NYSE Pillar Gateway
Binary
Protocol Specification

NYSE Equities

NYSE Arca Equities

NYSE American Equities

NYSE National Equities

NYSE Texas Equities

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PROTOCOL VERSION 1.1

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1. Introduction

This document describes the implementation of the Binary protocol used by the NYSE Group markets via the Pillar Binary Gateway. It includes information pertaining to application communication with the following venues.

Current Market Support	Future Market Support
NYSE Equities	NYSE Bonds
NYSE Arca Equities	
NYSE American Equities	
NYSE National Equities	
NYSE Texas Equities	

1.1 About the Pillar Binary Gateway

Pillar Binary Gateway is the application offering a single protocol for firms to transact business with one or more of the NYSE Group markets. It is a component of Pillar, an integrated trading technology platform that has been designed to reduce complexity, while enhancing consistency, performance and resiliency across the NYSE Group markets.

While some of the binary message types contained in this document are specific to particular markets, participants will use the same stream protocol messaging as defined in the NYSE Pillar Stream Protocol Specification. For more information on the Pillar trading platform and gateway rollout, please visit https://www.nyse.com/pillar.

1.2 Session Configuration by Market

Each session on the Pillar Gateway will be configured to access a single NYSE Group market. The market configuration will determine which specific Application Layer Payload message types may be transacted over that session. For details on the applicability of each message type to the various markets, please refer to the Application Layer Payload message formats.

1.3 Failure Recovery

Each session on the Pillar Gateway is assigned two pairs of destination Pillar IP addresses, and one port number used by all four IPs. The IP/Port pairs correspond to the Pillar Primary and DR production environments.

- **Primary Production Environment** – Pillar Binary Gateway users may be simultaneously logged in to both the primary and backup destination IP addresses, but the TG stream may only be open for writing on one destination IP address at any given time.
    - In the event that the primary destination becomes unavailable, the user should attempt to open the TG stream for writing on the secondary IP address. Cancel on Disconnect will be triggered if the outage was caused by a gateway failure or when write permission is removed from the primary IP address, honoring the Cancel on Disconnect configuration for the session.
    - In the event of an intraday session restart, both Primary and Secondary destination IP addresses will be temporarily unavailable.
        - All open orders entered on the affected session will be cancelled, regardless of the Cancel on Disconnect configuration for the session.
        - Upon restart, additional streams may be available on the affected session:

- Old GT stream(s) – if the session restart was not accompanied by a software release rollback, the GT stream that was active prior to the outage will be available with the old StreamID and recoverable message data. In the event of multiple such intraday session restarts, the number of old GT streams will be equal to the number of restarts that occurred during the day. The old GT stream(s) will be advertised by StreamAvail messages.
- New GT, TG, and REF Streams – will be available with new StreamIDs. Specifically, the "sess_num" of the StreamID will increase, and this value will be equal for all three of these new streams. Compared to any old, recovered GT stream(s) described above, all new streams will have the highest "sess_num."
    - The sequence number on the new TG stream will reset to 1 and the GT and REF streams will follow start of day behavior. The updated sequence number for each stream will be advertised by StreamAvail messages.
- The specific sequence of StreamAvail publication is not guaranteed.

EXAMPLE - two intraday session restarts in succession, without software release rollback.

At start of day, there are three streams available:

- TG (Trader to Gateway)
- GT (Gateway to Trader)
- REF (Reference Data)

Upon first restart, updated sess_num will become available for all three stream types. At this point there will be four streams:

- TG (new - with sess_num increased)
- GT (new - with sess_num increased)
- REF (new - with sess_num increased)
- GT (old - with original sess_num at start of day. This may be opened for replay of old messages published by Pillar before the restart)

Upon a second restart within the same day:

- TG (newest - with sess_num increased again)
- GT (newest - with sess_num increased again)
- REF (newest - with sess_num increased again)
- GT (old - with sess_num following the first restart. This may be opened for replay of old messages published by Pillar after the first restart, but before the second)
- GT (oldest - with original sess_num at start of day. This may be opened for replay of old messages published by Pillar before the first restart.)

- **DR Production Environment** – In the event that the Pillar Primary Production environment becomes unavailable, