



N security specification

REFERENCE

Succession TripleCheck® FIX Specification

Revision 1.24
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1 Overview

This document describes the Succession TripleCheck® implementation of the Financial Information Exchange (FIX) protocol.

1.1 Using this document

This document is based on the FIX 4.2 version specification written by FIX Protocol Limited (FPL). For more information, please refer to the FIX 4.2 Specification available from the FPL website.

FIX message format and delivery is the same as FIX 4.2 with noted exceptions specific to the Succession TripleCheck® implementation.

For information about Administrative messages, refer to the FIX 4.2 Specification.

2 Revision History

Revision	Date	Author(s)	Changes
1.24	2019/09/30	AGK	Document tag 440 (ClearingAccount) which may be required for some deployments.
1.23	2018/01/16	DHT	Document tags 5789 (ClientInfo), 6232 (OrderTTL), 7948 (PostOnly). Remove the claim that specifying the Order ID in tag 37 of cancel or cancel/replace requests may result in slightly faster processing. TripleCheck® always goes by ClOrdID / OrigClOrdID.
1.22	2017/01/23	AGK	Corrected a section reference. Updated copyright notices.
1.21	2016/11/29	AGK	Added LocateReqd and LocateBroker fields for short sales (New Order – Single and Order Cancel/Replace Request messages).
1.20	2016/10/07	AGK	The OnBehalfOfCompID field (tag 115) is now mandatory on client messages. The Account field (tag 1) can be omitted on Order Cancel and Cancel/Replace requests. Added the “pending” values of the ExecType field (tag 150). Multiple spelling corrections.
1.19	2016/09/19	DHT	Clarified the use of OnBehalfCompID and DeliverToCompID tags in the TripleCheck® FIX message header. Added tag 6396 (RejectCode) to ExecutionReport and OrderCancelReject messages.
1.18	2016/09/12	DHT	Added a revision history section.

3 FIX Message Format and Delivery

This section provides an overview of the Succession TripleCheck® FIX message format and the session protocol used by Succession TripleCheck® FIX.

3.1 Implementation Notes

3.1.1 Sequence Numbers

All FIX messages are identified by a unique sequence number. Sequence numbers are initialized at the start of each FIX session starting at 1 (one) and increment throughout the session. Monitoring sequence numbers enables parties to identify and recover missed messages and to gracefully synchronize applications when reconnecting during a FIX session.

Succession TripleCheck® Implementation: The sequence number is reset to 1 at the beginning of every business day.

Each session establishes an independent incoming and outgoing sequence series; participants will maintain a sequence series to assign to outgoing messages and a separate series to monitor for sequence gaps on incoming messages.

3.1.2 Encryption

Succession TripleCheck® Implementation: Encryption is not supported.

3.1.3 Message Size Limits

Succession TripleCheck® Implementation: FIX messages larger than 4K (4096 bytes) or tag values longer than 256 bytes will not be accepted. Any such messages may result in a disconnect or session level reject.

3.1.4 Undefined Tags

Succession TripleCheck® Implementation: Any tags not explicitly defined in this document will be ignored. Any messages containing such tags may be rejected with a session level reject.

3.1.5 Hours of Operation

Succession TripleCheck® trading hours are 04:00 – 20:00 (4 AM to 8 PM) EST. Logins are accepted at 3:45 AM. Overnight connections are not allowed; all sessions will be disconnected at 8 PM EST.

3.1.6 Symbology

Please see Section 7.

3.2 Succession TripleCheck® FIX Message Header

All administrative and application messages begin with a Succession TripleCheck® FIX Header. The header identifies the message type, length, destination, sequence number, origination point, and time.

The following two fields help with resending messages:

- **PossDupFlag** is set to Y when resending a message as the result of a session-level event (i.e. the retransmission of a message reusing a sequence number)
- **PossResend** is set to Y when reissuing a message with a new sequence number (e.g. resending an order)

The receiving application should process these messages as follows:

- **PossDupFlag**: If a message with this sequence number has been previously received, ignore message, if not, process normally
- **PossResend**: Forward the message to the application and determine if it was previously received (i.e. verify the order ID and parameters)

3.2.1 TripleCheck® FIX Message Header Format

Tag	Field Name	Req'd	Comments	
8	BeginString	Y	FIX.4.2, must be first field in message	
9	BodyLength	Y	Must be second field in message	
35	MsgType	Y	Must be third field in message:	
			Administrative Messages	
			'0'	Heartbeat
			'1'	Test Request
			'2'	Resend Request
			'3'	Reject (session-level message reject)
			'4'	Sequence Reset / Gap Fill
			'5'	Logout
			'A'	Logon
			Application Messages (to Succession TripleCheck®)	
			'D'	New Order
			'F'	Order Cancel Request

Tag	Field Name	Req'd	Comments	
			'G'	Order Cancel/Replace Request
			'AB'	Multileg Order Request
			'AL'	Exercise Request
			Application Messages (from Succession TripleCheck®)	
			'8'	Execution Report
			'9'	Order Cancel Reject
			'AM'	Exercise Report
49	SenderCompID	Y	Preconfigured client name for messages from client. Set to SSYS on messages sent from the Succession TripleCheck® production environment, or SSYSUAT from the UAT environment.	
56	TargetCompID	Y	Set to SSYS for messages sent to the Succession TripleCheck® production environment, or SSYSUAT to the UAT environment. On messages to client, set to a preconfigured client name.	
115	OnBehalfOfCompID	Y*	Preconfigured Firm ID or MPID for messages from client. This tag is required only for messages from client. Not set on messages to client.	
128	DeliverToCompID	N	Not set on messages from client. Set to the value of OnBehalfOfCompID for messages sent back to client.	
34	MsgSeqNum	Y	Message sequence number	
52	SendingTime	Y	Time of message transmission (always expressed in UTC (Universal Coordinated Time, also known as 'GMT'))	
122	OrigSendingTime	N	The original UTC timestamp when transmitting orders as the result of a resend request.	
43	PossDupFlag	N	Always required for retransmitted messages, whether prompted by the sending system or as the result of a resend request.	
97	PossResend	N	Required when message may be duplicate of another message sent under a different sequence number.	
369	LastMsgSeqNumProcessed	N	The last MsgSeqNum value received and processed. Can be specified on every message sent. Useful for detecting a backlog with counterparty.	

3.3 Standard FIX Message Trailer

Each message, administrative or application, ends with a standard FIX message trailer. The trailer is used to segregate messages and contains the three-digit character representation of the CheckSum:

3.3.1 Standard FIX Message Trailer Format

Tag	Field Name	Req'd	Comments
10	Checksum	Y	Always last field in message. Calculated as a modulo 256 checksum of all characters in message up to and including the delimiter preceding the CheckSum field. Value must always be three digits with leading zeroes if necessary.

4 Administrative Messages

Administrative messages address the utility needs of the protocol. Sections 4.1 through 4.7 describe each message and provide the message layout. Administrative messages can be generated on both sides of the connection.

4.1 Heartbeat

Heartbeat messages are used to monitor the status of the communication link and to identify when one or more recent messages were not received.

When either end of a FIX connection has not sent any data for [HeartBtInt] seconds, it transmits a Heartbeat message. When either end of the connection has not received any data for $[2 \times \text{HeartBtInt}]$ seconds, it transmits a Test Request message. If no Heartbeat message is received after $[2 \times \text{HeartBtInt}]$ seconds, the connection should be considered broken and corrective action should be initiated.

Note: A Test Request message can still be sent independently of the value of the HeartBtInt, which forces a Heartbeat message. Heartbeat messages issued as the result of Test Request must contain the TestReqID transmitted in the Test Request message. This can be used to verify that the Heartbeat is the result of a Test Request and not a regular timeout.

4.1.1 Heartbeat Message Format

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '0'
112	TestReqID	N	Required when the heartbeat is the result of a Test Request message.
	Standard FIX	Y	

Tag	Field Name	Req'd	Comments
	Message Trailer		

4.2 Logon Request

The Logon message authenticates a client establishing a connection to Succession TripleCheck® trading system. The Logon message must be the first message sent by the application requesting to initiate a FIX session.

