

FIX Specifications for the Trade Reporting and Compliance Engine system (TRACE[®]) Trade Reporting for Treasury Securities

Version 1.1

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1	Ove		r	
	1.1	Intro	duction	5
2	FIX			
	2.1	Supp	ported Messages	
	2.1.1	1	Administrative messages	
	2.1.2	2	Application Messages	6
3	The		Session	
	3.1		pIDs	
	3.2		Ds	
	3.3		on and authentication	
	3.4		tbeat intervals	
	3.5		yption	
	3.6		types and required fields	
	3.7		acter encoding	
	3.8		Timestamps	
	3.9		ion lifetime	
	3.10		over and message recovery	
	3.11		Session Level Test Cases	
	3.12	-	Copy Sessions	
	3.13		Standard Header	
	3.13		Inbound Header	
	3.13		Outbound Header	
	3.14		Standard Trailer	
			sage Details	
	3.15		How to interpret the Required (Req'd) column	
	3.15		Default values	
	3.15		Logon – inbound to FINRA.	
	3.15		Logon – outbound from Marketplace	
	3.15		Logout (in/out)	
	3.15		Sequence Reset (in/out)	
	3.15		Resend Request (in/out) Reject (out)	
	3.15 3.15		Heartbeat (in/out)	
	3.15		Test Request (in/out)	
4			rade Reporting in FIX	
4	4.1		duction	
	4.2		e Capture Report Processing	
	4.3		Df Trades	
	4.4		ersals	
	4.5		tifiers	
	4.5.1		Trade Report ID	
	4.5.2	-	Trade Report Reference ID	
			Trade ID	
	4.5.4		FirmTrade ID	
	4.5.5		Original Trade ID	
	4.5.0		Secondary Firm Trade ID	
	4.5.7		Party Identifiers	
	4.5.8		Trades reported by a Service Bureau	
	4.6		estamps and dates	
	4.6.1		TransactTime	
	4.6.2	2	SendingTime	
	4.6.3	3	TradeDate	
	4.6.4	4	ExecutionTime	.17

TABLE OF CONTENTS

4.6.5	PreparationTime	17
4.6.6	ControlDate	17
4.6.7	OrigControlDate	17
4.6.8	ServiceBureauPrepTime	17
5 Messag	e Formats	
5.1 Int	bound Trade Report Messages	18
5.1.1	Trade Capture Report – Reporting a trade (in)	18
5.1.2	Trade Capture Report – Trade Cancel (in).	22
5.1.3	Trade Capture Report – Reversal (in)	24
5.1.4	Trade Capture Report – Trade Correction (in)	26
5.2 Ou	atbound Trade Report Acknowledgements	29
5.2.1	Trade Capture Report Ack – Reject (out)	
5.2.2	Trade Capture Report – Acknowledgement/TSEN (out)	30
5.2.3	Trade Capture Report – Allege/TSAL (out)	
5.2.4	Trade Capture Report – Confirmed Cancel/TSCX (out)	
5.2.5	Trade Capture Report – Confirmed Reversal /TSHX (out)	
5.2.6	Trade Capture Report – Confirmed Correction/TSCR (out)	
	values and user defined fields	
	elds added	
	umerations added	
	eject Reason Table	
	ions	
	eld lengths and data types	
	Report Examples	
	ample 1: Simple trade between 2 parties (Interdealer trade)	
	ample 2: Simple trade between a broker-dealer and its customer (Customer trade)	
	ample 3: Simple Give-Up trade between 2 parties	
	ample 4: One-Sided Locked-In Trade	
	ample 5: One-Sided Locked-In Trade	
	ample 6: Two-Sided Locked-In Trade	
	ample 7: Trade executed between 2 broker-dealers on an Alternative Trading System (A	
1		
Revision His	story	53

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1 Overview

1.1 Introduction

The TRACE System (TRACE) is a service of FINRA that performs two major functions: on-line trade reporting and dissemination. FINRA members (or their designated third parties) are provided with the capability of submitting trade report information on over the counter corporate bond, agency debt and securitized products securities utilizing interactive messaging via FIX protocol. This document describes the formats of the FIX inbound and outbound messages for Treasury Securities, defined hereafter as Treasury Securities (TS), trade reporting to TRACE.

Participants will be able to enter and correct TRACE trades through their FIX interfaces during the TRACE Treasury Securities reconciliation cycle that consists of T-Day through T+1 (business days) entries. Trades that were submitted greater than T+1 are not retained in the TRACE system for trade management purposes. Such trades may be reversed using Reversals or corrected using a combination of a Reversal and new As-of Trade Capture Report.

The Eastern Time operating hours of the TRACE system are as follows:

Market/System open :	8:00 A.M.
Market Close:	5:30 P.M. (for TRACE reporting of Treasury Securities)
System Close:	6:30 P.M.

When a trade is entered into TRACE, a control date and number will be assigned to identify the trade throughout its TRACE processing and a status will be assigned to reflect its processing state. As trades are entered into the system, TRACE will validate trade information, forward proper acknowledgment messages to the Reporting Parties (RP) and Allege messages to the Contra Parties (CP) of the trades. Acknowledgment and Allege messages will contain the terms of the trade, the TRACE assigned status, control date and control number which uniquely identifies each trade. Participants will utilize the combination of TRACE assigned control date and control number to communicate with the TRACE system for subsequent trade report correction processing. Participants may also modify trades using their own assigned reference numbers (Client Trade Identifier) in combination with the TRACE Control Date. Trade reports of Treasury Securities will be retained in the TRACE system on a rolling 2 business day period, inclusive of the day the trade was submitted (T+1) and available for subsequent trade management processing (Cancel or Correction). A Cancel or Correction of a previously reported trade submitted prior to the T+1 period is allowed via submission of a Reversal or a combination Reversal/new As-of trade report.

TRACE will forward proper Notification messages to the trading parties as trades are corrected. Each Notification message will contain the control date, control number and the updated status of the corrected trade.

The TRACE Treasury Securities FIX specifications are applicable to both the T-day and As-of (T+n) trade reporting process. Any trade executed during or off market hours, which has not been reported during T-day, may be reported to TRACE on T+1 or later on an As-of basis.

For questions concerning FIX connectivity, please contact NASDAQ Technical Support at (212) 231-5180 or via email to: <u>tradingservices@nasdaqomx.com</u>. For questions concerning Treasury Securities trade reporting and TRACE, please contact FINRA Product Management at (866) 899-2107 or via email to: FINRAProductManagement@finra.org.

2 FIX Protocol

The messaging described in this specification adheres to the standard FIX 4.4 protocol. Please refer to <u>http://fixprotocol.org/specifications/FIX.4.4</u> for further details.

The interface follows the FIX specifications as far as possible. In the majority of cases the structure and semantics of the messages are identical to the standard.

In some cases, the protocol has been extended to cover functions not considered by the standard. These extensions are clearly detailed in the document. In other cases, the standard is ambiguous or indicates that the details should be bilaterally agreed between the parties. In these cases this manual provides a detailed description to avoid any possible ambiguity.

2.1 Supported Messages

2.1.1 Administrative messages

Logon (in/out) Logout (in/out) Sequence Reset (in/out) Resend Request (in/out) Reject (out) Heartbeat (in/out) Test Request (in/out)

2.1.2 Application Messages

Trade Capture Report (in) Trade Capture Report (out) Trade Capture Report Ack (out)

3 The FIX Session

The session layer conforms to the standard FIX session. Please see the standard FIX specification for additional details.

3.1 ComplDs

The Sender- and TargetCompID uniquely define the FIX session. A session can only be active (established) between two hosts simultaneously. Any attempts to establish a second FIX session using the same CompIDs (for instance to a backup gateway) in parallel will be rejected.

- The TargetCompID (56) on all *inbound* transactions must be set to "FNRA".
- The SenderCompID (49) on all *outbound* transactions will always be set to "FNRA".

The Sender- and TargetCompID used by the client are defined in a separate agreement.

3.2 SubIDs

For inbound transactions:

- The TargetSubID (57) must be set to "TS".
- The SenderSubID (50) must be set to the user ID defined in a separate agreement.

For *outbound* transactions:

- The TargetSubID (57) will be set to the user ID (same as inbound SenderSubID).
- The SenderSubID (50) will be set to "TS".

3.3 Logon and authentication

At Logon, clients are identified by:

- CompIDs (SenderCompID and TargetCompID)
- IP Address

When the client is authenticated, the system responds with a Logon message to the client.

3.4 Heartbeat intervals

Heartbeat intervals are negotiated at Logon using the HeartBtInt (108) field. The system accepts a heartbeat interval set to 30 s

3.5 Encryption

The system does not support encryption.

3.6 Datatypes and required fields

This specification does not change the data type on any fields defined in the standard FIX specification. There may be places where this specification restricts the value range of a field further than specified in standard FIX. This will be clearly marked in the spec.

All fields listed in this specification that are marked as required in the standard specification, are required also in this specification. This document specifies additional fields as required by FINRA. These fields are marked with an 'F' in the required column of the message listings.

3.7 Character encoding

Standard FIX 7-bit US-ASCII character encoding is used.

3.8 FIX Timestamps

In FIX all timestamps are expressed in GMT/UTC. Please refer to the standard FIX specification for additional details.

3.9 Session lifetime

The FIX session lifetime is restricted to one trading day. The session lifetime is not ended at connectivity loss or even Logouts. The sequence numbers are reset to one each morning.

3.10 Failover and message recovery

At reconnect and Logon standard FIX message recovery is performed. All FIX sessions have at least one primary and one secondary gateway to which the session states are fully replicated. This means that regardless to which gateway a client connects, full message recovery is provided.

A client cannot have the same FIX session active towards multiple gateway instances simultaneously.

3.11 FIX Session Level Test Cases

This implementation is fully compliant with the session-level test cases specified in the standard FIX 4.4 Specification, Volume 2, section "FIX Session-level Test Cases and Expected Behaviors". The only exception is the encryption test cases.

3.12 Drop Copy Sessions

Drop Copy Sessions, or Drops, can be set up to mirror outbound traffic on one or more FIX sessions. All outbound Quote Status Reports will be seen on the Drop.

Drop Copy Sessions are separate FIX sessions from the sessions which it replicates. This means the Drop session will have its own CompIDs, so the copied messages will differ slightly from the originals. All copied messages will have the CopyMsgIndicator (797) tag set to "Y".

Note that this is an extension to standard FIX where only Execution Reports and Trade Capture Reports can be copied to a drop.

3.13 The Standard Header

All FIX messages contain a Standard Header. The header contains important information such as session identifiers (CompIDs), sequence numbers and message type and length etc.

Tag	FIX Field name	Req'd	Comment
8	BeginString	Y	
9	BodyLength	Y	
35	MsgType	Y	
49	SenderCompID	Y	As specified in separate agreement
50	SenderSubID	F	Your User ID as defined in separate agreement.
56	TargetCompID	Y	Valid values: "FNRA"
57	TargetSubID	F	Valid values: "TS"
34	MsgSeqNum	Y	
43	PossDupFlag		Always required for retransmitted messages
97	PossResend		
52	SendingTime	Y	Time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT"))
115	OnBehalfOfCompID		If present, this MPID will be passed to the TS application. If not present, the value in Tag 49 will be passed to the

3.13.1 Inbound Header

		 application. This allows you to use multiple MPIDs through a single connection. For Service Bureaus, if you are sending this message on behalf of your customer, their 4-character MPID is placed here. For both Broker Dealers and regular connections, you can use this field to submit your customer's MPID. This value will be returned to you in Tag 128 on the outbound message. Please note that while it is possible for you to submit a chain of transactions with inconsistent values for this tag in different messages, you are strongly advised not to do so.
116	OnBehalfOfSubID	For both Broker Dealer and regular connections, you can use this field to submit your customer's I112 (assigned by NASDAQ upon agreement). This value will be returned to you in Tag 129 on the outbound message. Please note that while it is possible for you to submit a chain of transactions with inconsistent values for this tag in different messages, you are strongly advised not to do so.
122	OrigSendingTime	

3.13.2 Outbound Header

Tag	FIX Field name	Req'd	Comment
8	BeginString	Y	
9	BodyLength	Y	
35	MsgType	Y	
49	SenderCompID	Y	Set to "FNRA"
50	SenderSubID	F	Set to "TS"
56	TargetCompID	Y	As specified in separate agreement
57	TargetSubID	F	Your User ID as defined in separate agreement.
34	MsgSeqNum	Y	
43	PossDupFlag		Always required for retransmitted messages
97	PossResend		
52	SendingTime	Y	Time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT"))
122	OrigSendingTime		
128	DeliverToCompID		Your MPID as stated in Tag 115 in the inbound message is returned to the service bureau in this tag.
129	DeliverToSubID		Your I1I2 as stated in Tag 116 in the inbound message is returned to the service bureau in this tag.

