quantity	Integer	10	7
	→	/Qty							
	/PosMntReq								

¹Reuters Instrument Code (RIC) symbols are ©, database right and TM of the Thomson Reuters Group; and RIC symbols redistributed by OCC for identification purposes, under contractual license from the Thomson Reuters Group, can only be used by the recipient as an identifier as part of the recipient's trade workflow activities with OCC. Any other use, distribution or redistribution of such RIC symbols by any recipient requires a written contractual RIC License granted directly by Thomson Reuters to the recipient (e.g. for systematic use, the Transaction Processing License or the Securities Processing License; or for non-systematic use, the RIC License granted by Thomson Reuters to customers in its contract as part of a RIC-enabled individual service)

Sample Message – OTC Exercise Notices

```
<FIXML r="20030618" s="20040109" v="4.4" xr="FIA" xv="1" xmlns="http://www.fixprotocol.org/FIXML-4-4">
<Batch BizDt="2012-10-24" TotMsg="1">
<PosMntRpt TxnTyp="1" Actn="1" BizDt="2012-10-24">
<Pty ID="OCC" R="21"/>
<Pty ID="00017" R="4">
<Sub ID="C" Typ="26"/>
</Pty>
<Pty ID="DL000017" R="24"/>
<Instrmt Sym=".SPX" CFI="OCXXXX" SecTyp="OPT" SubTyp="OTC" PutCall="1" ExerStyle="1"
MMY="20131030" StrkPx="1380.00" Mult="1" SettlnOnOpenFlag="N"/>
<Qty Typ="EX" Long="100"/>
</PosMntRpt>
<Batch>
</FIXML>
```

NOTE: The formatting of the sample messages contained in this document is for display purposes only. Actual FIXML messages will be contained on a single line and should not be broken into multiple lines or blocks. Messages formatted on more than one line will not be accepted.

Implementation Considerations

Exercise Notice Quantity

The Exercise Quantity information (Qty group) consists of two separate values: Typ (Position Type) and Long tags. The Typ indicates the type of transaction, in this case, an Exercise Notice is entered as "EX". The Long value indicates the quantity of the long position being exercised. Together these values display as:

Qty Typ="EX" Long="20"

Outbound DDS Proprietary Transmissions

Implementation Considerations

OCC takes reasonable measures to ensure the accuracy of the information it distributes in its DDS program. This information is produced from data received from a number of different sources, which are believed to be reliable. However, due to the number of sources for such data, the possibility of human error, and the risks inherent in electronic distribution, may cause omissions or inaccuracies in such information and delays or interruptions in providing the information. Accordingly, OCC disclaims all express or implied warranties with respect to the information distributed in its DDS program, including any warranty of merchantability or fitness for a particular purpose. Further, information sent on a real time basis should not be considered final until OCC issues an end of day message advising no additional transmissions will be made on a particular business day.

To read DDS FIXML messages, OCC recommends using an XML parser that adheres to the W3C¹ 1.0 and 1.1 XML recommendations and not the byte by byte method typically used for “flat file” parsing. To support new future business needs, OCC reserves the right to add at any time previously unused tags, which are already part of the FIXML schema, to the DDS FIXML messages. If the parsing mechanism recommended above will be used, the addition of new tags will have no impact on the programs that read in the DDS FIXML messages.

For the following cases:

- addition of new tags which are not part of the FIXML schema
- addition of new enumerations which are not part of the FIXML schema
- addition of previously unused enumerations which are part of the FIXML schema
- decommission/removal of existing required tags

OCC notifies designated contacts in advance of their implementation. When needed, updated schemas will be made available, in advance, on OCC's website.

¹The World Wide Web Consortium (W3C) is an international consortium where Member organizations, a full-time staff, and the public work together to develop Web standards.

CFI Code Default Values

In an effort to reduce the size of this document, the standard mapping and data values for the CFI Code tag are presented below and not repeated throughout the document. Only in situations where the CFI Code values will differ from the default values below will the CFI Code be detailed in the document.

OCC has tried to provide as much product information as possible through the CFI Code. However, since this field is part of an ISO standard, OCC had to limit the amount of information provided to the confines of the standard.

OPTIONS

CHAR1 = O

CHAR2 = Put/Call Code

CHAR3 = Exercise Style Code (A = AMERICAN, E = EUROPEAN)

CHAR4 = Classification (S = EQUITY, I = INDEX, O = OPTION, F= FUTURE,
D = DEBT)

CHAR5 = Settlement Method (P = PHYSICAL, C = CASH)

CHAR6 = Sub-Classification Standard / Non-Standard Settlement Designation
(S = STD SETTLEMENT
or N = NON-STD SETTLEMENT)

WARRANTS

CHAR1 = R

CHAR2 = W

CHAR3 = X

CHAR4 = X

CHAR5 = Put/Call Code

CHAR6 = X

FUTURES

CHAR1 = F

CHAR2 = F

CHAR3 = Classification (S = EQUITY, D = DEBT, I = INDEX)

CHAR4 = Settlement Method (P = PHYSICAL, C = CASH)

CHAR5 = Standard / Non-Standard Settlement Designation
(S = STD SETTLEMENT
or N = NON-STD SETTLEMENT)

CHAR6 = X

NOTE: As evidenced above, when a particular CFI Code attribute does not apply to the use or context within a message then an X will be used.