The HeartBtInt field (tag 108) is used to specify the timeout interval for generating heartbeats. The HeartBtInt value should be agreed upon by the two sides, specified by the Logon initiator and echoed back by the Logon acceptor. The same value must be used by both sides.

Upon receipt of a Logon message, the session acceptor authenticates the party requesting connection and issues a Logon message as an acknowledgment that the connection request has been accepted. The acknowledgement Logon message can also be used by the initiator to validate that the connection was established with the correct party.

Upon receipt of the Logon, the session initiator can immediately start sending messages to Succession TripleCheck®. Transmission of FIX messages should not begin until the confirmation Logon message is received by the client.

4.2.1 Logon Request Message Format

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'A'
98	EncryptMethod	Y	Value = '0' (unencrypted)
108	HeartBtInt	Y	Number of seconds in between heartbeats for this session. Recommended value is 30.
141	ResetSeqNumFlag	N	Indicates that both sides of the FIX session should reset sequence numbers.
6867	CancelOnDisconnect	N	If set to Y, will trigger cancellation of all non-GTC orders on any type of disconnect (i.e. logout request, dropped connection, etc.)
	Standard FIX Message Trailer	Y	

4.3 Test Request

The Test Request message forces a Heartbeat message from the opposite side. The Test Request message can be used to check sequence numbers or verify communication line status. The opposite

side must responds to the Test Request message with a Heartbeat message containing the TestReqID.

The presence of a TestReqID in the Heartbeat message indicates that the heartbeat was generated as the result of the Test Request message and not a normal timeout. Any string can be used as the TestReqID.

4.3.1 Test Request Message Format

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'I'
112	TestReqID	Y	
	Standard FIX Message Trailer	Y	

4.4 Resend Request

The Resend Request message is sent by the receiving application to initiate message retransmission.

This message should be used:

- If a sequence number gap is detected
- If the receiving application has lost one or more messages
- As a function of the initialization process

The Resend Request message can be used to request:

- A single message
- A range of messages
- All messages after a particular message

The sending application may wish to consider the message type when resending messages; for example, if a new order is in the resend series and a significant time period has elapsed since its original inception, the sender may not wish to retransmit the order given the potential for changed market conditions. (Use the Sequence Reset-GapFill message to skip messages that a sender does not wish to resend.)

Note: It is important that the receiving application process messages in sequence order. For example, if message number 7 is missed and 8-9 are received, the application should ignore 8 and 9 and ask for a resend of 7-9, or, preferably, 7-0 (0 represents infinity). This approach is recommended for recovery from out-of-sequence conditions, because it allows for faster recovery in the presence of certain race conditions when both sides are simultaneously attempting to recover a gap.

- **To request a single message:** BeginSeqNo = EndSeqNo
- **To request a range of messages:** BeginSeqNo = first message of range, EndSeqNo = last message of range

- **To request all messages after a particular message:** BeginSeqNo = first message of range, EndSeqNo = 0 (represents infinity)

4.4.1 Resend Request Message Format

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '2'
7	BeginSeqNo	Y	
16	EndSeqNo	Y	
	Standard FIX Message Trailer	Y	

4.5 Reject (Session-Level)

A Reject message is issued when a message is received but cannot be properly processed because of a session-level rule violation. For example, a Reject message is appropriate if a received message contains invalid basic data (for example, MsgType=\$) which otherwise passes CheckSum and BodyLength checks. This message should be used sparingly – whenever possible, messages should be forwarded to the application level for business-level rejections.

Rejected messages should be logged and the incoming sequence number incremented.

Note: The receiving application should disregard any message that is garbled, cannot be parsed, or fails a data integrity check. Processing of the next valid FIX message will cause detection of a sequence gap and a Resend Request will be generated. Logic should be included in the FIX engine to recognize a possible infinite resend loop, which may occur in this situation.

Generation and receipt of a Reject message indicates a serious error that may be the result of faulty logic in either the sending or receiving application.

If the sending application chooses to retransmit the rejected message, it should be assigned a new sequence number and sent with PossResend=Y.

Note: Whenever possible, the cause of the failure will be described in the Text field (for example, “Invalid Data – Field 35”).

If a received application-level message fulfils session-level rules, it will be processed at the business level. If this processing detects a rule violation, a business-level reject will be issued. Some business-level messages have specific “reject” messages, which will be used. All others will be rejected at the business level via the Execution Report (MsgType=8) – Reject message.

If a business message is received and fulfils session-level rules, but cannot be communicated to the

business-level processing system, an Execution Report (MsgType=8) – Reject message will be issued with the error message of “TripleCheck: application is not available at this time” in the Text field.

4.5.1 Reject Message Format

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '3'
11	ClOrdID	N	If this reject refers to a message associated with an order, this field will contain the unique identifier assigned by the client to the order (if available)
45	RefSeqNum	Y	MsgSeqNum of the rejected message
371	RefTagID	N	The tag number of the FIX field being referenced
372	RefMsgType	N	The MsgType of the FIX message being referenced
373	SessionRejectReason	N	<p>The reason for a session-level Reject message. Possible values may include:</p> <p>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 7 = Decryption problem 8 = Signature problem 9 = CompID/SubID problem 10 = SendingTime accuracy problem 11 = Invalid MsgType 18 = Invalid password 19 = Request Terminated</p> <p>Note: Other session-level rule violations may exist in which case SessionRejectReason is not specified.</p>
58	Text	N	Whenever possible, message to explain the reason for rejection
	Standard FIX Message Trailer	Y	

4.6 Sequence Reset / Gap Fill

The Sequence Reset message is used by the sending application to reset the incoming sequence number on the opposite side. This message has two modes:

- **Sequence Reset – Gap Fill:** when GapFillFlag is Y
- **Sequence Reset – Reset:** when GapFillFlag is N or not present.

The Sequence Reset – Reset mode should only be used to recover from a disaster situation that cannot otherwise be recovered from through the Gap Fill mode. A Sequence Reset message can be used in the following situations:

- During normal resend processing, the sending application may choose not to send a message (for example, an aged order). Use the Sequence Reset – Gap Fill mode to mark the place of that message.
- During normal resend processing, a number of administrative messages are not resent. Use the Sequence Reset – Gap Fill message to fill the sequence gap created.
- In the event of an application failure, it may be necessary to force synchronization of sequence numbers on the sending and receiving sides through the use of Sequence Reset – Reset.

The sending application initiates the sequence reset. The message in all situations specifies NewSeqNo to reset as the value of the next sequence number immediately following the messages and/or sequence numbers being skipped.

If the GapFillFlag field is not present (or set to N), it can be assumed that the purpose of the sequence reset message is to recover from an out-of-sequence condition. Ignore the MsgSeqNum in the header (in other words, the receipt of a Sequence Reset – Reset message with an out-of-sequence MsgSeqNum should not generate a resend request). Do not use Sequence Reset – Reset as a normal response to a Resend Request: use Sequence Reset – Gap Fill instead. Use Sequence Reset – Reset only to recover from a disaster situation that cannot be recovered through the use of Sequence Reset – Gap Fill. Note that the use of Sequence Reset – Reset may result in lost messages.

If the GapFillFlag field is present (and equal to Y), the MsgSeqNum should conform to standard message sequencing rules (that is, the MsgSeqNum of the Sequence Reset – GapFill message should represent the beginning MsgSeqNum in the GapFill range, because the remote side is expecting that next message).

The sequence reset can only increase the sequence number. If a sequence reset is received attempting to decrease the next expected sequence number, reject the message and treat it as a serious error. It is possible to have multiple Resend Request messages issued in a row (for example, 5 to 10 followed by 5 to 11). If sequence numbers 8, 10, and 11 represent application messages while the 5-7 and 9 represent administrative messages, the series of messages as result of the Resend Request may appear as SeqReset-GapFill with NewSeqNo of 8, message 8, SeqReset-GapFill with NewSeqNo of 10, and message 10. This could then followed by SeqReset-GapFill with NewSeqNo of 8, message 8,

SeqReset-GapFill with NewSeqNo of 10, message 10, and message 11. You must be careful to ignore the duplicate SeqReset-GapFill which is attempting to lower the next expected sequence number. Detect this by checking to see if the MsgSeqNum is less than expected. If so, the SeqReset-GapFill is a duplicate and should be discarded.