3.14 The Standard Trailer

All FIX messages end with a Standard Trailer. The trailer only includes a simple checksum field. The details on how to calculate the checksum can be found in the standard FIX specification.

Tag	FIX Field name	Req'd	Comment
10	CheckSum	Y	

3.15 Message Details

3.15.1 How to interpret the Required (Req'd) column

A 'Y' marks the field as required in standard FIX (and of course also in this implementation). An 'F' means that the field is required in this implementation although it is not required in standard FIX. No entry at all means the field is optional.

3.15.2 Default values

Fields which has enumerated values, where one is marked as "default value" need not be included in the message at all if the default value is used.

3.15.3 Logon – inbound to FINRA

The response to a logon is either a Logon, which denotes a successful logon, or a Logout.

A client must be prepared to handle failure scenarios including (but not limited to):

A Logon attempt may fail or be rejected for several reasons. The FIX gateway will react differently depending on the kind of failure. The two different actions it may take are:

Silently ignore the Logon.

- If the wrong Sender or Target CompID is specified.
- For other reasons specified in the standard FIX specifications.

Respond with a Logout.

- If the FIX gateway has no connection with the back-end system.
- Logon failure for other reasons than authentication/security.

The Logout response to a Logon will always contain a note on why in the Text (58) field.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values:
			0 = None / Other
108	HeartBtInt	Y	Heartbeat interval. Valid value: 30 s
	Standard Trailer	Y	

3.15.4 Logon – outbound from Marketplace

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values: 0 = None / Other
108	HeartBtInt	Y	Heartbeat interval. Valid value: 30 s
	Standard Trailer	Y	

3.15.5 Logout (in/out)

The Logout message is used to gracefully disconnect a FIX session. When receiving a Logout, the counterparty should respond with a Logout. A Logout can also be the response to an unsuccessful Logon attempt.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 5
58	Text		Free text
	Standard Trailer	Y	

3.15.6 Sequence Reset (in/out)

This message has two uses. The common usage is with GapFillFlag set to 'Y', which is used in a response to a Resend Request to indicate that a range of messages will not be resent. This is commonly used to avoid resending administrative messages like Heartbeats.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 4
123	GapFillFlag		Indicates that the Sequence Reset message is replacing administrative or application messages which will not be resent.
36	NewSeqNo	Y	New sequence number. The next Sequence Number to be expected after this message.
	Standard Trailer	Y	

The other (very rare) usage is to reset the sequence numbers to a higher number to get out of a deadlock. This is only triggered by manual intervention.

3.15.7 Resend Request (in/out)

Resend Request is used to recover messages when a sequence number gap has been detected.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 2
			Message sequence number of first message in range to be
7	BeginSeqNo	Y	resent
			Message sequence number of last message in range to be
			resent. If request is for a single message BeginSeqNo (7) =
			EndSeqNo. If request is for all messages subsequent to a
16	EndSeqNo	Y	particular message, EndSeqNo = "0" (representing infinity).
	Standard Trailer	Y	

3.15.8 Reject (out)

The Reject, or session-level reject, message is sent whenever the FIX gateway is able to at least partially parse the message, but the message does not adhere to the specification and cannot be delivered to the back-end system.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 3
45	RefSeqNum	Y	MsgSeqNum of rejected message
371	RefTagID		The tag number of the FIX field being referenced.
372	RefMsgType		The MsgType of the FIX message being referenced.
373	SessionRejectReason	F	Valid values: 0 = Invalid Tag Number 1 = Required Tag Missing 2 = Tag Not Defined For This Message Type 3 = Undefined Tag 4 = Tag Specified Without a Value 5= Value Is Incorrect Out Of Range For This Tag 6 = Incorrect Data Format For Value 9 = CompID Problem 10 = Sending Time Accuracy Problem 11 = Invalid Msg Type 99 = Other
58	Text		Where possible, message to explain reason for rejection
	Standard Trailer	Y	

3.15.9 Heartbeat (in/out)

A heartbeat message is sent at the interv	al set at Logon. It is also t	the response to a Tes	st Request message.

Tag	FIX Field name	Req'd	Comment		
	Standard Header	Y	MsgType = 0		
			Required when the heartbeat is the result of a Test		
112	TestReqID		Request message.		
	Standard Trailer	Y			

3.15.10 Test Request (in/out)

Test Request is used to "ping" the counterparty whenever a heartbeat has not arrived at the negotiated heartbeat interval.

Tag	FIX Field name	Req'd	Comment	
	Standard Header	Y	MsgType = 1	
	Identifier included in Te		Identifier included in Test Request message to be returned	
112	TestReqID	Y	in resulting Heartbeat	
	Standard Trailer	Y		

4 General Trade Reporting in FIX

4.1 Introduction

Trades may, subject to regulations or bilateral agreement, be reported to the marketplace in the following cases:

- Trades negotiated between market participants without using execution mechanisms provided by the Marketplace
- Trades formed at other execution venues but reported to the marketplace for regulatory or publication reasons. Such execution venues may include (systematic) internalizers, ECN's, ATS's, and others regulated markets. (*Not supported in this solution*)

4.2 Trade Capture Report Processing

For exchanges, Trade Capture Reports (TCR) have two related purposes; to confirm trades and reporting of privately negotiated trades. Usage of tags differs slightly depending on the purpose of the message:

The confirmed Trade:Identifier:TradeIDAction:TradeReportType

The process of confirming a trade:

Identifier: **TradeReportID**. Each actor issues their own id for every message sent (excluding TCR Ack messages). To reference a previous message, the **TradeReportRefID** tag is used.

- An initiator always uses TradeReportRefID when referring to a previous report.
- The marketplace uses TradeReportRefID in confirmed trades to reference external actors previous TradeReportIDs.
- The counterparty uses TradeReportRefID in Accept/Decline messages to reference TradeReportIDs set by the marketplace in Alleged transactions.

Action: TradeReportTransType

4.3 As-Of Trades

In FIX, an As-Of Trade is submitted by setting the TradeDate field to the date when the trade occurred and setting the AsOfIndicator (1015) to 1. An original T Date Trade is reported by setting TradeDate to the current date and setting the AsOf Indicator to 0 or omitting the tag.

4.4 Reversals

A deletion of a previously reported trade submitted on a prior day is allowed via submission of a *Reversal*. This message is used to cancel a TRACE trade entry which was originally reported prior to the rolling T+1 day period. A Reversal must contain all the values submitted in the original Trade. The exception is the original trade identifier (in field TradeReportRefID), which is not required, and will not be used as a basis to look up the original trade. See section 5.1.3 for message details. Firms wishing to correct a TRACE trade entry which was originally reported prior to the rolling T+1 day period are required to submit a Reversal, followed by an As-Of Trade with the correct trade details.

4.5 Identifiers

4.5.1 Trade Report ID

The TradeReportID (571) is similar to the ClOrdID used for orders and executions. A unique Trade Report ID must be set on all reported trades (TCR) inbound to the marketplace. There is one important exception to the analogy of ClOrdIDs. The marketplace sets its own TradeReportIDs on outbound TCRs (like confirmed trades).

4.5.2 Trade Report Reference ID

The TradeReportRefID (572) is used to refer to a previous TCR. A submitter of a reported trade can use TradeReportRefID in subsequent corrections (with the exception of Reversals) to the reported trade. The marketplace, which sets its own TradeReportIDs on outbound trade confirmations, uses the TradeReportRefID to reference *the submitters TradeReportID* from the original trade report, for example on confirmations to reported trades. Note that this tag is optional on inbound messages to FINRA, and that either TradeID or FirmTradeID is required to correct a trade.

4.5.3 Trade ID

TradeID (1003) is a FINRA extension to FIX 4.4. TradeID carries the ten digit Control Number which the TRACE System had assigned to the TRACE trade when it was accepted by the TRACE System.

4.5.4 FirmTrade ID

FirmTradeID (1041) contains the internal ID assigned to a trade by the reporting party (Client Trade Identifier). Must not exceed 20 characters. A firm can use their Client Trade Identifier to subsequently Cancel or Correct a trade (in lieu of Trade ID/FINRA Control Number. Control Date would still be required). If used, firms must ensure uniqueness of their reference numbers every day.

4.5.5 Original Trade ID

OrigTradeID (1126) *is a FINRA extension to FIX 4.4.* OrigTradeID carries the ten digit control number which the TRACE System had assigned to the TRACE trade when it was originally accepted by the TRACE System.

This is the equivalent of the CTCI Original Control Number.

4.5.6 Secondary Firm Trade ID

SecondaryFirmTradeID (1042) is a FINRA Extension to FIX 4.4. It contains the internal ID assigned to a trade by the contra side (Contra Client Trade Identifier). This field can only be submitted on Locked-In trades.

4.5.7 Party Identifiers

There may be many parties involved in a trade. In FIX, the identifiers and roles of each party is defined in the Parties block. The Parties block is a repeating group of identifiers which can carry an unlimited number of parties and their roles. The Parties block consists of the following fields:

Tag	FIX Field name	Comment
453	NoPartyIDs	Number of parties included in the message
		The actual identifier of the party. In this case always the 4 character MPID on interdealer trades. On Customer trades, the contra party must be submitted with the value "C". On Affiliate trades, the contra party must be submitted with the
448	PartyID	value "A" ¹ .
		Defines the type of the identifier used as PartyID. In this solution always $C =$ Generally accepted market participant
447	PartyIDSource	identifier (e.g. FINRA mnemonic)
452	PartyRole	Defines the role of the current party.

The last three fields listed above are required for each party.

The following party roles are supported:

¹ An affiliate is a non-member entity that controls, is controlled by or is under common control with a FINRA member, as further defined under FINRA Rule 6710.

Party Role	Comment
	MPID of the Giveup Firm, when applicable. A TRACE Service
	Bureau/Executing Broker Supplement (Attachment B of the TRACE
	Participation Agreement) must be in place in order for firms to submit
	trade reports on behalf of their give ups. Can be set for the Contra party
Giveup Firm	only if the reporting firm submits the trade as a Locked-in trade.
Executing Firm	MPID of Reporting party (owner of the trade).
	MPID of the party (Service Bureau) sending the trade on behalf of a
	client. A TRACE Service Bureau/Executing Broker Supplement
	(Attachment B of the TRACE Participation Agreement) must be in place
	in order for firms to submit trade reports on behalf of their
Entering Firm	correspondents.
Clearing Firm	Clearing Firm Number. Not really a party but treated as such in FIX.
	MPID of Contra party or "C" to denote the contra is a non-FINRA
	member (Customer trade) or "A" to denote the contra is a non-member
Contra Firm	affiliate (Affiliate trade).

In addition to the above three main party identifier fields, there is also a Parties Sub identifier group that may be added to certain parties. This group contains the following fields:

- **NoPartySubIDs** (802) Number of Party sub identifiers. In this solution always set to 1 if present.
- **PartySubID** (523) The actual Party Sub Identifier. In this solution only used for identifying a branch office of a reporting party or a contra party (Contra party branch office may only be submitted on Locked-In trades).

• **PartySubIDType** (803) – Type of sub identifier. In this solution always set to 24 = Department. The Parties sub identifiers are only allowed to be attached to the reporting party or to the contra party (on Locked-In trades).

In this solution the Trade Capture Reports contains one set of parties for each Side (Buy/Sell) of the trade. The parties are found in the repeating group called TrdCapRptSideGrp. This group will always contain two sides (NoSides = 2), one buy and one sell². Each of these contains a Parties repeating group.

- The reporting side (buy or sell) *must* contain a PartyID with PartyRole = Executing Firm.
- The contra side (opposite of reporting side) *must* contain a PartyID with PartyRole = Contra Firm.

PartyIDs with other Party Roles may be added as necessary to both sides. See chapter 8 for examples on how to populate the Party identifier fields.

4.5.8 Trades reported by a Service Bureau

In order to report trades as a Service Bureau, you would need to utilize the "On Behalf Of" FIX functionality. In the header of the message, you must include Tags 115 (OnBehalfOfCompID) and 116 (OnBehalfOfSubID). Tags 128 (DeliverToCompID) and 129 (DeliverToSubID) will be returned in the outbound messages to you. You will set up a standard FIX session with your MPID. For additional clients, the port will be turned into a service bureau port and client connections can be added to it. In order for you to send trade reports on behalf of these clients, you must send Tags 115 and 116 with the corresponding values given to you by NASDAQ for each client.

Note: A fully executed Uniform Service Bureau/Executing Broker Agreement (Attachment A of the Agreement) must be in place in order for service bureaus to submit trade reports on behalf of their clients.

Here is a sample set up of a service bureau port with multiple clients (MPIDs, I1I2s and port used for illustrative purposes):

² The exception is Trade Cancels, which only contains one side (the reporting side). TRACE Treasury Securities FIX Specification ver 1.1

Tag 49SenderCompID:Tag 50SenderSubID:Tag 56TargetCompID:Tag 57TargetSubID:Port: 12345	WXYZ (Service Bureau MPID) 1111 FNRA TS
Client #1 Tag 115 OnBehalfOfCompID: Tag 116 OnBehalfOfSubID:	ABCD 2222
Client #2 Tag 115 OnBehalfOfCompID: Tag 116 OnBehalfOfSubID:	EFGH 3333
Client #3 Tag 115 OnBehalfOfCompID: Tag 116 OnBehalfOfSubID:	IJKL 4444
Client #4 Tag 115 OnBehalfOfCompID: Tag 116 OnBehalfOfSubID:	MNOP 5555

4.6 Timestamps and dates

Timestamps and dates can be represented in several ways in FIX. The data types used in this solution are:

Data Type Format		Comment	
YYYYMMDD		The most common data type in FIX. Used in standard FIX tags	
	-HH:MM:SS	such as TransactTime (60), SendingTime (52) etc.	
		NOTE 1: times are given in UTC (GMT).	
UTCTimestamp			
	YYYYMMDD	Standard date. Notice that it is NOT in UTC. Used in standard	
LocalMktDate		tags such as TradeDate (75).	
	HH:MM:SS	Basically the time part of a UTCTimestamp.	
		NOTE 1: times are given in UTC (GMT).	
		NOTE 2: Treasury reporting tag 22007, Execution Time, allows	
		millisecond and microsecond reporting. Format	
UTCTimeOnly		HH:MM:SS.sss.mmm	

4.6.1 TransactTime

TransactTime (60) is a standard FIX tag that is set to the time the transaction it is contained in occurred. Note: TransactTime is a FIX required field and is not used by TRACE in trade data validation. **Format:** UTCTimestamp

4.6.2 SendingTime

SendingTime (52) is contained in the header of every FIX message and must contain the time of message transmission.

Format: UTCTimestamp

4.6.3 TradeDate

TradeDate (75) is used to indicate the date the trade occurred (aka Execution Date). Note: On non-As-Of trades, the Trade Date cannot be changed on a Correction submission to a different date than what was originally submitted. Firms would be required to Cancel the original trade and resubmit a new Trade Report with the intended Trade Date.

On As-Of trades, the Trade Date can be changed only to a date prior to the original trade date. The Trade Date cannot be changed to a date that is subsequent to the original trade date. In the case of the latter, firms would be required to Cancel the original trade and resubmit a new As-Of Trade Report with the intended Trade Date.

Format: LocalMktDate

4.6.4 ExecutionTime

ExecutionTime (22007) is a field defined by FINRA. It denotes the time of execution, format HH:MM:SS.sss.mmm. Outbound messages contain the value set in the inbound message. **Format:** UTCTimeOnly

4.6.5 PreparationTime

PreparationTime (22009) is an optional field defined by FINRA. Denotes the time the submitter prepared the transaction for submission. Outbound messages contain the value set in the inbound message. It is a standard FIX UTCTimestamp formatted field containing both date and time in UTC formatted as described above.

Format: UTCTimeOnly

4.6.6 ControlDate

ControlDate (22011) is a field defined by FINRA. When a trade is submitted to TRACE and accepted, the system will return a ControlDate with the trade acknowledgement. The ControlDate reflects the date when the system received and processed the trade entry. The ControlDate together with the Control Number (TradeID) uniquely identifies a trade. Control Date is required in conjunction with Control Number (TradeID) or FirmTradeID (Client Trade Identifier) to subsequently cancel or correct a trade. **Format:** LocalMktDate

4.6.7 OrigControlDate

OrigControlDate (22012) is a field defined by FINRA. When a trade is submitted to TRACE and accepted, the system will return a ControlDate with the trade acknowledgement. The OrigControlDate reflects the date when the system received and processed the *original* trade entry. It is found on trade correction acknowledgements.

Format: LocalMktDate

4.6.8 ServiceBureauPrepTime

ServiceBureauPrepTime (22022) is an optional field defined by FINRA. If a participant firm used a Service Bureau to submit the trade, this field denotes the time the Service Bureau prepared the transaction for submission. Outbound messages contain the value set in the inbound message. **Format:** UTCTimeOnly

5 Message Formats

5.1 Inbound Trade Report Messages

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Client-generated identifier for FIX messaging, not to
571	TradeReportID	Y	exceed 20 characters.
			The client identifier assigned to a trade by the firm to
			track a trade within the firm's system. Must be unique
1041	FirmTradeID		for the day.
			FINRA Extension to FIX 4.4: The Contra Client
			Identifier assigned to a trade by the contra side. Only
1042	SecondaryFirmTradeID		used for Locked-in Trade Reports.
		_	Valid values:
487	TradeReportTransType	F	0 = New
		_	Valid values:
856	TradeReportType	F	0 = Submit
			Indicates if the trade capture report was previously
			reported to the counterparty Valid values:
570	Draviously Donortad	Y	\mathbf{V} and \mathbf{V} all \mathbf{V} sites: $\mathbf{N} = \mathbf{N}\mathbf{o}$
570	PreviouslyReported	I	Used to indicate that a trade was submitted "as of" a
			specific trade date. Valid values:
			0 = false – trade is not an AsOf trade (default)
1015	AsOfIndicator		1 = true - trade is an AsOf trade.
1015			Either transaction must contain either CUSIP or
			Symbol to identify the security. If CUSIP is given, set
48	Instrument/SecurityID	Y	SecurityIDSource to 1. If Symbol is given, set it to 8.
			Type of identifier given in SecurityID.
			Valid values:
			1 = CUSIP
22	Instrument/SecurityIDSource		8 = Exchange Symbol
32	LastQty	Y	Trade Volume. Format: nnnnnnnnnnnn
31	LastPx	Y	Trade Price. Format: nnnn.nnnnnnnnn
			The type of price reported.
			Valid values:
			98 = Decimal Unit Price
		_	9 = Yield
423	РгісеТуре	F	97 = Negative Yield
			FINRA Extension to FIX 4.4.
			Valid values:
			Y = Yes N = No (default value)
			N = NO (default value) Price override may only be submitted after the initial
985/	OverrideFlag		trade report is rejected due to price out of range.
2004			Interpreted as an As-Of trade if not current date.
75	TradeDate	Y	Format: YYYYMMDD
13		1	Time the transaction represented by this Trade Capture
			Report occurred (in UTC/GMT). Format:
60	TransactTime	Y	YYYYMMDD-HH:MM:SS
-	SettlType		When Issued Indicator. Used to indicate whether the
03	sem i ype		when issued mulcalor. Used to mulcale whether the

5.1.1 Trade Capture Report – Reporting a trade (in)

	1					1	trade was executed pre auction before the issuance of
							the security, i.e., "when-issued" trading.
							7 = When Issued
							Specific date of trade settlement (SettlementDate) in
	64	Settll	Date			F	YYYYMMDD format. Required for all transaction.
			_	~	~ ~ ~ ~ ~ ~		Always set value to 2. One side for the Reporting party
_	552	TrdC	apRp	tSide	Grp/NoSides	Y	and one side for the Contra party.
							Side of trade.
							Valid values:
	\rightarrow	54	Side			Y	1 = Buy 2 = Sell
F				JD			
-	\rightarrow	37	Orde	rID		Y	Required in FIX, but ignored
		152	Donti		DoutrIDa	F	Number of parties on the reporting/contra side of the trade
-	\rightarrow	433	Partie	28/1NU	PartyIDs	Г	
							Identifier for the type of party defined in PartyRole. Either an MPID or a Clearing Firm number or "C" for
	\rightarrow	\rightarrow	448	Party	٧ID	F	customer or "A" for affiliate on the contra side.
┢			. 10				Valid values :
							C = Generally accepted market participant identifier
	\rightarrow	\rightarrow	447	Party	IDSource	F	(e.g. FINRA mnemonic)
							Valid values:
							1 = Executing Firm
							14 = Giveup Firm
							17 = Contra Firm
	\rightarrow	\rightarrow	452	Party	Role	F	83 = Clearing Firm
							PartySubID is only allowed for PartyRole = 1 or 17.
							Only 1 is allowed (branch office of executing/contra
	\rightarrow	\rightarrow	802	NoPa	artySubIDs		firm)
							Sub-identifier. Branch office of executing/contra firm
							(Branch Sequence/Contra Branch Sequence)
	_	\rightarrow	_	523	PartySubID		Contra PartySubID may only be entered on Locked-In trades.
-				525			Type of PartySubID (523) value
							Valid values:
	\rightarrow	\rightarrow	\rightarrow	803	PartySubIDType		24 = Department
Γ					July July July July July July July July		Designates the capacity of the reporting/contra party.
							Valid values:
							A = Agency
							P = Principal
							Required on the reporting side. Contra side is required
Ļ	\rightarrow	528	Orde	rCapa	acity	F	on all Locked-In trades.
							Buyer's/Seller's Commission (in dollars). Required
							when Commission has been charged on an Agency
							capacity.
							Format: nnnnnnnn Both commissions may only be submitted on Locked-In
	\rightarrow	12	Com	nicci	on		trades.
┢	,	12	Com		011		Buyer's/Seller's Commission type.
							Valid values:
	\rightarrow	13	Com	mTvr	be		3 = Absolute
F		10		- 71		1	User Memo Only on the Reporting Party side. Will not
							be displayed to Contra party. Not to exceed 10
	\rightarrow 58Text						characters.
	22006			ceInc	licator		Special Price Indicator. Valid values:
L		1.1					1

	Y = Special price
	N = No special price (default)
	 FINRA Extension to FIX 4.4. Special Price Reason. A fifty character alphanumeric subscriber MEMO field. Required when the field Special Price Indicator = Y. To describe the reason why the trade was executed at a special price. This field may be displayed to the Contra
5149 Memo	party.
	<i>FINRA Extension to FIX 4.4.</i> Indicates that the firm entering the trade is reporting for both sides of the trade. This occurs when two of its give-ups trade with each other (Two-sided giveup) or the firm trades with one of its own give-ups (One-sided giveup). Valid values:
	Y = Yes
	N = No (default value) All Locked-In trades MUST be reported from the seller's perspective, i.e., the reporting party must be the sell side and the contra party must be the buy side. A TRACE Service Bureau/Executing Broker Supplement (Attachment B of the TRACE Participation Agreement) must be in place in order for firms to submit trade reports on behalf of their give ups and as
22013 LockedInIndicator	Locked-In trades.
	 This field allows a trade to be marked for special processing. Under certain conditions, use of this field for special processing purposes MUST be authorized by FINRA Operations prior to submission of trades. Authorization will be granted on a trade by trade basis. Valid values: N = No Special Processing (default) Y = Position Transfer (<i>authorization required</i>) A = Affiliate – principal transaction indication Note: As defined in FINRA Rule 6730 (d)(4)(E), the affiliate principal transaction indication should be used where a member purchases or sells a security and, within the same trading day, engages in a back-to-back trade with its non-member affiliate in the same security at the same price (without a mark-up or commission assessed). This will suppress the trade from discussion
22005 SpecialProcessingFlag	dissemination.
22001 TradeModifier1	FINRA Extension to FIX 4.4. Reserved for future use.
22002 TradeModifier2	FINRA Extension to FIX 4.4. Reserved for future use.FINRA Extension to FIX 4.4. Required indicator if a trade falls under one of the following transaction types (otherwise the field must not be set):W = Weighted Average Price S = If the transaction is part of a series of transactions and may not be priced based on the current market. B = if the transaction is part of a series of transactions where one or more transactions involve a futures
22004 TradeModifier4	contract (e.g., a basis trade).
22007 ExecutionTime	F Execution time (in UTC/GMT). Format:

		HH:MM:SS.sss.mmm
22009 Preparation Time		Time of trade submission (in UTC/GMT). Format: HH:MM:SS
22034NoRemunerationIndicator		 FINRA Extension to FIX 4.4. As outlined in FINRA Rule Filing <u>SR-FINRA-2015-026</u>, this field indicates whether compensation in the form of mark-up, mark-down or commission is included in the price. N = The transaction does not include remuneration (mark-up/down or commission). Omission of this tag indicates the transaction does include remuneration (a mark-up/down or commission). Note: Use/entry of this tag is only supported for Customer and Affiliate trades (Contra party = "C" or "A") and is not allowed on Inter-dealer trades.
22036 ATSExecutionMPID		<i>FINRA Extension to FIX 4.4.</i> Used to identify the Alternative Trading System (ATS) on which an exempted transaction, as defined in <u>SR-FINRA-2015-055</u> , was executed. In such cases, enter the 4-character MPID of the ATS, otherwise omit this tag.
Standard Trailer	Y	

5.1.2 Trade Capture Report – Trade Cancel (in).

To be used only for T Date through T+1 cancels. Unless otherwise noted, all fields follow rules/definitions as outlined in the Comments column of the Trade Capture Report inbound message (5.1.1).

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
571	TradeReportID	Y	Unique FIX client-generated identifier
1041	FirmTradeID		ClientTradeID can be used to cancel a trade in lieu of TRACE Control Number (TradeID).
1003	TradeID		TradeID of report to cancel (contains TRACE control number). Alternative to FirmTradeID to identify the original trade.
			Control Date of the original trade. Used together with TradeID or FirmTradeID to identify the trade to be cancelled.
22011	ControlDate	F	Format: YYYYMMDD
487	TradeReportTransType	F	Valid values: 1 = Cancel
056	TradeReportType	F	Valid values: 6 = Cancel
830	Падекероптуре	F	Indicates if the trade capture report was previously reported to the counterparty. Required in FIX, but ignored in cancels. Valid values:
570	PreviouslyReported	Y	N = No
1015	AsOfIndicator		Used to indicate that a trade was submitted "as of" a specific trade date. Valid values: 0 = false – trade is not an AsOf trade (default) 1 = true – trade is an AsOf trade.
48	Instrument/SecurityID	Y	Either transaction must contain either CUSIP or Symbol to identify the security. If CUSIP is given, set SecurityIDSource to 1. If Symbol is given, set it to 8.
	Instrument/SecurityIDSource		Type of identifier given in SecurityID. Valid values: 1 = CUSIP 8 = Exchange Symbol
	LastQty	Y	Required in FIX, but ignored in cancels. Can be set to zero.
31	LastPx	Y	Required in FIX, but ignored in cancels. Can be set to zero.
75	TradeDate	Y	Required in FIX but ignored.
60	TransactTime	Y	Time the transaction represented by this Trade Capture Report occurred (in UTC/GMT). Format: YYYYMMDD-HH:MM:SS
552	TrdCapRptSideGrp/NoSides	Y	For Trade Cancels this must always be set to 1.
\rightarrow	54Side	Y	Side of trade. Valid values: 1 = Buy 2 = Sell NOTE: on a Cancel of a trade submitted on a prior day (T+1) the value "1" will always be returned in

					Tag 54 on the TSCX confirmation regardless of the value submitted.
\rightarrow	37	OrderID		Y	Required in FIX, but ignored
\rightarrow	453	Parties/N	loPartyIDs	F	Number of parties. Must always be set to 1.
\rightarrow	\rightarrow	448	PartyID	F	Identifier (MPID) for the reporting/executing party of the original trade to be cancelled.
\rightarrow	\rightarrow	447	PartyIDSource	F	Valid values : C = Generally accepted market participant identifier (e.g. FINRA mnemonic)
\rightarrow	\rightarrow	452	PartyRole	F	Valid values: 1 = Executing Firm
	Standard Trailer				

5.1.3 Trade Capture Report – Reversal (in)

To be used only for trades submitted prior to the T+1 period. Unless otherwise noted, all fields follow rules/definitions as outlined in the Comments column of the Trade Capture Report inbound message (5.1.1).

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Client-generated identifier for FIX messaging, not to
571	TradeReportID	Y	exceed 20 characters.
	<u> </u>		The client identifier assigned to the original trade by the
1041	FirmTradeID		firm.
			FINRA Extension to FIX 4.4: The Contra Client
			Identifier assigned to the original trade by the contra
	SecondaryFirmTradeID		side. Only used for Locked-in Trade Reports.
22012	OrigControlDate	F	Control Date of the original trade.
1126	OrigTradeID	F	TRACE Control Number of the original trade.
			Valid values:
487	TradeReportTransType	F	4 = Reverse
		_	Valid values:
856	TradeReportType	F	0 = Submit
			Indicates if the trade capture report was previously
			reported to the counterparty Valid values:
570	PreviouslyReported	Y	N = No
570	i ieviousiyitepoited	1	Valid value:
1015	AsOfIndicator	F	1 = true - trade is an AsOf trade.
			Either transaction must contain either CUSIP or
			Symbol to identify the security. If CUSIP is given, set
48	Instrument/SecurityID	Y	SecurityIDSource to 1. If Symbol is given, set it to 8.
			Type of identifier given in SecurityID.
			Valid values:
22	Le standard /S - service IDS - service	Б	1 = CUSIP
	Instrument/SecurityIDSource		8 = Exchange Symbol
	LastQty	Y	Trade Volume from original trade.
	LastPx	Y	Trade Price from original trade.
	PriceType	F	Price type from original trade.
	OverrideFlag		Price override from original trade.
75	TradeDate	Y	TradeDate from original trade.
			Time the transaction represented by this Trade Capture
60	TransactTime	V	Report occurred (in UTC/GMT). Format:
	TransactTime	Y	YYYYMMDD-HH:MM:SS
	SettlType	F	SettlType from original trade.
64	SettlDate	F	SettlDate from original trade.
550	TrdCapRptSideGrp/NoSides	\mathbf{v}	Always set value to 2. One side for the Reporting party
	TuCapRpisideOfp/Nosides	Y	and one side for the Contra party. Side of trade.
			Valid values:
			1 = Buy
\rightarrow	54Side	Y	2 = Sell
\rightarrow	37OrderID	Y	Required in FIX, but ignored
		*	Number of parties on the reporting/contra side of the
\rightarrow	453Parties/NoPartyIDs	F	trade
\rightarrow	\rightarrow 448PartyID	F	Identifier(s) used in the original trade.
· ·	i i on un of the	•	rechance (b) used in the original date.

	Г					× · · · ·
						Valid values :
				TD C		C = Generally accepted market participant identifier
\rightarrow	\rightarrow	447	Party	IDSource	F	(e.g. FINRA mnemonic)
						Valid values:
						1 = Executing Firm
						14 = Giveup Firm
		150		D 1	Б	17 = Contra Firm
\rightarrow	\rightarrow	452	Party	Role	F	83 = Clearing Firm
						PartySubID is only allowed for PartyRole = $1 \text{ or } 17$.
		000	N ₋ D	anta Carla IDa		Only 1 is allowed (branch office of executing/contra
\rightarrow	\rightarrow	802	NOPa	artySubIDs		firm)
						Sub-identifier. Branch office of executing/contra firm
						(Branch Sequence/Contra Branch Sequence)
			500	DouterSubID		Contra PartySubID may only be entered on Locked-In trades.
\rightarrow	\rightarrow	\rightarrow	525	PartySubID		
						Type of PartySubID (523) value Valid values:
\rightarrow	\rightarrow	\rightarrow	803	PartySubIDType		24 = Department
		-	805	r artySubiD i ype		OrderCapacity from the original trade.
						Required on the reporting side. Contra side is required
	528	Order	Con	oity	F	on all Locked-In trades.
\rightarrow					1	Commission(s) from the original trade.
	12Commission			Buyer's/Seller's Commission type.		
						Valid values:
\rightarrow	13	Com	nTvr)e		3 = Absolute
	10	Com	<u> </u>			User Memo Only on the Reporting Party side. Will not
\rightarrow	58	Text				be displayed to Contra party.
		1 0110				Special Price Indicator from the original trade.
22006	Spec	ialPri	ceInd	licator		
	Mem					Memo from the original trade.
22013			ndics	itor		Locked In Indicator from the original trade.
				ngFlag		Special Processing Flag from the original trade.
22003	Spee	iun it				TradeModifier4 from the original trade.
22004	Trad	oMod	ifior	1		
					F	Execution Time from the original trade.
22007	22007 ExecutionTime		Г	Time of trade reversal submission (in UTC/GMT).		
22009	22009 Preparation Time			Format: HH:MM:SS		
	22009 Preparation Time 22034 NoRemuneration Indicator			No Remuneration Indicator from the original trade.		
22034						ATS Execution MPID from the original trade.
22030		dard 7			Y	ATS Execution wit iD from the original trade.
I	Stall	Jaiu I	Talle	1	1	

Please note: in order to correct a trade report submitted prior to the T+1 period, firms must submit a Reversal, followed by a new As-Of Trade Capture Report (as outlined in section 5.1.1) containing the correct trade data. Separate confirmations (TSHX and TSEN) will be returned for each submission.

5.1.4 Trade Capture Report – Trade Correction (in)

To be used only for T Date through T+1 corrections. Unless otherwise noted, all fields follow rules/definitions as outlined in the Comments column of the Trade Capture Report inbound message.

NOTE: A successful Correction transaction will result in a new TradeID being generated. The acknowledgement (TSCR) will contain the original TRACE control number in OrigTradeID.