Sample CFI Code

Derivative Type	Classification	CFI Code
Option	Index	OCEICS

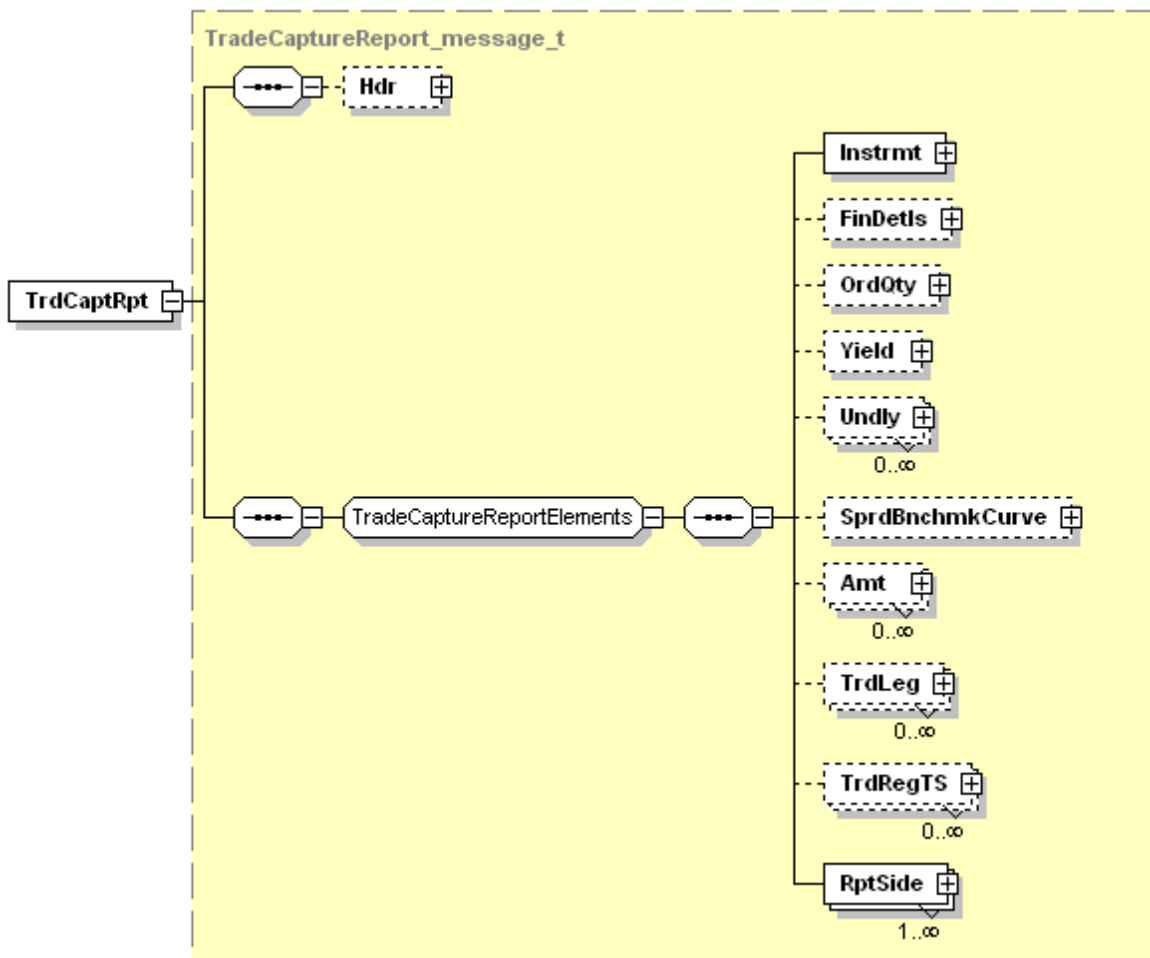
ENCORE Transmission: OTC Deal

FIX Message:	Trade Capture Report
Subscription Options:	OTC Options
Delivery Options:	Batch File
	Real Time

Overview

All new deal transactions that were elected for clearing for the current business day will be available on the Trade Capture Report in real time or in a cumulative file at the end of the day.

Message Structure



Message Layout – OTC Deal Report – Options

OTC Deal Report – Options								
FIX Mapping						Data	Data Type	Sample Data
Tag #	Report Block	Component Block	Sub Component Block	Sub Sub Component Block	Fields			
	TrdCaptRpt							
571					RptID	Unique Identifier for the Trade	String	450391670
570					PrevlyRpted	Y/N	Boolean	N
32					LastQty	Quantity	Qty	1
31					LastPx	Premium	Price	5.6
75					TrdDt	As Of Date	LocalMkt Date	2004-07-20
487					TransTyp	Trade Report Transaction Type 0 = New 4 = Cancel (Backout)	Int	0
856					RptTyp (only applies to the first report side listed)	Trade Report Type 2 = Accept	Int	2
828					TrdTyp	Trade Type 0 = Regular Trade	Int	0
880					MtchID	Trade Source CSN	String	0009307
715					BizDt	MarkitServe Trade Date	LocalMkt Date	2004-07-20
573					MtchStat	Match Status 0 = Matched	Char	0
	→	Instrmt						
55					Sym	Symbol (Reuters Instrument Code ¹)	String	.SPX
461					CFI	Default Values	String	OCAICS

OTC Deal Report – Options								
FIX Mapping						Data	Data Type	Sample Data
Tag #	Report Block	Component Block	Sub Component Block	Sub Sub Component Block	Fields			
200					MMY	Series/Contract Year, Month, Date	MonthYear	20040821 (4 for year, 2 for month, 2 for day)
167					SecTyp	OPT for options trade	String	OPT
762					SubTyp	OTC for OTC trade	String	OTC
201					PutCall	Put or Call 0=Put 1=Call	Integer	1
1194					ExerStyle	Exercise Style 0=European 1= American	Integer	1
541					MatDt	Expiration Date	LocalMkt Date	2004-08-21
202					StrkPx	Strike Price (decimal format)	Price	37.5
47					StrkCcy	Strike Currency	Currency	USD
968					StrkValu	Strike Value	Float	100
231					Mult	Multiplier	Float	100
966					SettlOn OpenFlag	Settle On Open Flag (Y / N)	String	N
	→	/Instrmt						
	→	Amt						
707					Typ	Amount Type PREM = Premium Amount	String	PREM
708					Amt	Extended Premium	Amt	560
	→	/Amt						
	→	RptSide						
54					Side	1 = Buy 2 = Sell	Char	1
579					InptDev	Input Device MQ = MQ GUI = GUI	String	MQ

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OTC Deal Report – Options								
FIX Mapping						Data	Data Type	Sample Data
Tag #	Report Block	Component Block	Sub Component Block	Sub Sub Component Block	Fields			
15					Ccy	Premium Currency	Currency	USD
1056					TrdID	Exchange Assigned Trade ID	String	S1DF12345 67890P
	→	→	Pty					
448					ID	Clearing Group Name	String	OCC
452					R	Party Role 21 = Clearing Organization	Int	21
	→	→	/Pty					
	→	→	Pty					
448					ID	Clearing Member Number	String	00608
452					R	Party Role 1 = Executing Clearing Firm	Int	1
	→	→	→	Sub				
523					ID	Account Type (C/F/M)	String	C
803					Typ	26 = Position Account Type	Int	26
	→	→	→	/Sub				
	→	→	/Pty					
			Pty					
448					ID	Sub Account	String	ZZZ
452					R	Party Role 38 = Position Account	Int	38
			/Pty					
	→	→	Pty					
448					ID	Give Up Clearing Member Number	String	00792
452					R	Party Role 14 = Give Up Clearing Firm	Int	14
	→	→	/Pty					
	→	→	Pty					
448					ID	Executing Broker	String	811F
452					R	Party Role 2 = Executing Broker	Int	2

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OTC Deal Report – Options								
FIX Mapping						Data	Data Type	Sample Data
Tag #	Report Block	Component Block	Sub Component Block	Sub Sub Component Block	Fields			
	→	→	/Pty					
	→	→	Pty					
448					ID	Customer Account Number	String	DF6312
452					R	Party Role 24 = Customer Account Number	Int	24
	→	→	/Pty					
	→	→	TrdRegTS					
769					TS	Date deal was accepted into clearing	Timestamp	2004-07-20T11:58:00
770					Typ	1 = Regular Timestamp Value	Char	1
	→	→	/TrdRegTS					
	→	/RptSide						
	/TrdCaptRpt							

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Sample Message – OTC Deal

Clearing Member 00999 submitted an OTC Deal on 06/30/2011 for symbol .SPX, strike 45.006. The details of the OTC Deal are listed below.

```
CM#ATP/CSymbolExp DateStrike  
00999FC.SPX      04/27/201245.006
```

The data service message for this OTC Deal is shown below.

```
<TrdCaptRpt RptID="1446" PrevlyRpted="N" LastQty="45" LastPx="4.2011" TrdDt="2011-04-26"  
TransTyp="0" RptTyp="2" TrdTyp="0" MtchID="1349" BizDt="2011-04-26" MtchStat="0">
```

```
<Instrmt Sym=".SPX" CFI="OCAICS" SecTyp="OPT" SubTyp="OTC" PutCall="1"  
ExerStyle="1"MMY="20120427" MatDt="2012-04-27" StrkPx="45.006" StrkCcy="USD" StrkValu="1"  
Mult="1" SettlOnOpenFlag="Y" />
```

```
<Amt Typ="PREM" Amt="189.0495" />  
<RptSide Side="1" InptDev="GUI" Ccy="USD" TrdID="ABC2602">  
<Pty ID="OCC" R="21" />
```

```
<Pty ID="00999" R="1">  
<Sub ID="F" Typ="26" />  
</Pty>
```

```
<TrdRegTS TS="2011-06-30T13:15:41" Typ="1" />
```

```
</RptSide>
```

```
</TrdCaptRpt>
```

Sample End of Day Messages – OTC Deals

```
<DDSEODMessage BizDt="2005-01-09" MsgTypeCode="TRADE" SchemaVer="FIX 4.4" TransType="TRADES"  
TransSubType="MATCHED" TransProductSet="OPTO" FinalizationCycle="ENCORE OTC Finalization"  
NoMessagesSent="15"/>
```

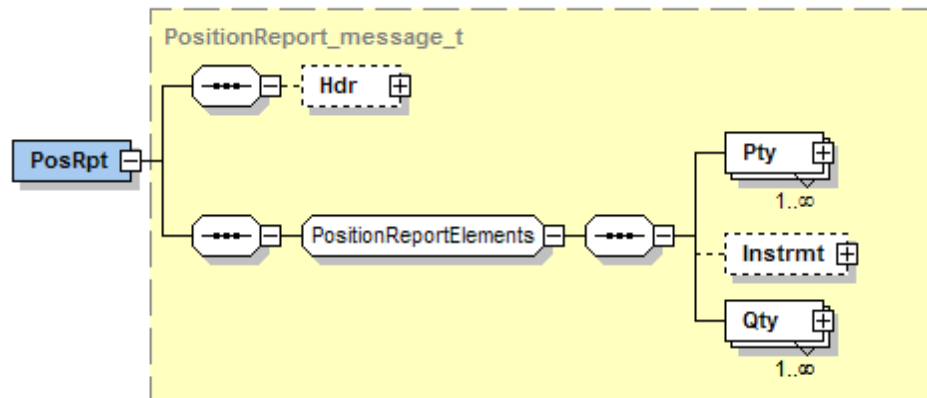
ENCORE Transmission: OTC Position

FIX Message:	Position Report
Subscription Options:	OTC Options
Delivery Options:	Batch File

Overview

This file includes the Clearing Member's current position for the current business date. The valuation price will be included on each position record.

Message Structure



Message Layout – OTC Position Report – OTC Positions – Options

Position Report – OTC Positions – Options							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
	PosRpt						
721				RptID	Unique Identifier of the Position	String	326877967
715				BizDt	Clearing Business Date	LocalMktDate	2005-10-22
724				ReqTyp	Request Type 0 = Positions	Int	0
15				Ccy	Currency	Currency	USD
730				SetPx	Settlement Price <i>* will not be populated on the expiration date of the position</i>	Price	1254.4
731				SetPxTyp	2= Theoretical	Int	2
	→	Pty					
448				ID	Clearing Group Name	String	OCC
452				R	Party Role 21 = Clearing Organization	Int	21
	→	/Pty					
	→	Pty					
448				ID	Clearing Member Number	String	00123
452				R	Party Role 4 = Clearing Firm	Int	4
	→	→	Sub				
448				ID	Account Type	String	C
452				R	Party Role 26 = Position Account Type	Int	26
	→	→	/Sub				
	→	/Pty					
	→	Pty					
448				ID	Sub Account	String	
452				R	Party Role 38 = Position Account	Int	38

Position Report – OTC Positions – Options							
FIX Mapping				Data		Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
	→	/Pty					
	→	Pty					
				ID	Customer Account Number	String	DF6312
				R	Party Role 24 = Customer Account Number	Int	24
	→	/Pty					
	→	Instrmt					
55				Sym	Symbol (Reuters Instrument Code ¹)	String	.SPX
461				CFI	Default Values (refer to page 8)	String	OCAICS
167				SecTyp	OPT for options trade	String	OPT
762				SubTyp	OTC for OTC trade	String	OTC
201				PutCall	Put or Call 0=Put 1=Call	Integer	1
1194				ExerStyle	Exercise Style 0=European 1= American	Integer	1
200				MMY	Series/Contract Year, Month, Date	MonthYear	20070120 (4 for year, 2 for month, 2 for day)
541				MatDt	Expiration Date	LocalMktDate	2007-01-20
202				StrkPx	Strike Price (decimal format)	Price	21.625
947				StrkCcy	Strike Currency	Currency	USD
968				StrkValu	Strike Value	Decimal	1
231				Mult	Multiplier	Decimal	1
966				SettlOn OpenFlag	Settle On Open Flag (Y / N)	String	N
	→	/Instrmt					
	→	Qty					
703				Typ	Quantity Type FIN = End of Day	String	FIN

Position Report – OTC Positions – Options							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
704				Long	Current Long	Qty	10
705				Short	Current Short	Qty	3327
	→	/Qty					
	/PosRpt						

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Sample Message – OTC Position Report

Clearing Member 00999 has a long OTC Position of 465 contracts for symbol .SPX, strike 89.12. The details of the OTC Position are listed below.

<u>CM#ATP/CSymbolExp</u>	<u>DateStrike</u>
00999CP.SPX	04/30/201289.12

The data service message for this OTC Position Report is shown below.

```
<PosRpt RptID="1250000801" BizDt="2011-04-26" ReqTyp="0" Ccy="USD" SetPx="2.221" SetPxTyp="2">
```

```
  <Pty ID="OCC" R="21" />
  <Pty ID="00999" R="4" />
    <Sub ID="C" R="26" />
  </Pty>
```

```
  <Pty ID="12345" R="24" />
  <Pty ID="TST1" R="38" />
```

```
  <Instrmt Sym=".SPX" CFI="OCAICS" SecTyp="OPT" SubTyp="OTC" PutCall="1" ExerStyle="1"
  MMY="20120430" MatDt="2012-04-30" StrkPx="89.12" StrkCcy="USD" StrkValu="1" Mult="1"
  SettlOnOpenFlag="Y" />
```

```
  <Qty Typ="FIN" Long="465" Short="0" />
```

```
</PosRpt>
```

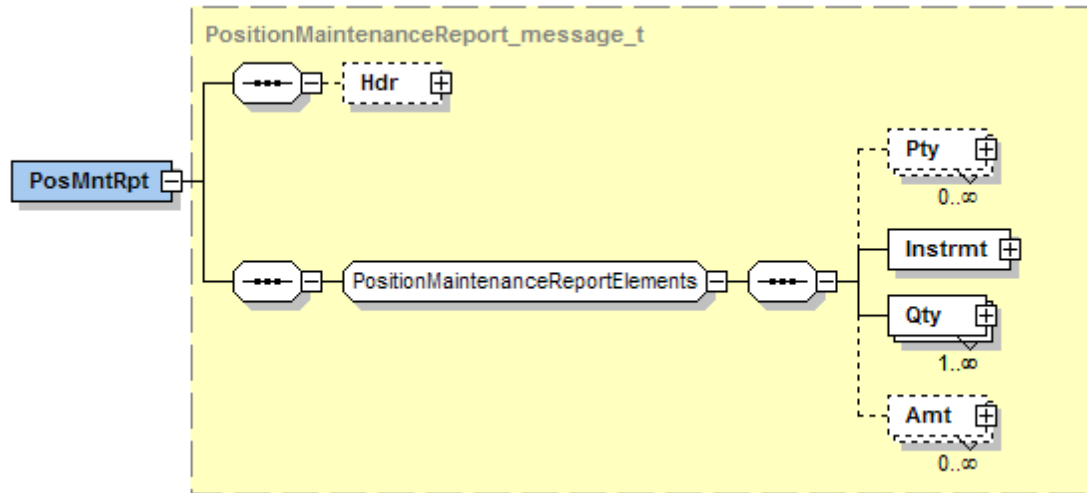

ENCORE Transmission: OTC Exercises

FIX Message:	Position Maintenance Report
Subscription Options:	OTC Options
Delivery Options:	Batch File

Overview

OTC Exercise Activity will be detailed on the Position Maintenance Report.

Message Structure



Message Layout – Position Maintenance Report – Cleared OTC Exercise

Position Maintenance Report – OTC Exercises							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
	PosMntRpt						
721				RptID	Unique Identifier for the Exercised Position	String	144535569
709				TxnTyp	Transaction Type 1 = Exercise	Int	1
712				Actn	Action 1 = New	Int	1
722				Stat	Status 0 = Accepted	Int	0
715				BizDt	Clearing Business Date	LocalMkt Date	2004-04-13
718				AdjTyp	Adjustment Action 3 = Final	Int	3
	→	Pty					
448				ID	Clearing Group Name	String	OCC
452				R	Party Role 21 = Clearing Organization	Int	21
		/Pty					
	→	Pty					
448				ID	Clearing Member Number	String	00234
452				R	Party Role 4 = Clearing Firm	Int	4
	→	→	Sub				
523				ID	Account Type (C/F/M)	String	C
803				Typ	26 = Position Account Type	Int	26
	→	→	/Sub				
	→	/Pty					
	→	Pty					
448				ID	Sub Account	String	
452				R	Party Role 38 = Position Account	Int	38

OCC — Last Updated August 2018

Position Maintenance Report – OTC Exercises							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
		/Pty					
	→	Pty					
448				ID	Client ID	String	DF6312
452				R	Party Role 24 = Client ID	Int	24
		/Pty					
	→	Instrmt					
55				Sym	Symbol (Reuters Instrument Code ¹) Default Values	String	.SPX
461				CFI		String	OCAICS
167				SecTyp	OPT for options trade	String	OPT
762				SubTyp	OTC for OTC trade	String	OTC
201				PutCall	Put or Call 0=Put 1=Call	Integer	1
1194				ExerStyle	Exercise Style 0=European 1= American	Integer	1
200				MMY	Series/Contract Year, Month, Date	MonthYear	20040417 (4 for year, 2 for month, 2 for day)
541				MatDt	Expiration Date	LocalMktDate	2004-04-17
202				StrkPx	Strike Price (decimal format)	Price	1285
966				SettleOnOpenFlag	Settle on open flag Y/N	String	Y
947				StrkCcy	Strike Currency	Currency	USD
968				StrkValu	Strike Value	Float	1
231				Mult	Multiplier	decimal	1
	→	/Instrmt					
	→	Qty					
703				Typ	Quantity Type	String	EX

OCC — Last Updated August 2018

Position Maintenance Report – OTC Exercises							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
					EX = Exercise Quantity		
704				Long	Long Quantity	Qty	417
	→	/Qty					
	→	Qty					
703				Typ	Quantity Type UNEX = Unexercised Exercise Quantity	String	UNEX
704				Long	Long Quantity	Qty	50
	→	/Qty					
	→	Amt					
707				Typ	Amount Type SETL = Settlement Value	String	SETL
708				Amt	Extended Settlement Value	Amt	166800
	→	/Amt					
	/PosMntRpt						

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Sample Message – Cleared OTC Exercise

Clearing Member 00123 submitted an Exercise 1/10/2012 for symbol .SPX, strike 1285. The details of the OTC Exercise are listed below.

```
<PosMntRpt RptID="1467561316" TxnTyp="1" Actn="1" Stat="0" BizDt="2012-01-10" AdjTyp="3">
  <Pty ID="OCC" R="21"/>
  <Pty ID="00123" R="4">
    <Sub ID="M" Typ="26"/>
  </Pty>
  <Pty ID="ABC" R="38"/>
  <Pty ID="9876543210" R="24"/>
  <Instrmt Sym=".SPX" CFI="OCAICS" SecTyp="OPT" SubTyp="OTC" PutCall="1" ExerStyle="1" SettleOnOpenFlag="Y"
MMY="20120110" MatDt="2012-01-10" StrkPx="1285"
    StrkCcy="USD" StrkMult="1" StrkValu="1" Mult="1"/>
  <Qty Typ="EX" Long="943"/>
  <Amt Typ="SETL" Amt="121175500"/>
</PosMntRpt>
```

ENCORE Transmission: OTC Exercise Acknowledgements

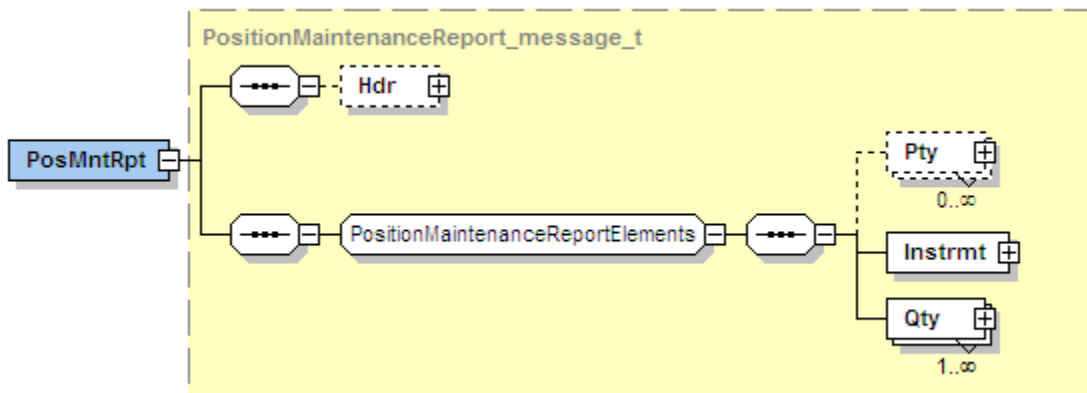
FIX Message:	Position Maintenance Report
Subscription Options:	OTC Options
Delivery Options:	Real Time
	Batch File

Overview

The OTC Exercise Acknowledgement messages allow submitting Clearing Members to receive an acknowledgement that OCC received and accepted their Inbound FIXML exercise. Exercise Acknowledgement messages will be generated for exercises submitted through Inbound FIXML or from the GUI.

Please note that these messages only indicate that we accepted the exercise. Processing of the exercise occurs during finalization and may be accepted or rejected during this processing.

Message Structure



Message Layout – Position Maintenance Report OTC Exercise Acknowledgements

Position Maintenance Report – Exercise Acknowledgements							
FIX Mapping							
Tag#	Report Block	Component Block	Sub Component Block	Fields	Data	Data Type	Sample Data
	PosMntRpt						
721				RptID	Unique Identifier for the Exercise Acknowledgement	String	144535569
709				TxnTyp	Transaction Type 1 = Exercise	Int	1
712				Actn	Action 1 = New	Int	1
722				Stat	Status 0 = Accepted	Int	0
715				BizDt	Clearing Business Date	LocalMkt Date	2009-09-19
979				InptSrc	Input Source GUI = GUI RTFX = Reatime FIXML FIXML = Batch FIXML	String	RTFX
60				TxnTm	Transaction Time	UTCTimestamp	2009-09-10T 12:53:24-05:00
	→	Pty					
448				ID	Clearing Group Name	String	OCC
452				R	Party Role 21 = Clearing Organization	Int	21
		/Pty					
	→	Pty					
448				ID	Clearing Member Number	String	00234
452				R	Party Role 4 = Clearing Firm	Int	4
	→	→	Sub				
523				ID	Account Type (C/F/M)	String	C
803				Typ	26 = Position Account Type	Int	26
	→	→	/Sub				

OCC — Last Updated August 2018

Position Maintenance Report – Exercise Acknowledgements

FIX Mapping

Tag#	Report Block	Component Block	Sub Component Block	Fields	Data	Data Type	Sample Data
	→	/Pty					
		Pty					
448				ID	Sub Account	String	
452				R	Party Role 38 = Position Account	Int	38
		/Pty					
		Pty					
448				ID	Client ID	String	DF6312
452				R	Party Role 24 = Client ID	Int	24
		/Pty					
	→	Instrmt					
55				Sym	Symbol (Reuters Instrument Code ¹)	String	.SPX
461				CFI	Default Values (refer to page 9)	String	OCXXXX
167				SecTyp	OPT for options trade	String	OPT
762				SubTyp	OTC for OTC trade	String	OTC
201				Put C all	Put or Call 0=Put 1=Call	Integer	1
1194				ExerStyle	Exercise Style 1= American	Integer	1
200				MMY	Series/Contract Year, Month, Date	MonthYear	20040417
202				StrkPx	Strike Price (decimal format)	Price	4
231				Mult	Multiplier	Float	100
966				SettleOnOpenFlag	Settle On Open Flag (Y/N)	String	Y
	→	/Instrmt					
	→	Qty					
703				Typ	Quantity Type EX = Exercise Quantity	String	EX
704				Long	Long Quantity	Qty	417

Position Maintenance Report – Exercise Acknowledgements							
FIX Mapping							
Tag#	Report Block	Component Block	Sub Component Block	Fields	Data	Data Type	Sample Data
706				Stat	Quantity Status 0 = Submitted	Int	0
	→	/Qty					
	/PosMntRpt						

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Sample Messages – OTC Exercise Acknowledgements

```
<FIXML r="20030618" s="20040109" v="4.4" xr="FIA" xv="1" xmlns="http://www.fixprotocol.org/FIXML-4-4">
<PosMntRpt RptID="1193T195S1" TxnTyp="1" Actn="1" Stat="0" BizDt="2012-10-24" InptSrc="FXML" TxnTm="2012-11-
15T10:40:25-0600">
<Pty ID="OCC" R="21"/>
<Pty ID="00017" R="4">
<Sub ID="C" Typ="26"/>
</Pty>
<Pty ID="DL000017" R="24"/>
<Instrmt Sym=".SPX" CFI="OCAICS" SecTyp="OPT" SubTyp="OTC" PutCall="1" ExerStyle="1" MMY="20131030" StrkPx="1380.00"
Mult="1" SettOnOpenFlag="N"/>
<Qty Typ="EX" Long="100" Stat="0"/>
</PosMntRpt>
</FIXML>
```

Sample Messages – OTC Exercise Acknowledgement End of Day Message

```
<DDSEODMessage BizDt="2009-09-24" MsgTypeCode="POSMANT" SchemaVer="FIX 4.4" TransType="EXERCISE"
TransSubType="ACK" TransProductSet="OPTO" FinalizationCycle="ENCORE OTC Finalization"
NoMessagesSent="15" />
```

Implementation Considerations

Listed below are some examples of how exercises would be handled in DDS.

Examples:

Sufficient Long Positions

1. If an exercise was entered for 5 contracts and the final long position is 10 contracts, the EX output will be `<Qty Typ="EX" Long="5" />`.

Insufficient Long Positions

1. If an exercise was entered for 20 contracts and the final long position is 5 contracts, the EX output will be `<Qty Typ="EX" Long="5" />` and the UNEX output will be `<Qty Typ="UNEX" Long="15" />`.
2. If an exercise was entered for 5 contracts and the final long position is 0 contracts, the UNEX output will be `<Qty Typ="UNEX" Long="5" />`.

In Example 2 above, since there is no exercise quantity, the Amt block which includes the settlement value will **not** be included in the message.

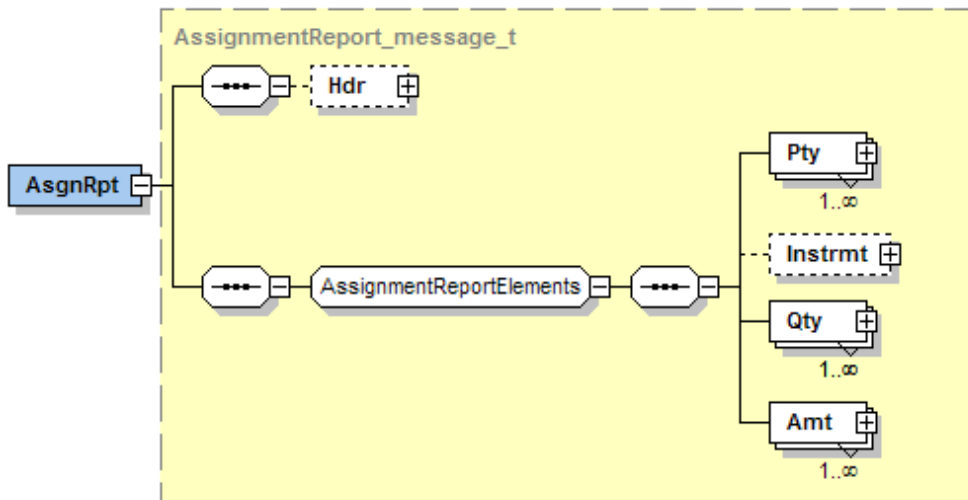
ENCORE Transmission: Cleared OTC Assignment Message