4.6.1 Sequence Reset / Gap Fill Message Format

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '4'
123	GapFillFlag	Y	Indicates that the Sequence Reset message is replacing administrative or application messages which will not be resent. Supported values: 'N' = Sequence Reset, ignore MsgSeqNum in the header 'Y' = Gap Fill Message, MsgSeqNum is valid
36	NewSeqNo	Y	New sequence number
	Standard FIX Message Trailer	Y	

4.7 Logout

The Logout message initiates or confirms the termination of a FIX session. A session disconnect without the exchange of Logout messages should be interpreted as an abnormal condition.

Before closing the session, the logout initiator should wait for the opposite side to respond with a confirming Logout message. This gives the remote end a chance to perform any Gap Fill operations that may be necessary. The session may be terminated if the remote side does not respond in an reasonable time frame.

After sending the Logout message, the logout initiator should not send any messages unless requested to do so by the logout acceptor via a ResendRequest message.

4.7.1 Logout Message Format

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '5'
58	Text	N	
	Standard FIX Message Trailer	Y	

5 Application Messages (US Equities)

This section describes Application messages for US Equities, which are the order entry or market command messages that are exchanged between the Succession TripleCheck® trading system and the client.

5.1 New Order – Single

Clients may submit new equities orders via the New Order – Single message.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'D'
1	Account	Y	Identifies the trading account configured in TripleCheck®
440	ClearingAccount	Y*	Specifies the clearing house/firm account. Required for deployments that use multiple clearing accounts for the same MPID.
11	ClOrdID	Y	Day-unique ID for the order chosen by the client. Maximum length is 32 characters.
55	Symbol	Y	Symbol (uppercase). See the Symbology section for details.
65	SymbolSfx	N	See the Symbology section for details.
48	SecurityID	N	Security identifier value (e.g. CUSIP, SEDOL, ISIN). Not used by TripleCheck®, but will be echoed back in Execution Reports if specified. Maximum length is 16 characters.
22	SecurityIDSource	N	If specified, the value will be echoed back in Execution Reports for the order. Maximum length is 4 characters.
54	Side	Y	Supported values: '1' = Buy '2' = Sell '5' = Sell Short
38	OrderQty	Y	Desired quantity for the order
40	OrdType	Y	Supported values: '1' = Market Order '2' = Limit Order '3' = Stop Order '4' = Stop-Limit Order 'P' = Pegged
44	Price	N	Order price. Required for limit and stop-limit orders (40=2 and 40=4)

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Tag	Field Name	Req'd	Comments
99	StopPrice	N	Stop trigger price. Required for stop and stop-limit orders (40=3 and 40=4)
47	Rule80A	N	Supported values: 'A' = Agency 'P' = Principal 'R' = Riskless Principal
100	ExDestination	Y	All orders must include a market destination. See Appendix for valid values.
59	TimeInForce	N	Supported values: '0' = Day (default) '2' = On Open '3' = IOC '5' = Extended Day '7' = On Close
18	ExecInst	N	Supported values: 'R' = Primary Peg (for Pegged orders, pegs Buy to NBBO Bid, Sell to NBBO Offer) 'P' = Market Peg (for Pegged orders, pegs Buy to NBBO Offer, Sell to NBBO Bid) 'M' = Midpoint Peg (for Pegged orders, pegs to NBBO Midpoint) 'f' = ISO (Intermarket Sweep Order)
110	MinQty	N	Minimum quantity of an order to be executed
111	MaxFloor	N	The disclosed order quantity for hidden and reserve orders
114	LocateReqd	N	For short sale orders, indicates whether or not TripleCheck® is to perform the easy to borrow or locate check. Supported values: 'Y' = TripleCheck® requires a locate 'N' = No locate required If this field is omitted, the default value is 'Y' (TripleCheck® will perform the ETB/Locate check). If set to 'N', the LocateBroker field (tag 5700) must contain the MPID of the locate broker.
211	PegDifference	N	Signed amount added to the price of the peg for a pegged order.

Tag	Field Name	Req'd	Comments
389	DiscretionOffset	N	Discretion is implicitly added to bid prices and subtracted from offer prices. Order will be displayed at Price but can execute in discretionary range. Zero applies no discretion (default).
5700	LocateBroker	Y*	Identifies the broker which loaned the stock to settle a short sale. Required if 114=N and 54=5.
5789	ClientInfo	N	A free-form string containing client-specific information associated with the order. Not used by TripleCheck®, but will be echoed back in Execution Reports if specified. Maximum length is 64 characters.
6232	OrderTTL	N	The number of milliseconds the order should be live in the market. A value of 0 implies IOC.
7928	WashTrade Prevention	N	Supported values: 'N' = Cancel Newest 'O' = Cancel Oldest 'B' = Cancel Both
7948	PostOnly	N	Ensures that the order does not remove liquidity. Supported values: 'Y' = Post Only 'N' = Default
	Standard FIX Message Trailer	Y	

5.2 Order Cancel Request

The client may send an Order Cancel Request message to the TripleCheck® trading system to request the cancellation of all remaining shares of an existing order. Cancelling an active order removes it from the market.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'F'
1	Account	N	Identifies the trading account. If set, this field must contain the same value as the original order.
440	ClearingAccount	N	Identifies the clearing house/firm account. If set, this field must contain the same value as the original order.
11	ClOrdID	Y	A unique identifier for the cancellation request chosen by the client. Maximum length is 32 characters.

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Tag	Field Name	Req'd	Comments
41	OrigClOrdID	Y	ClOrdID of the order being cancelled
37	OrderID	N	If populated, this field must contain the TripleCheck® OrderID that was populated in tag 37 of the order acknowledgement to the client.
55	Symbol	Y	Same as the original order
65	SymbolSfx	N	Same as the original order
54	Side	Y	Same as the original order
1373	MassActionType	N	Supported values: '2' = Cancel Orders. If set, TripleCheck® will ignore tags 37 and 41 and attempt to cancel all open orders for the account
	Standard FIX Message Trailer	Y	

5.3 Order Cancel/Replace Request

The Order Cancel/Replace Request is used to change the parameters of an existing order. This request cannot be used to reopen an order that has already been cancelled or completely filled.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'G'
1	Account	N	Identifies the trading account. If set, this field must contain the same value as the original order.
440	ClearingAccount	N	Identifies the clearing house/firm account. If set, this field must contain the same value as the original order.
11	ClOrdID	Y	A unique identifier for the new (replacement) order chosen by the client. Maximum length is 32 characters.
41	OrigClOrdID	Y	ClOrdID of the order being replaced. This is always the previous order in the chain, not the initial order.
37	OrderID	N	If populated, this field must contain the TripleCheck® OrderID that was populated in tag 37 of the acknowledgement message for the previous order in the chain.
38	OrderQty	N	Total intended order quantity for the replacement order, including the amount already executed on this chain

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Tag	Field Name	Req'd	Comments
44	Price	N	Required for limit orders when changing price. Should not be specified if OrdType='1' (Market)
99	StopPrice	N	Required for Stop and Stop Limit orders when changing the stop trigger price.
40	OrdType	N	Can be used to change orders from limit to market. Otherwise should be the same as the original order
55	Symbol	Y	Same as the original order
65	SymbolSfx	N	Same as the original order
54	Side	Y	Same as the original order
114	LocateReqd	N	<p>For short sale orders, indicates whether or not TripleCheck® is to perform the easy to borrow or locate check.</p> <p>Supported values: 'Y' = TripleCheck® requires a locate 'N' = No locate required</p> <p>If this field is omitted, the default value is 'Y' (TripleCheck® will perform the ETB/Locate check).</p> <p>If set to 'N', the LocateBroker field (tag 5700) must contain the MPID of the locate broker.</p>
5700	LocateBroker	Y*	Identifies the broker which loaned the stock to settle a short sale. Required if 114=N and 54=5
5789	ClientInfo	N	A free-form string containing client-specific information associated with the replacement order. Not used by TripleCheck®, but will be echoed back in Execution Reports if specified. Maximum length is 64 characters.
9619	CancelOrigOnReject	N	<p>Supported values: 'N' = Leave the original order alone 'Y' = Cancel the original order if the replacement fails (an unsolicited cancel report will be sent for the original order in this case)</p>
	Standard FIX Message Trailer	Y	

5.4 Order Cancel Reject

The Order Cancel Reject message is sent in response to Order Cancel Requests and Order

Cancel/Replace Requests when the order cannot be cancelled or replaced. When a Cancel/Replace Request is rejected, the original order is left alive. Even when the CancelOrigOnReject=Y option is used, a separate unsolicited cancel will be sent to close out the original order.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '9'
1	Account	Y	Identifies the trading account
440	ClearingAccount	N	If ClearingAccount (440) is specified on the original order, the value will be echoed back here.
11	ClOrdID	Y	The unique order identifier assigned by the client to the cancel request or the replacement order. If the cancel reject message is in response to a cancel request, and the request was not made by the client directly (for example, this is in response to a cancel-all, cancel on disconnect, or a market unsolicited cancel), this field will contain the value "<NONE>".
41	OrigClOrdID	Y	The Client order ID which could not be cancelled or replaced. This is always the ClOrdID of the previous order in the chain, not that of the initial order.
39	OrdStatus	Y	Order status after this cancel reject is applied
58	Text	N	The reason for the rejection, if available. If the cancel or replace request was rejected by TripleCheck®, this field will be prefixed with "TripleCheck: ". Not all markets provide this information.
102	CxlRejReason	N	Optional code which provides the reason for the cancel reject. Not all markets provide this information. Supported values: '0' = Too late to cancel '1' = Unknown or completed order '2' = Broker option '3' = Order already has a pending cancel '6' = Duplicate ClOrdID
434	CxlRejResponseTo	N	Distinguishes cancel and cancel/replace rejects. Supported values: '1' = Cancel Reject '2' = Cancel/Replace Reject

Tag	Field Name	Req'd	Comments
5789	ClientInfo	N	The free-form string containing client-specific information associated with the order specified in the New Order or a Cancel/Replace request. Maximum length is 64 characters.
6396	RejectCode	N	Will contain the TripleCheck® risk reject code when the cancel or cancel/replace request was rejected by TripleCheck® risk.
	Standard FIX Message Trailer	Y	

5.5 Execution Report

The TripleCheck® trading system sends an Execution Report for the following conditions:

- An incoming New Order, Order Cancel Request, Order Cancel/Replace Request
- Each time a trade occurs (including previously booked orders that are traded by the system)
- Succession's support desk or the market's trading services desk enters a New Order, Cancel Request, Cancel/Replace Request, adds a trade, makes a trade correction, or cancels a trade
- A Stop or Stop Limit order is triggered
- A Reject message is sent.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '8'
1	Account	Y	Identifies the trading account
440	ClearingAccount	N	If ClearingAccount (440) is specified on the original order, the value will be echoed back here.
150	ExecType	Y	<p>The type of this Execution Report. FIX Execution Reports are used by TripleCheck® to communicate all order lifecycle changes to the client.</p> <p>Supported Values:</p> <p>'0' = New (order has been accepted)</p> <p>'1' = Partial Fill</p> <p>'2' = Fill (order is now completely filled)</p> <p>'3' = Done for day</p> <p>'4' = Canceled</p> <p>'5' = Replace (order has been cancel/replaced)</p> <p>'6' = Pending Cancel (order cancel request has been received but not yet processed)</p> <p>'8' = Rejected (order has been rejected)</p>

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Tag	Field Name	Req'd	Comments
			'A' = Pending New (order has been received but not yet accepted) 'E' = Pending Replace (order cancel/replace request has been received but not yet processed)
39	OrdStatus	Y	Describes the current state of the order (or chain of orders if cancel/replaced). Supported Values: '0' = New (order has been accepted) '1' = Partial Fill '2' = Fill (order is now completely filled) '3' = Done for day '4' = Canceled '5' = Replace (order has been cancel/replaced) '6' = Pending Cancel 'E' = Pending Replace '8' = Rejected (order has been rejected)
37	OrderID	Y	TripleCheck® order identifier
11	ClOrdID	Y	This tag will be populated on all execution reports for orders placed via FIX. When an execution report is in response to a cancel request, this tag will represent the client order ID of the cancel request itself and tag 41 will contain the client order ID of the cancelled order. If the execution report is in response to a cancel request which was not made by the client directly (for example, it is in response to a cancel-all, cancel on disconnect or a market unsolicited cancel), this field will contain the value "<NONE>".
41	OrigClOrdID	N	Will be populated on all execution reports of ExecType=4 (Canceled) or ExecType=5 (Replaced) when the cancel or cancel/replace request was submitted by the client. When ExecType=5 (Replaced), this tag represents the ClOrdID of the previous order in the chain.
17	ExecID	Y	This execution ID will be unique across all trading days. The maximum length of this field is 80 alphanumeric characters. Clients can inspect the value of this field in order to detect duplicate fills (the same value in this field means the same fill).
76	ExecBroker	Y	The route/destination. This is the same value that was submitted in tag 100 on the new order.

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Tag	Field Name	Req'd	Comments
20	ExecTransType	Y	Supported values: '0' = New (normal) '1' = Cancel (occurs on trade breaks) '2' = Correct (occurs on trade corrections)
19	ExecRefID	N	When 20=1 or 20=2, indicating a trade break or correction, the client should inspect this tag to identify the execution being broken or corrected (the value of this field will match the value of field 17 for a previous execution).
55	Symbol	Y	Identical to the value submitted in the New Order message
65	SymbolSfx	N	Identical to the value submitted in the New Order message
54	Side	Y	Identical to the value submitted in the New Order message
48	SecurityID	N	Security identifier value (e.g. CUSIP, SEDOL, ISIN). The type is specified in the SecurityIDSource field (tag 22). If specified on the original order, this field is simply echoed back in the Execution Report. Otherwise, this field is not present.
22	SecurityIDSource	N	Identifies the class or source of the SecurityID (tag 48) value. If specified on the original order, this field is simply echoed back in the Execution Report. Otherwise, this field is not present.
38	OrderQty	Y	Identical to the value submitted in the New Order message or Cancel/Replace request
40	OrdType	Y	Identical to the value submitted in the New Order message or Cancel/Replace request
44	Price	N	For limit orders, identical to the value submitted in the New Order message or Cancel/Replace request
32	LastQty	Y	Quantity of shares filled on this fill when ExecType = Filled or Partially Filled. Otherwise, this field is 0.
31	LastPx	Y	Price of this fill when ExecType = Filled or Partially Filled. Otherwise, this field is 0.
30	LastMkt	N	Executing venue. Note that the routed-to venue is not provided by many markets, in which case this field will be the same as ExecBroker.
29	LastCapacity	N	Broker capacity in order execution
151	LeavesQty	Y	Number of shares open for further execution. If the OrdStatus is Cancelled or Rejected (in which case the order is

Tag	Field Name	Req'd	Comments
			no longer active), then LeavesQty will be 0, otherwise LeavesQty = OrderQty – CumQty.
14	CumQty	Y	Number of shares executed in total so far on this order chain
6	AvgPx	Y	Average price of fills so far for this order chain
60	TransactTime	Y	TripleCheck® will always send a transaction time. This is the time the event occurred (as opposed to the time it was sent).
58	Text	N	Will contain the reject reason when 150=8 (Rejected). If the order was rejected by TripleCheck®, this field will be prefixed with “TripleCheck: ”. Not all markets provide this information.
5789	ClientInfo	N	The free-form string containing client-specific information associated with the order specified in the New Order or a Cancel/Replace request. Maximum length is 64 characters.
6396	RejectCode	N	Will contain the TripleCheck® risk reject code when 150=8 (Rejected) and the order was rejected by TripleCheck® risk.
9730	LiquidityFlag	N	Will be present when 150=1 or 150=2 and the execution was on a venue that provides a liquidity indicator (added, removed, etc.)
	Standard FIX Message Trailer	Y	

6 Application Messages (US Options)

This section describes Application messages for US Options, which are the order entry or market command messages that are exchanged between the Succession TripleCheck® trading system and the client.