Тад	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Client-generated identifier for FIX messaging, not to
	TradeReportID	Y	exceed 20 characters.
572	TradeReportRefID		TradeReportID of original trade.
			Client Trade Identifier may be used to Correct a trade in
			lieu of TRACE Control Number (TradeID). If a new client identifier is desired for the corrected trade, then
1041	FirmTradeID		the TradeID of the original trade MUST be submitted.
1041			FINRA Extension to FIX 4.4: The Contra Client
			Identifier assigned to the original trade by the contra
1042	SecondaryFirmTradeID		side. Only used for Locked-in Trade Reports.
22011	ControlDate	F	Control Date assigned to the original trade.
			TRACE Control Number of the original trade. Used in
1003	TradeID		lieu of FirmTradeID.
			Valid values:
487	TradeReportTransType	F	2 = Replace
050		г	Valid values:
856	TradeReportType	F	5 = Correction
			Indicates if the trade capture report was previously reported to the counterparty
			Valid values:
570	PreviouslyReported	Y	N = No
			Valid values:
			0 = false – trade is not an as-of trade.
			1 = true – trade is an As-Of trade.
			Note: corrections submitted on T+1 must be submitted
			with AsOfIndicator set to '1' on all corrections,
1015	AsOfIndicator	F	regardless if the original trade was submitted as a non AsOf trade.
1015	Asoffindicator	Г	Correction must contain either CUSIP or Symbol to
			identify the security. If CUSIP is given, set
			SecurityIDSource to 1. If Symbol is given, set it to 8.
			PLEASE NOTE: TRACE will not support the
			modification of CUSIP/Symbol. In order to change
			the CUSIP or Symbol on a trade report, the original
10			trade MUST be canceled and a new trade report
48	Instrument/SecurityID	Y	with the intended SecurityID must be submitted.
			Type of identifier given in SecurityID. Valid values:
			1 = CUSIP
22	Instrument/SecurityIDSource	F	8 = Exchange Symbol
	LastQty	Y	Original value or amended value.
	LastPx	Y	Original value or amended value.
	РгісеТуре		Original value or amended value.
	OverrideFlag		Original value or amended value.
9034	Overhueriag		Original value of amenueu value.

75	Trad	eDate			Y	Original value or amended value.
						Time the transaction represented by this Trade Capture
	TransactTime					Report occurred (in UTC/GMT). Format:
					Y	YYYYMMDD-HH:MM:SS
	53 SettlType					Original value or amended value.
64	Settl	Date			F	Original value or amended value.
550	T. 10		0.1		v	Always set value to 2. One side for the Reporting party
552	Trac	аркр	tSide	Grp/NoSides	Y	and one side for the Contra party. Side of trade.
						Valid values:
						1 = Buy
\rightarrow	54	Side			Y	2 = Sell
\rightarrow	37	Orde	rID		Y	Required in FIX, but ignored
						Number of parties on the reporting/contra side of the
\rightarrow	453	Partie	es/No	PartyIDs	F	trade
\rightarrow	\rightarrow	448	Party	ID	F	Party Identifier(s).
						Valid values :
					_	C = Generally accepted market participant identifier
\rightarrow	\rightarrow	447	Party	IDSource	F	(e.g. FINRA mnemonic)
						Valid values:
						1 = Executing Firm 14 = Giveup Firm
						17 = Contra Firm
\rightarrow	\rightarrow	452	Party	Role	F	83 = Clearing Firm
						PartySubID is only allowed for PartyRole = 1 or 17.
						Only 1 is allowed (branch office of executing/contra
\rightarrow	\rightarrow	802	NoPa	artySubIDs		firm)
						Sub-identifier. Branch office of executing/contra firm
						(Branch Sequence/Contra Branch Sequence)
	_	_	523	PartySubID		Contra PartySubID may only be entered on Locked-In trades.
,	,	,	525			Type of PartySubID (523) value
						Valid values:
\rightarrow	\rightarrow	\rightarrow	803	PartySubIDType		24 = Department
						Original value or amended value.Required on the
						reporting side. Contra side is required on all Locked-In
\rightarrow	528	Orde	rCapa	acity	F	trades.
\rightarrow	12	Com	nissi	on		Original value or amended value.
						Buyer's/Seller's Commission type.
	10	Com	л Т			Valid values:
\rightarrow	13	Com	n i yr	be and the second se		3 = Absolute
\rightarrow	58	Text				User Memo Only on the Reporting Party side. Will not be displayed to Contra party.
22006			ceInd	licator		Original value or amended value.
	•		CIIIC	noator		Original value or amended value.
	5149 Memo					
	22013 LockedInIndicator				1	Original value or amended value.
	22005 SpecialProcessingFlag					Original value or amended value.
22004	2004 TradeModifier4			ł		Original value or amended value.
						Original value or amended value.
22007	Evec	ution'	Time		F	May only be amended to an earlier time than what was originally submitted.
					I'	
22009	riepa	aratio	uım	ie i		Time of trade correction submission (in UTC/GMT).

				Format: HH:MM:SS
22034	NoRem	nunerationIndicator		Original value or amended value.
22036	5 ATSEx	ecutionMPID		Original value or amended value.
20453	8 Origina	ılNoPartyIDs		Number of original Party IDs. The OriginalParties group is required when ClientTradeID is used to identify the original transaction. Will be set to 1 in this case.
\rightarrow	20448	OriginalPartyID		Original Reporting Party MPID.
→	20447	OriginalPartyIDSource		Valid values : C = Generally accepted market participant identifier (e.g. FINRA mnemonic)
\rightarrow	20452	OriginalPartyRole		Valid values: 1 = Executing Firm
	Standard Trailer		Y	

5.2 Outbound Trade Report Acknowledgements

All inbound messages accepted by the system will produce an acknowledgement confirming the details submitted to FINRA. Reporting party and contra party will receive the proper acknowledgement. These acknowledgments are identified by the first two characters "TSxx" in Tag 1011. Rejected inbound messages will generate MsgType 'AR' to the submitter.

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AR
571	TradeReportID	Y	The client-generated identifier
572	TradeReportRefID	Y	TradeReportID from inbound TCR.
	•		Valid values:
			0 = New
			1 = Cancel
			2 = Replace
487	TradeReportTransType	F	4 = Reverse
			Type of Trade Report. Shows the type of the
			incoming trade report.
			Valid values:
			0 = Submit
0.5.6			5 = Trade Correction
856	TradeReportType	F	6 = Trade Report Cancel
			This field signals whether the TCR was
			accepted or rejected. Valid values:
150	EvecTupe	Y	
150	ЕхесТуре	1	8 = Rejected Valid values:
939	TradeRptStatus	F	1 = Rejected
,,,,	Traderipistatus	1	Main Security Identifier (CUSIP) or
48	Instrument/SecurityID	Y	Exchange Symbol.
10	Instrument, Security15	1	Type of identifier given in SecurityID.
			Valid values:
			1 = CUSIP
22	Instrument/SecurityIDSource	F	8 = Exchange Symbol
			Reason Trade Capture Report was rejected.
			Same values TRACE uses can be employed
			here, along with any new Reason codes
			specific to Treasury Securities.
			*Please note this list is not complete and
751	TradeReportRejectReason	Y	will be subject to updates
			Contains the actual error message describing
			the TradeReportRejectReason. Example: If
50		V	TradeReportRejectReason = 4028, Text will
58	Text	Y	contain: "!REJ – INVALID SYMBOL"
			This field contains the one to eight
			alphabetic Code and Sequence character Branch Office Code Sequence Number of
22015	BranchOfficeCodeSequenceNumber		the input message, if one was submitted.
22013	Standard Trailer	Y	the input message, it one was sublinued.
	Stanuaru Trailer	I	

5.2.1 Trade Capture Report Ack – Reject (out)

5.2.2 Trade Capture Report – Acknowledgement/TSEN (out)

Unless otherwise specified, the fields returned on the acknowledgement will echo back the values submitted on the Trade Capture Report.

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Used to identify the type of acknowledgment.
			Value "TSEN" identifies a Trade Capture Report
1011	MessageEventSource	F	accepted by FINRA.
		* 7	Identifier assigned by marketplace
	TradeReportID	Y	NOTE: NOT the identifier set by reporting party.
-	TradeReportRefID	F	TradeReportID from inbound TCR.
-	FirmTradeID		FirmTradeID from inbound TCR.
1042	SecondaryFirmTradeID	_	SecondaryFirmTradeID from inbound TCR.
22011		F	ControlDate assigned by FINRA on accepted trade
22011	ControlDate	F	report. Format: YYYYMMDD.
1003	TradeID	F	Control Number assigned by FINRA on accepted trade report. 10 digits, starting with the value "7".
1003		1	Valid values:
487	TradeReportTransType	F	0 = New
			Valid values:
856	TradeReportType	F	0 = Submit
			Will always be set to:
	PreviouslyReported	Y	N = No
	AsOfIndicator		AsOfIndicator from inbound TCR.
48	Instrument/SecurityID	Y	Main Security Identifier (CUSIP).
			Valid values:
	Instrument/SecurityIDSource		1 = CUSIP
	Instrument/NoSecurityAltID	F	Always set to 1
	Instrument/SecurityAltID		Alternative Security identifier (Symbol).
	LastQty	Y	LastQty from inbound TCR.
	LastPx	Y	LastPx from inbound TCR.
	РгісеТуре	F	PriceType from inbound TCR.
	OverrideFlag		OverrideFlag from inbound TCR.
75	TradeDate	Y	TradeDate from inbound TCR.
			Time the transaction represented by this Trade Capture
60	TransactTime	Y	Report occurred (in UTC/GMT). Format: YYYYMMDD-HH:MM:SS
	SettlType	1	SettlType from inbound TCR.
	SettlDate	F	Sett1 Date from inbound TCR.
	TrdCapRptSideGrp/NoSides	Г Y	TrdCapRptSideGrp/NoSides from inbound TCR.
	54Side	Y	Side from inbound TCR.
\rightarrow		Y Y	
\rightarrow	37OrderID		Required in FIX, set to "NONE".
\rightarrow	453Parties/NoPartyIDs	F	Parties/NoPartyIDs from inbound TCR.
\rightarrow	\rightarrow 448PartyID	F	PartyID from inbound TCR.
			Will always be set to: C = Generally accepted market participant identifier
\rightarrow	\rightarrow 447PartyIDSource	F	(e.g. FINRA mnemonic)
\rightarrow	\rightarrow 452PartyRole	F	PartyRoles from inbound TCR.
\rightarrow	\rightarrow 802NoPartySubIDs	1	NoPartySubIDs from inbound TCR.
\rightarrow			inor arrysuords nom moound TCK.

\rightarrow	\rightarrow	\rightarrow	523PartySubID		PartySubID from inbound TCR.
\rightarrow	\rightarrow	\rightarrow	803PartySubIDType		PartySubIDType from inbound TCR.
\rightarrow	528OrderCapacity		F	OrderCapacity from inbound TCR.	
\rightarrow	12	Com	mission		Commission from inbound TCR.
\rightarrow	13	Com	тТуре		CommType from inbound TCR.
\rightarrow	58	Text			Text from inbound TCR. Will not be displayed to Contra party on SPAL.
22006	Speci	ialPri	ceIndicator		SpecialProcessingFlag from inbound TCR.
5149	Mem	0			Memo from inbound TCR.
22013	Lock	edInI	ndicator		LockedInIndicator from inbound TCR.
22005	Speci	ialPro	ocessingFlag		SpecialProcessingFlag from inbound TCR.
22003	Trade	eMod	ifier3		FINRA Extension to FIX 4.4. Extended hours/Late sale condition modifier generated by TRACE and returned on the outbound acknowledgement of the trade report. Valid values: T = Trades reported after market hours U = Trades reported after market hours and reported late Z = Trades reported during market hours and reported late
22004	Trade	eMod	ifier4		TradeModifier4 from inbound TCR.
22007	Exec	ution	Time	F	ExecutionTime from inbound TCR.
22009	Prepa	aratio	nTime		PreparationTime from inbound TCR.
22034	NoRe	emun	erationIndicator		NoRemunerationIndicator from inbound TCR.
22036	ATS	Execi	ıtionMPID		ATSExecutionMPID from inbound TCR.
797			Indicator	V	Indicates whether or not this message is a drop copy of another message. Valid values: Y = Yes N = No (default value)
	Stand	lard 1	Trailer	Y	

5.2.3 Trade Capture Report – Allege/TSAL (out)

Please note that the TSAL layout below is representative of an allege based on the submitting party using FIX as their method of entry. Some tags that are FIX-centric may not be present if the submitting party used CTCI or TRAQS Web to enter their trade.