FIX Message:	Assignment Report
Subscription Options:	OTC Options
Delivery Options:	Batch File

Overview

The current day's assignments are included in the Position Maintenance Report. All assignments for OTC products are on a pro rata basis..

Message Structure



Message Layout – Assignment Report – Cleared OTC Assignment Message

Assignment Report – OTC Assignments							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
	AsgnRpt						
833				RptID	Unique Identifier for the Assigned Position	String	144535614
744				AsgnMeth	Assignment Method R = Random P = Pro Rata	Char	P
715				BizDt	Clearing Business Date	LocalMktDate	2004-04-13
	→	Pty					
448				ID	Clearing Group Name	String	OCC
452				R	Party Role 21 = Clearing Organization	Int	21
	→	/Pty					
	→	Pty					
448				ID	Clearing Member Number	String	00050
452				R	Party Role 4 = Clearing Firm	Int	4
	→	→	Sub				
523				ID	Account Type (C/F/M)	String	C
803				Typ	Party Role 26 = Position Account Type	Int	26
	→	→	/Sub				
	→	/Pty					
		Pty					
448				ID	Sub Account	String	
452				R	Party Role 38 = Position Account	Int	38
		/Pty					
		Pty					
448				ID	Client ID	String	DF6312

Assignment Report – OTC Assignments							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
452				R	Party Role 24 = Client ID	Int	24
		/Pty					
	→	Instrmt					
55				Sym	Symbol (Reuters Instrument Code ¹)	String	.SPX
461				CFI	Default Values	String	OCAICS
167				SecTyp	OPT for options trade	String	OPT
762				SubTyp	OTC for OTC trade	String	OTC
201				PutCall	Put or Call 0=Put 1=Call	Integer	1
1194				ExerStyle	Exercise Style 0=European 1= American	Integer	1
200				MMY	Series/Contract Year, Month, Date	MonthYear	20040417 (4 for year, 2 for month, 2 for day)
541				MatDt	Expiration Date	LocalMkt Date	2004-04-17
202				StrkPx	Strike Price (decimal format)	Price	1285
947				StrkCcy	Strike Currency	Currency	USD
968				StrkValu	Strike Value	Float	1
966				SettleOnOpenFlag	Settle on open flag Y/N	String	Y
231				Mult	Multiplier	Decimal	1
	→	/Instrmt					
	→	Qty					
703				Typ	Qty Type AS = Assignment Quantity	String	AS
704				Short	Assigned Quantity	Qty	25
	→	/Qty					
	→	Amt					

Assignment Report – OTC Assignments							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
707				Typ	Amount Type SETL = Settlement Value	String	SETL
708				Amt	Extended Settlement Value	Amt	68750
	➔	/Amt					
	/AsgnRpt						

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Sample Message – Cleared OTC Assignment

Clearing Member 00987 was Assigned on an Exercise 1/10/2012 for symbol .SPX, strike 1285. The details of the OTC Assignment are listed below.

```
<AsgnRpt RptID="1467561325" AsgnMeth="P" BizDt="2012-01-10">
  <Pty ID="OCC" R="21"/>
  <Pty ID="00987" R="4">
    <Sub ID="F" Typ="26"/>
  </Pty>
  <Pty ID="0123456789" R="24"/>
  <Instrmt Sym=".SPX" CFI="OCAICS" SecTyp="OPT" SubTyp="OTC" PutCall="1" ExerStyle="1" SettleOnOpenFlag="Y"
MMY="20120110" MatDt="2012-01-10" StrkPx="1285"
    StrkCcy="USD" StrkMult="1" StrkValu="1" Mult="1"/>
  <Qty Typ="AS" Short="488"/>
  <Amt Typ="SETL" Amt="62708000"/>
</AsgnRpt>
```

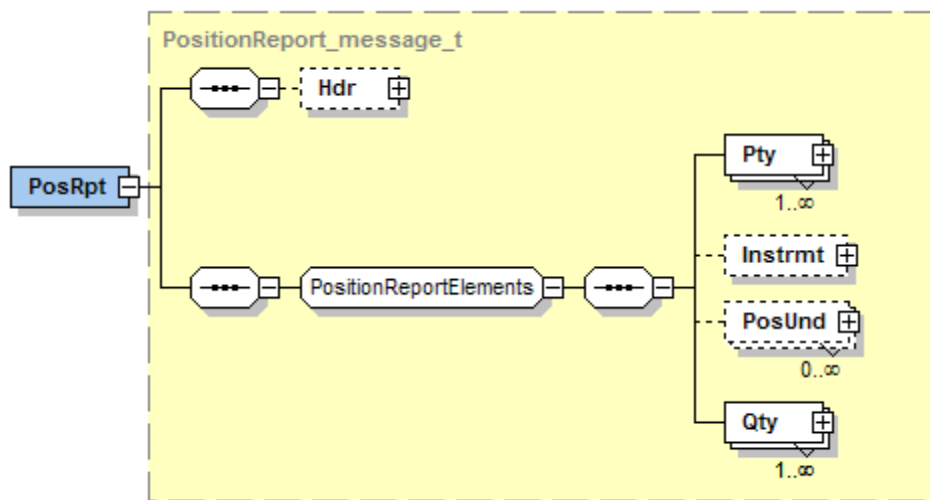

ENCORE Transmission: Cleared OTC Settlement Activity Message

FIX Message:	Position Report
Subscription Options:	OTC Options
Delivery Options:	Batch File

Overview

One message will be created for each position with an exercise or assignment on the date the obligation is created. If a single position has both exercise and assignment, two messages will be created for that position.