6.1 New Order – Single

Clients may submit new options orders via the New Order – Single message.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'D'
1	Account	Y	Identifies the trading account configured in TripleCheck®
440	ClearingAccount	Y*	Specifies the clearing house/firm account. Required for deployments that use multiple clearing accounts for the same MPID.
11	ClOrdID	Y	Day-unique ID for the order chosen by the client. Maximum length is 32 characters.
55	Symbol	Y	OSI Symbol (uppercase) or 3 character root OPRA code. See the Symbolology section for details.
47	OrderCapacity	N	Supported values: 'A' = Agency 'P' = Principal
77	OpenClose	Y	Supported values: 'O' = Open 'C' = Close
200	MaturityMonthYear	Y	Supported format: YYYYMM
201	PutOrCall	Y	Supported values: '0' = Put '1' = Call
202	StrikePrice	Y	Strike price of underlying
205	MaturityDay	Y	1-31
167	SecurityType	Y	Must be "OPT"
54	Side	Y	Supported values: '1' = Buy '2' = Sell

Tag	Field Name	Req'd	Comments
38	OrderQty	Y	Desired quantity for the order
40	OrdType	Y	Supported values: '1' = Market Order '2' = Limit Order
44	Price	N	Required for limit orders (40=2)
100	ExDestination	Y	All orders must include a market destination. See Appendix for valid values.
59	TimeInForce	N	Supported values: '0' = Day (default) '2' = On Open '3' = IOC '4' = FOK '7' = On Close
110	MinQty	N	Minimum quantity of an order to be executed
111	MaxFloor	N	The disclosed order quantity for hidden and reserve orders
204	CustomerOrFirm	N	Specify the customer type for the order. The customer type is normally configured on the account, but a special setup can allow this to be specified on an order-by-order basis. The tag is optional and ignored if the type is specified via configuration; it is mandatory otherwise. Supported values: '0' = Customer '1' = Firm '2' = Firm Broker Dealer '5' = Market Maker '8' = Professional Customer
389	DiscretionOffset	N	Discretion is implicitly added to bid prices and subtracted from offer prices. Order will be displayed at Price but can execute in discretionary range. Zero applies no discretion (default).
5789	ClientInfo	N	A free-form string containing client-specific information associated with the order. Not used by TripleCheck®, but will be echoed back in Execution Reports if specified. Maximum length is 64 characters.
6232	OrderTTL	N	The number of milliseconds the order should be live in the market. A value of 0 implies IOC.

Tag	Field Name	Req'd	Comments
7928	WashTrade Prevention	N	Supported values: 'N' = Cancel Newest 'O' = Cancel Oldest 'B' = Cancel Both
7948	PostOnly	N	Ensures that the order does not remove liquidity. Supported values: 'Y' = Post Only 'N' = Default
	Standard FIX Message Trailer	Y	

6.2 Order Cancel Request

The client may send an Order Cancel Request message to the TripleCheck® trading system to request the cancellation of all remaining contracts of an existing order. Cancelling an active order removes it from the market.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'F'
1	Account	N	Identifies the trading account. If set, this field must contain the same value as the original order.
440	ClearingAccount	N	Identifies the clearing house/firm account. If set, this field must contain the same value as the original order.
11	ClOrdID	Y	A unique identifier for the cancellation request chosen by the client. Maximum length is 32 characters.
41	OrigClOrdID	Y	ClOrdID of the order being cancelled
37	OrderID	N	If populated, this field must contain the TripleCheck® OrderID that was populated in tag 37 of the order acknowledgement to the client.
55	Symbol	Y	Same as the original order
65	SymbolSfx	N	Same as the original order
54	Side	Y	Same as the original order
1373	MassActionType	N	Supported values: '2' = Cancel Orders. If set, TripleCheck® will ignore tags 37 and 41 and attempt to

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Tag	Field Name	Req'd	Comments
			cancel all open orders for the account
	Standard FIX Message Trailer	Y	

6.3 Order Cancel/Replace Request

The Order Cancel/Replace Request is used to change the parameters of an existing order. This request cannot be used to reopen an order that has already been cancelled or completely filled.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'G'
1	Account	N	Identifies the trading account. If set, this field must contain the same value as the original order.
440	ClearingAccount	N	Identifies the clearing house/firm account. If set, this field must contain the same value as the original order.
11	ClOrdID	Y	A unique identifier for the new (replacement) order chosen by the client. Maximum length is 32 characters.
41	OrigClOrdID	Y	ClOrdID of the order being replaced. This is always the previous order in the chain, not the initial order.
37	OrderID	N	If populated, this field must contain the TripleCheck® OrderID that was populated in tag 37 of the acknowledgement message for the previous order in the chain.
40	OrdType	N	This can be used to change orders from limit to market. If not specified, defaults to OrdType of the previous order in the chain. Supported values: '1' = Market '2' = Limit
38	OrderQty	N	Total intended order quantity for the replacement order, including the amount already executed on this chain
44	Price	N	Required for limit orders when changing price. Should not be specified if OrdType='1' (Market)
5789	ClientInfo	N	A free-form string containing client-specific information associated with the replacement order. Not used by TripleCheck®, but will be echoed back in Execution Reports

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Tag	Field Name	Req'd	Comments
			if specified. Maximum length is 64 characters.
9619	CancelOrigOnReject	N	Supported values: 'N' = Leave the original order alone 'Y' = Cancel the original order if the replacement fails (an unsolicited cancel report will be sent for the original order in this case)
	Standard FIX Message Trailer	Y	

6.4 New Order – Multileg

Multi-leg orders are sent atomically to a destination and the destination typically executes them atomically as well. Atomic execution means all legs execute or none and the execution honors the specified leg ratio. However, the execution reports are sent per leg.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = “AB”
1	Account	Y	Identifies the trading account configured in TripleCheck®
440	ClearingAccount	Y*	Specifies the clearing house/firm account. Required for deployments that use multiple clearing accounts for the same MPID.
11	ClOrdID	Y	Day-unique ID for the order chosen by the client. Maximum length is 32 characters.
38	OrderQty	Y	Desired quantity for the order
40	OrdType	Y	Supported values: '1' = Market Order '2' = Limit Order
44	Price	N	Required for limit orders (40=2). Positive value means debit, negative means credit; 0 means neutral.
100	ExDestination	Y	All orders must include a market destination. See Appendix for valid values.
59	TimeInForce	N	Supported values: '0' = Day (default) '2' = On Open '3' = IOC

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Tag	Field Name	Req'd	Comments
			'4' = FOK '7' = On Close
167	SecurityType	Y	Must be "MLEG"
204	CustomerOrFirm	N	Specify the customer type for the order. The customer type is normally configured on the account, but a special setup can allow this to be specified on an order-by-order basis. The tag is optional and ignored if the type is specified via configuration; it is mandatory otherwise. Supported values: '0' = Customer '1' = Firm '2' = Firm Broker Dealer '5' = Market Maker '8' = Professional Customer
555	NoLegs	Y	Number of legs in repeating group. Order of tags within the repeating group does not matter except the first tag which is used as a delimiter.
→600	LegSymbol	Y	For options, this is the root symbol (uppercase), e.g. MSFT. For equities, this is the stock symbol.
→608	LegCFIcode	Y	Supported values: 'OC' = Option Call 'OP' = Option Put 'ES' = Equity Common Shares
→611	LegMaturityDate	N	Supported format: YYYYMMDD. Mandatory for options. Must not be specified for equities.
→612	LegStrikePrice	N	Strike price of underlying. Mandatory for options. Must not be specified for equities.
→623	LegRatioQty	Y	The ratio of quantity for this individual leg relative to the entire multi-leg security. LegRatioQty x OrderQty
→624	LegSide	Y	Supported values: '1' = Buy '2' = Sell '5' = Sell Short (equities only)
→564	LegPositionEffect	N	Supported values: 'O' Open 'C' Close