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Used to identify the type of acknowledgment.
			Value "TSAL" identifies a Trade Capture Report
1011	MessageEventSource	F	accepted by FINRA.
			Identifier assigned by marketplace
	TradeReportID	Y	NOTE: NOT the identifier set by reporting party.
1042	SecondaryFirmTradeID		SecondaryFirmTradeID from inbound TCR.
22011		Б	ControlDate assigned by FINRA on accepted trade
22011	ControlDate	F	report. Format: YYYYMMDD.
1002	TradeID	F	Control Number assigned by FINRA on accepted trade report. 10 digits, starting with the value "7".
1005	Tradend	Г	Valid values:
487	TradeReportTransType	F	0 = New
107		-	Valid values:
856	TradeReportType	F	1 = Allege
			Will always be set to:
570	PreviouslyReported	Y	N = No
1015	AsOfIndicator		AsOfIndicator from inbound TCR.
48	Instrument/SecurityID	Y	Main Security Identifier (CUSIP).
			Valid values:
22	Instrument/SecurityIDSource		1 = CUSIP
454	Instrument/NoSecurityAltID	F	Always set to 1
455	Instrument/SecurityAltID		Alternative Security identifier (Symbol).
32	LastQty	Y	LastQty from inbound TCR.
31	LastPx	Y	LastPx from inbound TCR.
423	PriceType	F	PriceType from inbound TCR.
9854	OverrideFlag		OverrideFlag from inbound TCR.
75	TradeDate	Y	TradeDate from inbound TCR.
			Time the transaction represented by this Trade Capture
			Report occurred (in UTC/GMT). Format:
	TransactTime	Y	YYYYMMDD-HH:MM:SS
63	SettlType		SettlType from inbound TCR.
64	SettlDate	F	SettlDate from inbound TCR
552	TrdCapRptSideGrp/NoSides	Y	TrdCapRptSideGrp/NoSides from inbound TCR.
\rightarrow	54Side	Y	Side from inbound TCR.
\rightarrow	37OrderID	Y	Required in FIX, set to "NONE".
\rightarrow	453Parties/NoPartyIDs	F	Parties/NoPartyIDs from inbound TCR.
\rightarrow	\rightarrow 448PartyID	F	PartyID from inbound TCR.
			Will always be set to:
			C = Generally accepted market participant identifier
\rightarrow	\rightarrow 447PartyIDSource	F	(e.g. FINRA mnemonic)
\rightarrow	\rightarrow 452PartyRole	F	PartyRoles from inbound TCR.

\rightarrow	\rightarrow	802	NoPartySubIDs		NoPartySubIDs from inbound TCR.
\rightarrow	\rightarrow	\rightarrow	523PartySubID		PartySubID from inbound TCR.
\rightarrow	\rightarrow	\rightarrow	803PartySubIDType		PartySubIDType from inbound TCR.
\rightarrow	528	Orde	rCapacity	F	OrderCapacity from inbound TCR.
\rightarrow	12	Com	mission		Commission from inbound TCR.
\rightarrow	13	Com	туре		CommType from inbound TCR.
\rightarrow	58	Text			Text from inbound TCR. Will not be displayed to Contra party on SPAL.
22006	Spec	ialPri	ceIndicator		SpecialProcessingFlag from inbound TCR.
5149	Mem	10			Memo from inbound TCR.
22013	Lock	edInI	ndicator		LockedInIndicator from inbound TCR.
22005	Spec	ialPro	ocessingFlag		SpecialProcessingFlag from inbound TCR.
					FINRA Extension to FIX 4.4. Extended hours/Late sale condition modifier generated by TRACE and returned on the outbound acknowledgement of the trade report. Valid values: T = Trades reported after market hours U = Trades reported after market hours and reported late Z = Trades reported during market hours and reported
22003	Trade	eMod	lifier3		late
22004					TradeModifier4 from inbound TCR.
22007	Exec	ution	Time	F	ExecutionTime from inbound TCR.
22009					PreparationTime from inbound TCR.
			erationIndicator		NoRemunerationIndicator from inbound TCR.
22036	ATS	Execu	ıtionMPID		ATSExecutionMPID from inbound TCR.
					Indicates whether or not this message is a drop copy of another message. Valid values: Y = Yes
		-	Indicator		N = No (default value)
	Stand	lard 7	Frailer	Y	

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Used to identify the type of acknowledgment. Value "TSCX" identifies a Trade Cancel accepted by
	MessageEventSource	F	FINRA.
571	TradeReportID	Y	Identifier assigned by FINRA (not Control Number).
572	TradeReportRefID	F	To the reporting party this field is set to the reporter's previous TradeReportID. To the contra party this field is set to the TradeReportID from the previous allege transaction (TSAL).
1041	FirmTradeID		FirmTradeID from inbound Trade Cancel.
1003	TradeID	F	TradeID from inbound Trade Cancel.
	ControlDate	F	ControlDate from inbound Trade Cancel.
			Valid values:
487	TradeReportTransType	F	1 = Cancel
			Valid values:
856	TradeReportType	F	6 = Cancel
570		Y	Will always be set to:
570	PreviouslyReported	Ĭ	N = No LastQty from inbound Trade Cancel.
	LastQty LastPx	Y Y	Please note: on a Cancel of a trade report submitted on a prior day (T+1), the value "0" will always be returned. LastPx from inbound Trade Cancel. Please note: on a Cancel of a trade report submitted on a prior day (T+1), the value "0" will always be returned.
	TradeDate	Y V	TradeDate from inbound Trade Cancel. Format: YYYYMMDD Please note: on a Cancel of a trade report submitted on a prior day (T+1), the current date will always be returned. Format: YYYYMMDD-HH:MM:SS (in UTC/GMT).
	TransactTime	Y	
552	TrdCapRptSideGrp/NoSides	<u>Y</u>	 Will always be set to "1" on all TSCX messages. Reporting party side of trade. Valid values: 1 = Buy 2 = Sell Please note: on a Cancel of a trade report submitted on a prior day (T+1), the value "1" will always be returned regardless of the value submitted in Tag 54
\rightarrow	54Side	Y	on the inbound Trade Cancel request.
\rightarrow	37OrderID	Y	Will always be set to "NONE".
797	CopyMsgIndicator		Indicates whether or not this message is a drop copy of another message. Valid values:

5.2.4 Trade Capture Report – Confirmed Cancel/TSCX (out)

		Y = Yes N = No (default value)
Standard Trailer	Y	

5.2.5 Trade Capture Report – Confirmed Reversal /TSHX (out)

Unless otherwise specified, the fields returned on the acknowledgement will echo back the values submitted on the Trade Capture Report.

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Used to identify the type of acknowledgment.
1011	MessageEventSource	F	Value "TSHX" identifies a Reversal accepted by FINRA.
571	TradeReportID	Y	Identifier assigned by FINRA (not Control Number).
572	TradeReportRefID	F	TradeReportID from inbound Trade Reversal.
1041	FirmTradeID		FirmTradeID from inbound Trade Reversal.
1042	SecondaryFirmTradeID		SecondaryFirmTradeID from inbound Trade Reversal.
	OrigControlDate	F	Control Date of the original trade.
	OrigTradeID	F	TRACE Control Number of the original trade.
		_	ControlDate generated by FINRA on the accepted Trade
22011	ControlDate	F	Reversal.
			TradeId generated by FINRA on the accepted Trade
1003	TradeID	F	Reversal.
			Valid values:
487	TradeReportTransType	F	4 = Reverse
050		F	Valid values:
856	TradeReportType	F	0 = Submit
570	ProviouslyPoported	Y	Will always be set to: N = No
570	PreviouslyReported	1	Always set to 1 on Reversals.
1015	AsOfIndicator	F	1 = true
	Instrument/SecurityID	Y	Main Security Identifier (CUSIP).
			Type of identifier given in SecurityID.
			Valid values:
22	Instrument/SecurityIDSource	F	1 = CUSIP
454	Instrument/NoSecurityAltID	F	Always set to 1
455	Instrument/SecurityAltID		Alternative Security identifier (Symbol).
			Valid values:
	Instrument/SecurityAltIDSource	F	8 = Exchange Symbol
	LastQty	Y	LastQty from inbound Trade Reversal.
	LastPx	Y	LastPx from inbound Trade Reversal.
423	PriceType	F	PriceType from inbound Trade Reversal.
9854	OverrideFlag		OverrideFlag from inbound Trade Reversal.
75	TradeDate	Y	TradeDate from inbound Trade Reversal.
			Time the transaction represented by this Trade Capture
			Report occurred (in UTC/GMT). Format:
	TransactTime	Y	YYYYMMDD-HH:MM:SS
	SettlType	<u> </u>	SettlType from inbound Trade Reversal.
64	SettlDate	F	SettlDate from inbound Trade Reversal.
550	TradConDetSidoCon (NJ-Sidor	v	TrdCapRptSideGrp/NoSides from inbound Trade
	TrdCapRptSideGrp/NoSides	Y	Reversal.
\rightarrow	54Side	Y	Side from inbound Trade Reversal
\rightarrow	37OrderID	Y	Required in FIX, set to NONE.

\rightarrow	453	Parties/NoPartyIDs	F	Parties/NoPartyIDs from inbound Trade Reversal
\rightarrow	\rightarrow	448PartyID	F	PartyID from inbound Trade Reversal.
\rightarrow	\rightarrow	447PartyIDSource	F	Will always be set to: C = Generally accepted market participant identifier (e.g. FINRA mnemonic)
\rightarrow	\rightarrow	452PartyRole	F	PartyRoles from inbound Trade Reversal.
\rightarrow	\rightarrow	802NoPartySubIDs		NoPartySubIDs from inbound Trade Reversal.
\rightarrow	\rightarrow	\rightarrow 523PartySubID		PartySubID from inbound Trade Reversal.
\rightarrow	\rightarrow	\rightarrow 803PartySubIDType		PartySubIDType from inbound Trade Reversal
\rightarrow	528	DrderCapacity	F	OrderCapacity from inbound Trade Reversal
\rightarrow	12	Commission		Commission from inbound Trade Reversal
\rightarrow	13	CommType		CommType from inbound Trade Reversal
\rightarrow	58	ſext		Text from inbound Trade Reversal. Will not be provided to contra party.
22006	Specia	lPriceIndicator		SpecialPriceIndicator from inbound Trade Reversal
5149	Memo			Memo from inbound Trade Reversal.
22013	Locked	lInIndicator		LockedInIndicator from inbound Trade Reversal.
22005	Specia	lProcessingFlag		SpecialProcessingFlag from inbound Trade Reversal
22003	TradeM	Modifier3		FINRA Extension to FIX 4.4. Extended hours/Late sale condition modifier generated by TRACE and returned on the outbound acknowledgement of the original trade report. Valid values: T = Trades reported after market hours U = Trades reported after market hours and reported late Z = Trades reported during market hours and reported late
22004	Trade	Modifier4		TradeModifier4 from inbound Trade Reversal
22007	Execut	ionTime	F	ExecutionTime from inbound Trade Reversal
22009	Prepar	ationTime		PreparationTime from inbound Trade Reversal
22034	NoRer	nunerationIndicator		NoRemunerationIndicator from inbound Trade Reversal.
22036	ATSE	xecutionMPID		ATSExecutionMPID from inbound Trade Reversal.
797CopyMsgIndicator			Indicates whether or not this message is a drop copy of another message. Valid values: Y = Yes N = No (default value)	
/9/			X 7	N = No (default value)
	Standa	rd Trailer	Y	

5.2.6 Trade Capture Report – Confirmed Correction/TSCR (out)

Unless otherwise specified, the fields returned on the acknowledgement will echo back the values submitted on the Trade Capture Report.