Message Structure



Message Layout – Position Report – Cleared OTC Settlement Activity

Position Report – Cleared OTC Settlement Activity							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
	PosRpt						
721				RptID	Unique Identifier for the Settling Position	String	1500045172
715				BizDt	Clearing Business Date or Original Obligation Date	LocalMktDate	2004-01-09
724				ReqTyp	Request Type 4 = Settlement Activity	Int	4
	→	Pty					
448				ID	Clearing Group Name	String	OCC
452				R	Party Role 21 = Clearing Organization	Int	21
	→	/Pty					
	→	Pty					
448				ID	Clearing Member Number	String	00161
452				R	4 = Clearing Firm	Int	4
	→	→	Sub				
523				ID	Account Type	String	C
803				Typ	Party Role 26 = Position Account Type	Int	26
	→	→	/Sub				
	→	/Pty					
		Pty					
448				ID	Sub Account	String	
452				R	38 = Position Account	Int	38
		/Pty					
		Pty					
448				ID	Client ID	String	DF6312
452				R	Party Role 24 = Client ID	Int	24
		/Pty					

Position Report – Cleared OTC Settlement Activity							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
	→	Instrmt					
55				Sym	Symbol (Reuters Instrument Code ¹)	String	.SPX
461				CFI	Default Values	String	OCAICS
167				SecTyp	OPT for options trade	String	OPT
762				SubTyp	OTC for OTC trade	String	OTC
201				PutCall	Put or Call 0=Put 1=Call	Integer	1
1194				ExerStyle	Exercise Style 0=European 1= American	Integer	1
200				MMY	Series/Contract Year, Month, Date	MonthYear	20100117 (4 for year, 2 for month, 2 for day)
541				MatDt	Expiration Date	LocalMktDate	2010-01-17
202				StrkPx	Strike Price (decimal format)	Price	1285
947				StrkCcy	Strike Currency	Currency	USD
968				StrkValu	Strike Value	Decimal	1
966				SettleOnOpenFlag	Settle on open flag Y/N	String	Y
231				Mult	Multiplier	Decimal	1
	→	/Instrmt					
	→	PosUnd					
		Note: This component block can repeat for more underlying components.					
	→	→	Undly				
311				Sym	Underlying Symbol	String	USD
309				ID	Underlying Cusip	String	648815108
305				Src	1 = CUSIP	String	1

Position Report – Cleared OTC Settlement Activity							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
463				CFI	CHAR1-3 = Instrument (EXX = EQUITY, MRI = INDEX, MRC = CURRENCY, DXX = DEBT, FXX = FUTURE) CHAR4 = X CHAR5 = X CHAR6 = X	String	MRCXXX
972				AllocPct	Allocation Pct	Percentage	100
879				Qty	Underlying Quantity	Qty	100
973				CashAmt	Underlying Cash Amount	Amt	
974				CashTyp	Underlying Cash Type	Char	DIFF
CUS T				SetMeth	Settlement Method CADF = Cash Difference	Char	CADF
	→	→	/Undly				
	→	→	UndDlvAmt				
985				PayAmt	Underlying Pay Amount	Amt	5000
986				ColAmt	Underlying Collect Amount	Amt	150000
987				StlDt	Settlement Date	LocalMktDate	2010-01-14
988				SetStat	Settlement Status 0 = Settling 1 = Partially Delayed 2 = Delayed	String	0
	→	→	/UndDlvAmt				
	→	/PosUnd					
	→	Qty					
703				Typ	Quantity Type DLV = Delivery Quantity RCV = Receive Quantity	String	DLV
704				Long	Long Quantity	Qty	0
705				Short	Short Quantity	Qty	50
CUS T				QtyDt	Date of Activity	LocalMktDate	2004-01-09

Position Report – Cleared OTC Settlement Activity							
FIX Mapping					Data	Data Type	Sample Data
Tag#	Report Block	Component Block	Sub Component Block	Fields			
	→	/Qty					
	/PosRpt						

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Sample Message – Cleared OTC Equity Index Settlement Activity

Clearing Member 00987 was Assigned on an Exercise on 1/10/2012 for symbol .SPX, strike 1285. The details of the OTC Settlement Activity are listed below.

```
<PosRpt RptID="1467561325" BizDt="2012-01-10" ReqTyp="4">
  <Pty ID="OCC" R="21"/>
  <Pty ID="00987" R="4">
    <Sub ID="C" Typ="26"/>
  </Pty>
  <Instrmt Sym=".SPX" CFI="OCAICS" SecTyp="OPT" SubTyp="OTC" PutCall="1" ExerStyle="1" MMY="20120110"
  MatDt="2012-01-10" StrkPx="1285" StrkCcy="USD" StrkMult="1" StrkValu="1" Mult="1"/>
  <PosUnd>
    <Undly Sym="USD" ID="648815108" Src="1" CFI="MRCXXX" AllocPct="100" SetMeth="CADF" CashTyp="DIFF"/>
    <UndDivAmt PayAmt="345504" ColAmt="0" StIDt="2012-01-11" SetStat="0"/>
  </PosUnd>
  <Qty Typ="DLV" Long="0" Short="488" QtyDt="2012-01-10"/>
</PosRpt>
```

Appendix

Revision History

Version	Date	Author	Version Updates
1.3	03/17/2016	OCC	Added: <ul style="list-style-type: none">• New OCC logo• Appendix and Revision History table
1.4	8/28/2018	OCC	Applied rebranding changes.