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Tag	Field Name	Req'd	Comments
			Mandatory for options. Must not be specified for equities.
→654	LegRefID	Y	Must be day-unique in the same space as ClOrdID. Max 32 characters.
5789	ClientInfo	N	A free-form string containing client-specific information associated with the order. Not used by TripleCheck®, but will be echoed back in Execution Reports if specified. Maximum length is 64 characters.
	Standard FIX Message Trailer	Y	

6.5 Multileg Cancel Request

The multi-leg order cancel request message requests the cancellation of all of the remaining contracts on all legs of an existing multi-leg order.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'F'
1	Account	N	Identifies the trading account. If set, this field must contain the same value as the original order.
440	ClearingAccount	N	Identifies the clearing house/firm account. If set, this field must contain the same value as the original order.
11	ClOrdID	Y	A unique identifier for the cancellation request chosen by the client. Maximum length is 32 characters.
41	OrigClOrdID	Y	ClOrdID of the multi-leg order being cancelled
37	OrderID	N	If populated, this field must contain the TripleCheck® OrderID that was populated in tag 37 of the multi-leg order acknowledgement to the client.
1373	MassActionType	N	Supported values: '2' = Cancel Orders. If set, TripleCheck® will ignore tags 37 and 41 and attempt to cancel all open orders for the account
	Standard FIX Message Trailer	Y	

6.6 Multileg Cancel/Replace Request

The Multileg Cancel/Replace Request is used to change the parameters of an existing multi-leg order. This request cannot be used to reopen an order that has already been cancelled or completely filled.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = 'G'
1	Account	N	Identifies the trading account. If set, this field must contain the same value as the original order.
440	ClearingAccount	N	Identifies the clearing house/firm account. If set, this field must contain the same value as the original order.
11	ClOrdID	Y	A unique identifier for the new (replacement) order chosen by the client. Maximum length is 32 characters.
41	OrigClOrdID	Y	ClOrdID of the order being replaced. This is always the previous order in the chain, not the initial order.
37	OrderID	N	If populated, this field must contain the TripleCheck® OrderID that was populated in tag 37 of the acknowledgement message for the previous order in the chain.
40	OrdType	N	This can be used to change orders from limit to market. If not specified, defaults to OrdType of the previous order in the chain. Supported values: '1' = Market '2' = Limit
38	OrderQty	N	Total intended order quantity for the replacement order, including the amount already executed on this chain
44	Price	N	Required for limit orders when changing price. Should not be specified if OrdType='1' (Market)
5789	ClientInfo	N	A free-form string containing client-specific information associated with the replacement order. Not used by TripleCheck®, but will be echoed back in Execution Reports if specified. Maximum length is 64 characters.
9619	CancelOrigOnReject	N	Supported values: 'N' = Leave the original order alone 'Y' = Cancel the original order if the replacement fails (an unsolicited cancel report will be sent for the original order in

Tag	Field Name	Req'd	Comments
			this case)
	Standard FIX Message Trailer	Y	

6.7 Exercise Request

The Exercise Request message is used to submit an option exercise instruction. Note that once submitted, the operation is irrevocable and irreversible. For this reason the TripleCheck® system does not support Replace, Cancel or Reverse actions. One request message should be sent for each exercise instruction containing exactly one options position to exercise. Exercise of partial positions (qty < position) is allowed. All types of options that are exercisable and supported by the TripleCheck® system can be exercised using this message.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = "AL"
1	Account	Y	Identifies the trading account configured in TripleCheck®
440	ClearingAccount	Y*	Specifies the clearing house/firm account. Required for deployments that use multiple clearing accounts for the same MPID.
710	PosReqID	Y	Unique identifier for the Exercise Request assigned by the client. Note that the TripleCheck® system will not validate the uniqueness and will merely echo this value in the corresponding Exercise Report message(s).
60	TransactTime	N	Time this request was initiated
55	Symbol	Y	OSI Base Symbol (uppercase). See the Symbology section for details.
200	MaturityMonthYear	Y	Expiration month-year of option. Format: YYYYMM.
201	PutOrCall	Y	Supported values: '0' = Put '1' = Call
202	StrikePrice	Y	Strike price of option
205	MaturityDay	Y	Expiration day of option. 1-31.
167	SecurityType	Y	Must be "OPT"
58	Text	N	Free-form string (ignored by TripleCheck®)
702	NoPositions	Y	Must be 1

Tag	Field Name	Req'd	Comments
→703	PosType	Y	Supported values: 'EX' = Options Exercise quantity
→704	LongQty	Y	Quantity to exercise
	Standard FIX Message Trailer	Y	

6.8 Order Cancel Reject

The Order Cancel Reject message is sent in response to Order Cancel Requests, Multileg Cancel Requests, Order Cancel/Replace Requests and Multileg Cancel/Replace Requests when the order(s) cannot be cancelled or replaced. When a Cancel/Replace Request is rejected, the original order is left alive. Even when the CancelOrigOnReject=Y option is used, a separate unsolicited cancel will be sent to close out the original order.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '9'
1	Account	Y	Identifies the trading account
440	ClearingAccount	N	If ClearingAccount (440) is specified on the original order, the value will be echoed back here.
11	ClOrdID	Y	The unique order identifier assigned by the client to the cancel request or the replacement order. If the cancel reject message is in response to a cancel request, and the request was not made by the client directly (for example, this is in response to a cancel-all, cancel on disconnect, or a market unsolicited cancel), this field will contain the value "<NONE>".
41	OrigClOrdID	Y	The Client order ID which could not be cancelled or replaced. This is always the ClOrdID of the previous order in the chain, not that of the initial order.
39	OrdStatus	Y	Order status after this cancel reject is applied
58	Text	N	The reason for the rejection, if available. If the cancel or replace request was rejected by TripleCheck®, this field will be prefixed with "TripleCheck: ". Not all markets provide this information.
102	CxlRejReason	N	Optional code which provides the reason for the cancel reject. Not all markets provide this information.

Tag	Field Name	Req'd	Comments
			Supported values: '0' = Too late to cancel '1' = Unknown or completed order '2' = Broker option '3' = Order already has a pending cancel '6' = Duplicate ClOrdID
434	CxlRejResponseTo	N	Distinguishes cancel and cancel/replace rejects. Supported values: '1' = Cancel Reject '2' = Cancel/Replace Reject
5789	ClientInfo	N	The free-form string containing client-specific information associated with the order specified in the New Order or a Cancel/Replace request. Maximum length is 64 characters.
6396	RejectCode	N	Will contain the TripleCheck® risk reject code when the cancel or cancel/replace request was rejected by TripleCheck® risk.
	Standard FIX Message Trailer	Y	

6.9 Execution Report

The TripleCheck® trading system sends an Execution Report for the following conditions:

- An incoming New Order, Order Cancel Request, Order Cancel/Replace Request
- Each time a trade occurs (including previously booked orders that are traded by the system)
- Succession's support desk or the market's trading services desk enters a New Order, Cancel Request, Cancel/Replace Request, adds a trade, makes a trade correction, or cancels a trade
- A Stop or Stop Limit order is triggered
- A Reject message is sent.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '8'
1	Account	Y	Identifies the trading account
440	ClearingAccount	N	If ClearingAccount (440) is specified on the original order, the value will be echoed back here.
150	ExecType	Y	The type of this Execution Report. FIX Execution Reports are used by TripleCheck® to communicate all order lifecycle