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
			Used to identify the type of acknowledgment. Value "TSCR" identifies a Trade Correction accepted by
1011	MessageEventSource	F	FINRA.
571	TradeReportID	Y	Identifier assigned by FINRA (not Control Number).
572	TradeReportRefID	F	To the reporting party this field is set to the reporter's previous TradeReportID. To the contra party this field is set to the TradeReportID from the previous allege transaction (TSAL).
1041	FirmTradeID		FirmTradeID from inbound Trade Correction.
1042	SecondaryFirmTradeID		SecondaryFirmTradeID from inbound Trade Correction.
22011	ControlDate	F	New ControlDate assigned to the accepted Trade Correction.
1003	TradeID	F	New TradeID assigned to the accepted Trade Correction.
22012	OrigControlDate	F	ControlDate (tag 22011) from inbound Trade Correction.
1126	OrigTradeID	F	TradeId (tag 1003) from inbound Trade Correction.
487	TradeReportTransType	F	Valid values: 2 = Replace
056	Tuo do Domo <i>n</i> t Tumo	F	Valid values: 5 = Correction
830	TradeReportType	Г	Will always be set to:
570	PreviouslyReported	Y	N = No
	AsOfIndicator	F	AsOfIndicator from inbound Trade Correction.
	Instrument/SecurityID	Y	Main Security Identifier (CUSIP).
			Type of identifier given in SecurityID.
			Valid values:
	Instrument/SecurityIDSource	F	1 = CUSIP
	Instrument/NoSecurityAltID	F	Always set to 1
455	Instrument/SecurityAltID	F	Alternative Security identifier (Symbol).
150		Б	Valid values:
	Instrument/SecurityAltIDSource LastQty	F Y	8 = Exchange Symbol LastQty from inbound Trade Correction.
	LastPx	Y	LastQty from inbound Trade Correction.
	PriceType	F	PriceType from inbound Trade Correction.
	OverrideFlag	1.	OverrideFlag from inbound Trade Correction.
	TradeDate	Y	TradeDate from inbound Trade Correction.
15			Time the transaction represented by this Trade Capture Report occurred (in UTC/GMT). Format:
60	TransactTime	Y	YYYYMMDD-HH:MM:SS
63	SettlType		SettlType from inbound Trade Correction.
64	SettlDate	F	SettlDate from inbound Trade Correction.
552	TrdCapRptSideGrp/NoSides	Y	TrdCapRptSideGrp/NoSides from inbound Trade Correction.
\rightarrow	54Side	Y	Side from inbound Trade Correction.
\rightarrow	37OrderID	Y	Required in FIX, set to NONE.

\rightarrow	453Par	ties/NoPartyIDs	F	Parties/NoPartyIDs from inbound Trade Correction.
\rightarrow	\rightarrow 44	8PartyID	F	PartyID from inbound Trade Correction.
				Will always be set to :
			_	C = Generally accepted market participant identifier (e.g.
\rightarrow		7PartyIDSource	F	FINRA mnemonic)
\rightarrow		2PartyRole	F	PartyRoles from inbound Trade Correction.
\rightarrow	\rightarrow 80	2NoPartySubIDs		NoPartySubIDs from inbound Trade Correction.
\rightarrow	\rightarrow \rightarrow	0201 411/0 4012		PartySubID from inbound Trade Correction.
\rightarrow	\rightarrow \rightarrow	803PartySubIDType		PartySubIDType from inbound Trade Correction.
\rightarrow	528Ord	erCapacity	F	OrderCapacity from inbound Trade Correction.
\rightarrow	12Cor	nmission		Commission from inbound Trade Correction.
\rightarrow	13Cor	nmType		CommType from inbound Trade Correction.
				Text from inbound Trade Correction. Will not be
\rightarrow	58Tex			provided to contra party.
		riceIndicator		SpecialPriceIndicator from inbound Trade Correction.
5149	Memo			Memo from inbound Trade Correction.
22013	LockedI	nIndicator		LockedInIndicator from inbound Trade Correction.
22005	SpecialP	rocessingFlag		SpecialProcessingFlag from inbound Trade Correction.
22003	TradeMo	odifier3		FINRA Extension to FIX 4.4. Extended hours/Late sale condition modifier generated by TRACE and returned on the outbound acknowledgement of the original trade report. Valid values: T = Trades reported after market hours U = Trades reported after market hours and reported late Z = Trades reported during market hours and reported late
22004	TradeMo	odifier4		TradeModifier4 from inbound Trade Correction.
22007	Executio	nTime	F	ExecutionTime from inbound Trade Correction.
	Preparati			PreparationTime from inbound Trade Correction.
	•	nerationIndicator		NoRemunerationIndicator from inbound Trade Correction.
22036	ATSExe	cutionMPID		ATSExecutionMPID from inbound Trade Correction.
				Indicates whether or not this message is a drop copy of another message. Valid values: Y = Yes
		gIndicator		N = No (default value)
	Standard	Trailer	Y	

6 Custom values and user defined fields

This chapter details how this solution deviates from standard FIX 4.4. While great care has been taken to conform to the standard, a number of deviations are unavoidable to support all mechanisms provided by the host. Wherever later versions of FIX (up to version 5.0 SP2) provide the missing functionality, we have chosen to use that.

The deviations come in two forms, added fields and added values to existing fields.

6.1 Fields added

A number of fields had to be added to standard FIX 4.4 to cover all the requirements in this solution. Wherever possible, fields from later versions of FIX (5.0 SP2) has been used. Custom fields have been added in two ranges:

- In the 22XXX-range custom fields with no representation in standard FIX has been added.
- The 20001-21XXX range is primarily used for the historical transactions (trades submitted prior to the T+1 period), where certain fields need to appear twice; once with the original values, and once with the new values. Since the same FIX tag can't appear twice in the same message outside a repeating group, copies of the original FIX tags had to be added. They have the same data type as the "real" FIX tags, the names are prefixed with "Original", and the tag number prefixed with 20.

		FIX	
Tag	FIX tag name	5.0	Comment
1003	TradeID	Yes	
1015	AsOfIndicator	Yes	
1042	SecondaryFirmTradeID	Yes	
5149	Memo	No	
9854	OverrideFlag	No	
1126	OrigTradeID	Yes	
22001	TradeModifier1	No	
22002	TradeModifier2	No	
22003	TradeModifier3	No	
22004	TradeModifier4	No	
22005	SpecialProcessingFlag	No	
22006	SpecialPriceIndicator	No	
22007	ExecutionTime	No	
22009	PreparationTime	No	
22011	ControlDate	No	
22012	OrigControlDate	No	
22013	LockedInIndicator	No	
22015	BranchOfficeCodeSequenceNumber	No	
22016	TradingMarketIndicator	No	
22034	NoRemunerationIndicator	No	
22036	ATSExecutionMPID	No	
20453	OriginalNoPartyIDs	No	
20448	OriginalPartyID	No	
20447	OriginalPartyIDSource	No	
20452	OriginalPartyRole	No	

The following fields have been added to FIX 4.4:

6.2 Enumerations added

Enum	Enum description	Tag	Comment
83	Clearing Firm	452	PartyRole
4001-			
4071	Different reject reasons	751	TradeReportRejectReason
97	Negative Yield		New values added to describe price types applicable
98	Decimal Unit Price	423	to treasury trade reporting.

6.3 Reject Reason Table

This table contains the Reject Reason Code (Tag 751) and associated Reject Reason (Tag 58) returned on rejected entries. This list will be subject to updates as necessary.

7 Limitations

7.1 Field lengths and data types

All fields in this specification adhere to the standard FIX 4.4 field definitions. Please refer to <u>http://fixprotocol.org/specifications/FIX.4.4</u> for details.

In addition, this solution imposes the following restrictions on fields:

Tag	FIX tag name	Comment
448	PartyID	PartyID. Max valid 4 character MPIDs.
571	TradeReportID	Limited to 20 characters
572	TradeReportRefID	Limited to 20 characters
1042	SecondaryFirmTradeID	Limited to 20 characters
32	LastQty	Format: nnnnnnnnnnnn
31	LastPx	Format: nnnn.nnnnnnnnn
12	Commission	Format: nnnnn.nn
1003	TradeID	Max ten digits.
1126	OrigTradeID	Max ten digits.
455	SecurityAltID	Max 14 characters.
48	SecurityID	9 character CUSIP code.
5149	Memo	Max 50 characters.
523	PartySubID	Max 8 characters
22013	LockedInIndicator	FIX Data type: Boolean
22015	BranchOfficeCodeSequenceNumber	FIX Data type: String
		Execution time (in UTC/GMT). Format:
22007	ExecutionTime	HH:MM:SS.sss.mmm

8 Trade Report Examples

NOTE: The following examples are meant to highlight how important fields (in particular the party identifier fields) are intended to be populated in different scenarios. *To improve clarity, only the most important fields have been included in the listings.*

8.1 Example 1: Simple trade between 2 parties (Interdealer trade)

Broker Dealer A (ABCD) is the Reporting Party selling to Broker Dealer B (EFGH) as the Contra Party

	TAG		TAG Name	Value	Comment
552			Number of Sides	2	Report contains information on both sides of the trade.
\rightarrow	54		Side	2	Indicates the following repeating group represents the sell side of the trade.
\rightarrow	453		Number of parties on the Reporting side	1	Reporting party (who is the executing firm).
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A's MPID.
\rightarrow	\rightarrow	452	Party Role	1	Executing firm (reporting on his own behalf).
\rightarrow	528		Order Capacity	Р	Principal.
\rightarrow	54		Side	1	Indicates the following repeating group represents the buy side of the trade.
\rightarrow	453		Number of parties on the Contra side	1	Only the Contra firm.
	\rightarrow	448	Party ID	EFGH	Broker Dealer B's MPID.
	\rightarrow	452	Party Role	17	Contra Firm.

• Number of sides (Tag 552) must always be submitted as "2" to allow identification of the Contra Party.

• The Locked-In Indicator (Tag 22013) is not submitted therefore only Contra Party ID/role can be submitted for the contra portion of the report.

• Order Capacity (Tag 528), Commission (Tag 12), Party Sub ID *aka* Contra Branch Sequence (Tag 523), Secondary Firm Trade ID *aka* Contra Client Trade Identifier (Tag 1042) and any other related contra Tags cannot be repeated or submitted since the trade was not submitted as a Locked-In trade (Tag 22013). If any of these Tags are repeated/submitted, the trade will be rejected.

8.2 Example 2: Simple trade between a broker-dealer and its customer (Customer trade)

	TAG		TAG Name	Value	Comment
552			Number of Sides	2	Report contains information on both sides of the trade.
\rightarrow	54		Side	1	Indicates the following repeating group represents the buy side of the trade.
\rightarrow	453		Number of parties on the Reporting side	1	Reporting party (who is the executing firm).
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A's MPID.
\rightarrow	\rightarrow	452	Party Role	1	Executing firm (reporting on his own behalf).
\rightarrow	528		Order Capacity	А	Agent.
\rightarrow	12		Commission	500.00	Determined to be Buyer's commission based on Tag 54 value of 1.
\rightarrow	54		Side	2	Indicates the following repeating group represents the sell side of the trade.
\rightarrow	453		Number of parties on the Contra side	1	Only the Contra firm.
\rightarrow	\rightarrow	448	Party ID	С	Customer MPID.
\rightarrow	\rightarrow	452	Party Role	17	Contra Firm.

Broker Dealer A (ABCD) is the Reporting Party buying from a customer (C) as the Contra Party

• Number of sides (Tag 552) must always be submitted as "2" to allow identification of the Contra Party.

• The Locked-In Indicator (Tag 22013) is not submitted therefore only Contra Party ID/role can be submitted for the contra portion of the report.

• Order Capacity (Tag 528), Commission (Tag 12), Party Sub ID *aka* Contra Branch Sequence (Tag 523), Secondary Firm Trade ID *aka* Contra Client Trade Identifier (Tag 1042) and any other related contra Tags cannot be repeated or submitted since the trade was not submitted as a Locked-In trade (Tag 22013). If any of these Tags are repeated/submitted, the trade will be rejected.

Note: A trade between a broker-dealer and its non-member affiliate would be reported in the same manner above, however the PartyID of the contra firm would be submitted as "A".

8.3 Example 3: Simple Give-Up trade between 2 parties

Broker Dealer A (ABCD) is the Reporting Party Giving Up Broker Dealer C (MNOP) who is buying from Broker Dealer B (EFGH)

	TAG		TAG Name	Value	Comment
552			Number of Sides	2	Report contains information on both sides of the trade.
\rightarrow	54		Side	1	Indicates the following repeating group represents the buy side of the trade.
\rightarrow	453		Number of parties on the Reporting side	2	Reporting party, and the Give-up firm.
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A MPID.
\rightarrow	\rightarrow	452	Party Role	1	Executing Firm.
\rightarrow	\rightarrow	448	Party ID	MNOP	Broker Dealer C MPID.
\rightarrow	\rightarrow	452	Party Role	14	Giveup Firm.
\rightarrow	528		Order Capacity	A	Agent.
\rightarrow	12		Commission	500.00	Determined to be Buyer's commission based on Tag 54 value of 1.
\rightarrow	54		Side	2	Indicates the following repeating group represents the sell side of the trade.
\rightarrow	453		Number of parties on the Contra side	1	Only the Contra firm.
\rightarrow	\rightarrow	448	Party ID	EFGH	Broker Dealer B MPID.
\rightarrow	\rightarrow	452	Party Role	17	Contra Firm.

• Number of sides (Tag 552) must always be submitted as "2" to allow identification of the Contra Party.

- The Locked-In Indicator (Tag 22013) is not submitted therefore only Contra Party ID/role can be submitted for the contra portion of the report.
- Order Capacity (Tag 528), Commission (Tag 12), , Party Sub ID *aka Contra Branch Sequence* (Tag 523), Secondary Firm Trade ID *aka Contra Client Trade Identifier* (Tag 1042) and any other related contra Tags cannot be repeated or submitted since the trade was not submitted as a Locked-In trade (Tag 22013). If any of these Tags are repeated/submitted, the trade will be rejected.

8.4 Example 4: One-Sided Locked-In Trade

Broker Dealer A (ABCD) is the Reporting Party Giving Up Broker Dealer C (MNOP), who he traded
with. ABCD bought from MNOP.

	TAG		TAG Name	Value	Comment
552			Number of Sides	2	Report contains information on both sides of the trade.
\rightarrow	54		Side	2	Indicates the following repeating group represents the sell side of the trade.
\rightarrow	453		Number of parties on the Reporting side	2	Reporting party, and the Give-up firm.
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A MPID.
\rightarrow	\rightarrow	452	Party Role	1	Executing Firm.
\rightarrow	\rightarrow	448	Party ID	MNOP	Broker Dealer C MPID.
\rightarrow	\rightarrow	452	Party Role	14	Giveup Firm.
\rightarrow	528		Order Capacity	Р	MNOP acting as Principal.
\rightarrow	54		Side	1	Indicates the following repeating group represents the buy side of the trade.
\rightarrow	453		Number of parties on the Contra side	1	Contra firm.
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A MPID.
\rightarrow	\rightarrow	452	Party Role	17	Contra Firm.
	500		Orden Conceitu	•	
\rightarrow	528		Order Capacity	A	ABCD acting as Agent.
\rightarrow	12		Commission	500.00	Determined to be Buyer's commission based on Tag 54 value of 1.
22013			Locked-In Indicator	Y	Locked-In trade.

- TRACE rules require that all Locked-In trades must be submitted from the sell-side perspective. Since ABCD reports for MNOP, and ABCD bought from MNOP, ABCD reports the trade from MNOP's perspective (as the sell-side), therefore the Giveup role is contained within the Sell group of the message and ABCD is listed as the Contra under the Buy group.
- Number of sides (Tag 552) must always be submitted as "2" to allow identification of the Contra Party.
- The Locked-In Indicator (Tag 22013) is submitted therefore any Contra Party related tags can be submitted for the contra portion of the report.
- Order Capacity (Tag 528) must be repeated on Locked-In trades.
- Commission (Tag 12) may be omitted, submitted for one of the sides, or repeated under each side on Locked-In trades.

- Trade Report ID *aka Client Trade Identifier* (Tag 571) corresponds to the Reporting Party side and may be submitted. Secondary Firm Trade ID *aka Contra Client Trade Identifier* (Tag 1042) corresponds to the Contra Party side and may be submitted on a Locked-In trade.
- Party Sub ID *aka Branch Sequence* (Tag 523) may be omitted, submitted for one of the sides, or repeated under each side on Locked-In trades.
- All other Tags correspond to the reporting side of the trade.

8.5 Example 5: One-Sided Locked-In Trade

Broker Dealer A (ABCD) is the Reporting Party Giving Up Broker Dealer C (MNOP), who he traded with. ABCD sold to MNOP.

	TAG		TAG Name	Value	Comment
552			Number of Sides	2	Report contains information on both sides of the trade.
\rightarrow	54		Side	2	Indicates the following repeating group represents the sell side of the trade.
\rightarrow	453		Number of parties on the Reporting side	1	Reporting/executing party.
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A MPID.
\rightarrow	\rightarrow	452	Party Role	1	Executing Firm.
\rightarrow	528		Order Capacity	А	ABCD acting as Agent.
\rightarrow	12		Commission	500.00	Determined to be Seller's commission based on Tag 54 value of 2.
\rightarrow	54		Side	1	Indicates the following repeating group represents the buy side of the trade.
\rightarrow	453		Number of parties on the Contra side	2	Reporting party, the Give-up firm (on the contra side).
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A MPID.
\rightarrow	\rightarrow	452	Party Role	17	Contra Firm.
\rightarrow	\rightarrow	448	Party ID	MNOP	Broker Dealer C MPID.
\rightarrow	\rightarrow	452	Party Role	14	Giveup Firm.
\rightarrow	528		Order Capacity	P	MNOP acting as Principal.
· · ·				1	
22013			Locked-In Indicator	Y	Locked-In trade.

- TRACE rules require that all Locked-In trades must be submitted from the sell-side perspective. Since ABCD reports for MNOP, and ABCD sold to MNOP, ABCD reports the trade from ABCD's perspective (as the sell-side), therefore the Giveup role is contained within the Buy (Contra) group of the message and ABCD is listed as the Executing firm under the Sell group.
- Number of sides (Tag 552) must always be submitted as "2" to allow identification of the Contra Party.
- The Locked-In Indicator (Tag 22013) is submitted therefore any Contra Party related tags can be submitted for the contra portion of the report.
- Order Capacity (Tag 528) must be repeated on Locked-In trades.
- Commission (Tag 12) may be omitted, submitted for one of the sides, or repeated under each side on Locked-In trades.
- Trade Report ID *aka Client Trade Identifier* (Tag 571) corresponds to the Reporting Party side and may be submitted. Secondary Firm Trade ID *aka Contra Client Trade Identifier* (Tag 1042) corresponds to the Contra Party side and may be submitted on a Locked-In trade.

- Party Sub ID *aka Branch Sequence* (Tag 523) may be omitted, submitted for one of the sides, or repeated under each side on Locked-In trades.
- All other Tags correspond to the reporting side of the trade.

8.6 Example 6: Two-Sided Locked-In Trade

Broker Dealer A (ABCD) is the Reporting Party Giving Up both Broker Dealer C (MNOP) and Broker Dealer B (EFGH), who traded with one another. MNOP sold to EFGH. ABCD is not a part of the trade, merely entering the trade on behalf of both of its correspondents (MNOP and EFGH).

TAG			TAG Name	Value	Comment
552			Number of Sides	2	Report contains information on both sides of the trade.
\rightarrow	54		Side	2	Indicates the following repeating group represents the sell side of the trade.
\rightarrow	453		Number of parties on the Reporting side	2 Reporting party, and the Give up fir (on the reporting side).	
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A MPID.
\rightarrow	\rightarrow	452	Party Role	1	Executing Firm.
\rightarrow	\rightarrow	448	Party ID	MNOP	Broker Dealer C MPID.
\rightarrow	\rightarrow	452	Party Role	14	Giveup Firm.
\rightarrow	528		Order Capacity	А	MNOP acting as Agent.
\rightarrow	12		Commission	500.00	Determined to be Seller's commission based on Tag 54 value of 2.
\rightarrow	54		Side	1	Indicates the following repeating group represents the buy side of the trade.
\rightarrow	453		Number of parties on the Contra side	2	Reporting party, and the Give-up firm (on the contra side).
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A MPID.
\rightarrow	\rightarrow	452	Party Role	17	Contra Firm.
\rightarrow	\rightarrow	448	Party ID	EFGH	Broker Dealer B MPID.
\rightarrow	\rightarrow	452	Party Role	14	Giveup Firm.
\rightarrow	528		Order Capacity	A	EFGH acting as Agent.
→	12		Commission	500.00	Determined to be Buyer's commission based on Tag 54 value of 1.
22013			Locked-In Indicator	Y	Locked-In trade.

- TRACE rules require that all Locked-In trades must be submitted from the sell-side perspective. Since ABCD reports for both MNOP and EFGH, and MNOP sold to EFGH, ABCD reports the trade from MNOP's perspective (as the sell-side Giveup Firm), and EFGH is the contra Giveup Firm within the Buy group of the message. ABCD is listed as the Executing Firm under the reporting side and as the Contra Firm on the contra side.
- Number of sides (Tag 552) must always be submitted as "2" to allow identification of the Contra Party.
- The Locked-In Indicator (Tag 22013) is submitted therefore any Contra Party related tags can be submitted for the contra portion of the report.
- Order Capacity (Tag 528) must be repeated on Locked-In trades.

TRACE Treasury Securities FIX Specification ver 1.1

- Commission (Tag 12) may be omitted, submitted for one of the sides, or repeated under each side on Locked-In trades.
- Trade Report ID *aka Client Trade Identifier* (Tag 571) corresponds to the Reporting Party side and may be submitted. Secondary Firm Trade ID *aka Contra Client Trade Identifier* (Tag 1042) corresponds to the Contra Party side and may be submitted on a Locked-In trade.
- Party Sub ID *aka Branch Sequence* (Tag 523) may be omitted, submitted for one of the sides, or repeated under each side on Locked-In trades.
- All other Tags correspond to the reporting side of the trade.

8.7 Example 7: Trade executed between 2 broker-dealers on an Alternative Trading System (ATS) platform

Broker Dealer A (ABCD) is the Reporting Party selling to Broker Dealer B (EFGH) as the Contra Porty identifying the tode was executed on ATS 77772 system				
Party, identifying the trade was executed on ATS ZZZZ's system.				

TAG			TAG Name	Value	Comment	
552			Number of Sides	2	Report contains information on both sides of the trade.	
\rightarrow	54		Side	2	Indicates the following repeating group represents the sell side of the trade.	
\rightarrow	453		Number of parties on the Reporting side	1	Reporting party/executing firm.	
\rightarrow	\rightarrow	448	Party ID	ABCD	Broker Dealer A's MPID.	
\rightarrow	\rightarrow	452	Party Role	1	Executing firm (reporting on his own behalf).	
\rightarrow	528		Order Capacity	Р	Principal.	
\rightarrow	54		Side	1	Indicates the following repeating group represents the buy side of the trade.	
\rightarrow	453		Number of parties on the Contra side	1	Only the Contra firm.	
	\rightarrow	448	Party ID	EFGH	Broker Dealer B's MPID.	
	\rightarrow	452	Party Role	17	Contra Firm.	
22036			ATSExecutionMPID	ZZZZ	ZZZZ is the MPID of the ATS.	

• Number of sides (Tag 552) must always be submitted as "2" to allow identification of the Contra Party.

• The Locked-In Indicator (Tag 22013) is not submitted therefore only Contra Party ID/role can be submitted for the contra portion of the report.

- Order Capacity (Tag 528), Commission (Tag 12), Party Sub ID *aka* Contra Branch Sequence (Tag 523), Secondary Firm Trade ID *aka* Contra Client Trade Identifier (Tag 1042) and any other related contra Tags cannot be repeated or submitted since the trade was not submitted as a Locked-In trade (Tag 22013). If any of these Tags are repeated/submitted, the trade will be rejected.
- ZZZZ /Tag 22036 is not counted as a party under the Number of Parties (Tag 453) on either side, therefore tag 22036 if applicable should not be included in either nested group.

Revision History

Vers	sion	Revision Date	Description of change
1.	.0	9/1/16	Initial version.
<u>1</u> .	.1	<u>12/27/16</u>	Updated definition of "When Issued Transaction"