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Tag	Field Name	Req'd	Comments
			<p>changes to the client.</p> <p>Supported Values: '0' = New (order has been accepted) '1' = Partial Fill '2' = Fill (order is now completely filled) '3' = Done for day '4' = Canceled '5' = Replace (order has been cancel/replaced) '8' = Rejected (order has been rejected)</p>
39	OrdStatus	Y	<p>Describes the current state of the order (or chain of orders if cancel/replaced).</p> <p>Supported Values: '0' = New (order has been accepted) '1' = Partial Fill '2' = Fill (order is now completely filled) '3' = Done for day '4' = Canceled '5' = Replace (order has been cancel/replaced) '6' = Pending Cancel 'E' = Pending Replace '8' = Rejected (order has been rejected)</p>
37	OrderID	Y	TripleCheck® order identifier
11	ClOrdID	Y	<p>This tag will be populated on all execution reports for orders placed via FIX. When an execution report is in response to a cancel request, this tag will represent the client order ID of the cancel request itself and tag 41 will contain the client order ID of the cancelled order. If the execution report is in response to a cancel request which was not made by the client directly (for example, it is in response to a cancel-all, cancel on disconnect or a market unsolicited cancel), this field will contain the value "<NONE>".</p>
41	OrigClOrdID	N	<p>Will be populated on all execution reports of ExecType=4 (Canceled) or ExecType=5 (Replaced) when the cancel or cancel/replace request was submitted by the client. When ExecType=5 (Replaced), this tag represents the ClOrdID of the previous order in the chain.</p>
17	ExecID	Y	<p>This execution ID will be unique across all trading days. The maximum length of this field is 80 alphanumeric characters.</p>

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Tag	Field Name	Req'd	Comments
			Clients can inspect the value of this field in order to detect duplicate fills (the same value in this field means the same fill).
76	ExecBroker	Y	The route/destination. This is the same value that was submitted in tag 100 on the new order.
20	ExecTransType	Y	Supported values: '0' = New (normal) '1' = Cancel (occurs on trade breaks) '2' = Correct (occurs on trade corrections)
19	ExecRefID	N	When 20=1 or 20=2, indicating a trade break or corection, the client should inspect this tag to identify the execution being broken or corrected (the value of this field will match the value of field 17 for a previous execution).
55	Symbol	Y	Identical to the value submitted in the New Order message
77	OpenClose	Y	Identical to the value submitted in the New Order message
200	MaturityMonthYear	Y	Identical to the value submitted in the New Order message
201	PutOrCall	Y	Identical to the value submitted in the New Order message
202	StrikePrice	Y	Identical to the value submitted in the New Order message
205	MaturityDay	Y	Identical to the value submitted in the New Order message
167	SecurityType	Y	Identical to the value submitted in the New Order message
54	Side	Y	Identical to the value submitted in the New Order message
38	OrderQty	Y	Identical to the value submitted in the New Order message or Cancel/Replace request
40	OrdType	Y	Identical to the value submitted in the New Order message or Cancel/Replace request
44	Price	N	For limit orders, identical to the value submitted in the New Order message or Cancel/Replace request
32	LastQty	Y	Quantity of contracts filled on this fill when ExecType = Filled or Partially Filled. Otherwise, this field is 0.
31	LastPx	Y	Price of this fill when ExecType = Filled or Partially Filled. Otherwise, this field is 0.
30	LastMkt	N	Executing venue. Note that the routed-to venue is not provided by many markets, in which case this field will be the same as ExecBroker.
29	LastCapacity	N	Broker capacity in order execution

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Tag	Field Name	Req'd	Comments
151	LeavesQty	Y	Number of contracts open for further execution. If the OrdStatus is Cancelled or Rejected (in which case the order is no longer active), then LeavesQty will be 0, otherwise LeavesQty = OrderQty – CumQty.
14	CumQty	Y	Number of contracts executed in total so far on this order chain
6	AvgPx	Y	Average price of fills so far for this order chain
60	TransactTime	Y	TripleCheck® will always send a transaction time. This is the time the event occurred (as opposed to the time it was sent).
58	Text	N	Will contain the reject reason when 150=8 (Rejected). If the order was rejected by TripleCheck®, this field will be prefixed with “TripleCheck: ”. Not all markets provide this information.
204	CustomerOrFirm	N	As specified in New Order message if configured on an order-by-order basis. When configured at the account level, this field will not be included.
5789	ClientInfo	N	The free-form string containing client-specific information associated with the order specified in the New Order or a Cancel/Replace request. Maximum length is 64 characters.
6396	RejectCode	N	Will contain the TripleCheck® risk reject code when 150=8 (Rejected) and the order was rejected by TripleCheck® risk.
9730	LiquidityFlag	N	Will be present when 150=1 or 150=2 and the execution was on a venue that provides a liquidity indicator (added, removed, etc.)
	Standard FIX Message Trailer	Y	

6.10 Multileg Execution Report

One execution report per each leg of multi-leg order will be sent. All field values are in the context of the leg, e.g. the OrderQty in the execution report is the multi-leg order's OrderQty (tag 38) multiplied by the respective leg's LegRatioQty (tag 623).

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = '8'
1	Account	Y	Identifies the trading account

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Tag	Field Name	Req'd	Comments
440	ClearingAccount	N	If ClearingAccount (440) is specified on the original order, the value will be echoed back here.
150	ExecType	Y	<p>The type of this Execution Report. FIX Execution Reports are used by TripleCheck® to communicate all order lifecycle changes to the client.</p> <p>Supported Values: '0' = New (order has been accepted) '1' = Partial Fill '2' = Fill (order is now completely filled) '3' = Done for day '4' = Canceled '5' = Replace (order has been cancel/replaced) '6' = Pending Cancel (order cancel request has been received but not yet processed) '8' = Rejected (order has been rejected) 'A' = Pending New (order has been received but not yet accepted) 'E' = Pending Replace (order cancel/replace request has been received but not yet processed)</p>
39	OrdStatus	Y	<p>Describes the current state of the order (or chain of orders if cancel/replaced).</p> <p>Supported Values: '0' = New (order has been accepted) '1' = Partial Fill '2' = Fill (order is now completely filled) '3' = Done for day '4' = Canceled '5' = Replace (order has been cancel/replaced) '6' = Pending Cancel 'E' = Pending Replace '8' = Rejected (order has been rejected)</p>
37	OrderID	Y	TripleCheck® order identifier
11	ClOrdID	Y	This tag will be populated on all execution reports for orders placed via FIX. When an execution report is in response to a cancel request, this tag will represent the client order ID of the cancel request itself and tag 41 will contain the client order ID of the cancelled order. If the execution report is in response to a cancel request which was not made by the client

Tag	Field Name	Req'd	Comments
			directly (for example, it is in response to a cancel-all, cancel on disconnect or a market unsolicited cancel), this field will contain the value "<NONE>".
41	OrigClOrdID	N	Will be populated on all execution reports of ExecType=4 (Canceled) or ExecType=5 (Replaced) when the cancel or cancel/replace request was submitted by the client. When ExecType=5 (Replaced), this tag represents the ClOrdID of the previous order in the chain.
17	ExecID	Y	This execution ID will be unique across all trading days. The maximum length of this field is 80 alphanumeric characters. Clients can inspect the value of this field in order to detect duplicate fills (the same value in this field means the same fill).
76	ExecBroker	Y	The route/destination. This is the same value that was submitted in tag 100 on the new order.
20	ExecTransType	Y	Supported values: '0' = New (normal) '1' = Cancel (occurs on trade breaks) '2' = Correct (occurs on trade corrections)
19	ExecRefID	N	When 20=1 or 20=2, indicating a trade break or corection, the client should inspect this tag to identify the execution being broken or corrected (the value of this field will match the value of field 17 for a previous execution).
55	Symbol	Y	Identical to the value submitted in the New Order message
77	OpenClose	N	As specified on the multi-leg order in the LegPositionEffect field (tag 564). Not present for equities, always present for options.
200	MaturityMonthYear	N	As specified on the multi-leg order in the LegMaturityMonthYear field (tag 610) or the LegMaturityDate field (tag 611). Not present for equities, always present for options
201	PutOrCall	N	As specified on the multi-leg order in the LegCFIcode field (tag 608). Not present for equities, always present for options.
202	StrikePrice	N	As specified on the multi-leg order in the LegStrikePrice field

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Tag	Field Name	Req'd	Comments
			(tag 612). Not present for equities, always present for options.
205	MaturityDay	N	As specified on the multi-leg order in the LegMaturityDay field (tag 611). Not present for equities, always present for options.
167	SecurityType	Y	As specified in the New Order message
54	Side	Y	As specified in the New Order message in the LegSide field (tag 624).
38	OrderQty	Y	As specified in the New Order message or Cancel/Replace request
40	OrdType	Y	As specified in the New Order message or Cancel/Replace request
44	Price	N	For limit orders, as specified in the New Order message or Cancel/Replace request
32	LastQty	Y	Quantity of contracts filled on this fill when ExecType = Filled or Partially Filled. Otherwise, this field is 0.
31	LastPx	Y	Price of this fill when ExecType = Filled or Partially Filled. Otherwise, this field is 0.
30	LastMkt	N	Executing venue. Note that the routed-to venue is not provided by many markets, in which case this field will be the same as ExecBroker.
29	LastCapacity	N	Broker capacity in order execution
151	LeavesQty	Y	Number of contracts open for further execution. If the OrdStatus is Cancelled or Rejected (in which case the order is no longer active), then LeavesQty will be 0, otherwise LeavesQty = OrderQty – CumQty.
14	CumQty	Y	Number of contracts executed in total so far on this order chain
6	AvgPx	Y	Average price of fills so far for this order chain
60	TransactTime	Y	TripleCheck® will always send a transaction time. This is the time the event occurred (as opposed to the time it was sent).
58	Text	N	Will contain the reject reason when 150=8 (Rejected). If the order was rejected by TripleCheck®, this field will be prefixed with “TripleCheck: ”. Not all markets provide this

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Tag	Field Name	Req'd	Comments
			information.
442	MultiLeg Reporting Type	Y	Indicates the type of execution report. Always '2' (one per leg).
654	LegRefID	Y	As specified on the multi-leg order in the LegRefID field (tag 654).
204	CustomerOrFirm	N	As specified in New Order message if configured on an order-by-order basis. When configured at the account level, this field will not be included.
9730	LiquidityFlag	N	Will be present when 150=1 or 150=2 and the execution was on a venue that provides a liquidity indicator (added, removed, etc.)
	Standard FIX Message Trailer	Y	

6.11 Exercise Report

Each Exercise Request is followed by one or two Exercise Report messages. In case of success, two reports will be sent; one acknowledging the request (722 = 0) and other with execution details (722 = 3). In case of failure, only one report will be sent with reject status (722 = 2). Note that a session-level reject will be sent if the message is malformed to the extent that an Exercise Report cannot be constructed.

Tag	Field Name	Req'd	Comments
	TripleCheck® FIX Message Header	Y	MsgType = "AM"
1	Account	Y	Identifies the trading account configured in TripleCheck®
440	ClearingAccount	N	If ClearingAccount (440) is specified on the exercise request, the value will be echoed back here.
721	PosMaintRptID	Y	Day-unique identifier assigned by the TripleCheck® system to this report.
710	PosReqID	Y	Echoed back from the Exercise Request message
722	PosMaintStatus	Y	Status of Exercise Request: '0' = Accepted '2' = Rejected '3' = Completed
723	PosMaintResult	N	Result of Exercise Request. Not included if

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Tag	Field Name	Req'd	Comments
			PosMaintStatus = Accepted. Supported values: '0' = Successful Completion '4000' = Rejected (malformed or unsupported request) '4001' = Rejected (requested quantity not available) '4002' = Rejected (early exercise not allowed) '4003' = Rejected (electronic exercise disabled for account)
60	TransactTime	N	Time this report was initiated
55	Symbol	Y	Echoed back from the Exercise Request message
200	MaturityMonthYear	Y	Echoed back from the Exercise Request message
201	PutOrCall	Y	Echoed back from the Exercise Request message
202	StrikePrice	Y	Echoed back from the Exercise Request message
205	MaturityDay	Y	Echoed back from the Exercise Request message
167	SecurityType	Y	Echoed back from the Exercise Request message
58	Text	N	Human-readable reject reason
702	NoPositions	Y	Number of repeating group members
→703	PosType	N	Mandatory only for EX. Supported values: 'EX' = Options Exercise quantity 'TX' = Transaction from exercise
→704	LongQty	N	Definition varies based on PosType. Mandatory only if PosType = EX. Quantity to exercise if PosType = EX. Echoed from Exercise Request. Long position of underlying resulting from exercise in PosType = TX.
→705	ShortQty	N	Short position of underlying resulting from exercise. Positive number.
	Standard FIX Message Trailer	Y	

7 Symbolology

7.1 US Equities

TripleCheck® natively supports the NASDAQ/BATS symbolology, as well as the CMS variant symbolology. NASDAQ symbolology is specified using just tag 55 (Symbol), while CMS is specified using a combination of tag 55 (Symbol) and tag 65 (SymbolSfx).

Client sessions can be configured to always echo back the symbol in execution-reports using tags 55 and 65 with CMS symbolology, or tag 55 only using NASDAQ symbolology, regardless of how the client specified the symbol.

The table below lists all possible forms of the hypothetical symbol XYZ in all symbolologies that TripleCheck® supports:

Type	CMS		NASDAQ
	55 (Symbol) =	65 (SymbolSfx) =	55 (Symbol) =
Common	XYZ		XYZ
Preferred	XYZ	PR	XYZ-
Preferred Class A	XYZ	PRA	XYZ-A
Class A	XYZ	A	XYZ.A
Warrants	XYZ	WS	XYZ+
Warrants Class A	XYZ	WSA	XYZ+A
When Distributed	XYZ	WD	XYZ\$
Preferred When Distributed	XYZ	PRWD	XYZ-\$
Preferred Class A When Distributed	XYZ	PRAWD	XYZ-A\$
Called	XYZ	CL	XYZ*
Class A Called	XYZ	ACL	XYZ.A*
Preferred Called	XYZ	PRCL	XYZ-*
Preferred Class A Called	XYZ	PRACL	XYZ-A*
Emerging Company Marketplace	XYZ	EC	XYZ!
Partial Paid	XYZ	PP	XYZ@
Convertible	XYZ	CV	XYZ%
Convertible Called	XYZ	CVCL	XYZ%*
Class A Convertible	XYZ	ACV	XYZ.A%

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Type	CMS		NASDAQ
	55 (Symbol) =	65 (SymbolSfx) =	55 (Symbol) =
Preferred Class A Convertible	XYZ	PRACV	XYZ-A%
Rights	XYZ	RT	XYZ^
Units	XYZ	U	XYZ=
When Issued	XYZ	WI	XYZ#
Rights When Issued	XYZ	RTWI	XYZ^#
Preferred When Issued	XYZ	PRWI	XYZ-#
Preferred Class A When Issued	XYZ	PRAWI	XYZ-A#
Class A When Issued	XYZ	AWI	XYZ.A#
Warrant When Issued	XYZ	WSWI	XYZ+#
Test	XYZ	TEST	XYZ~

7.2 US Options

The OSI initiative standardized options symbols in the following format:

Root Symbol + Expiration Year(YY) + Expiration Month(MM) + Expiration Day(DD) +
Call/Put Indicator (C or P) + Strike Price Dollars +
Strike Price Fraction of Dollars (which can include decimals)

For example, the Google September 2010 call with a strike price of 530 is represented as:

GOOG100917C00530000.

Symbol	Year	Month	Day	Put/Call	Strike (Int)	Strike (Dec)
GOOG	10	09	17	C	00530	000

The following minimum field sizes are enforced:

- Symbol – 6 characters
- Year – 2 characters
- Month – 2 characters
- Day – 2 characters
- Put/Call indicator – 1 character
- Strike Dollar – 5 characters
- Strike Decimal – 3 characters

The total symbol is always 21 characters in length.

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For New Order Single messages, the following fields must be specified:

- Tag 55 – OSI symbol or 3 character OPRA root code
- Tag 200 – Expiration month-year in format YYYYMM
- Tag 201 – Put or call
- Tag 202 – Strike price
- Tag 205 – Specify an expiration day (from 1-31)

For each leg of a Multileg order, the following fields must be specified:

- Tag 600 – OSI symbol or 3 character OPRA root code
- Tag 608 – CFI Code ('OC' for options call, 'OP' for options put)
- Tag 611 – Expiration date in format YYYYMMDD
- Tag 612 – Strike price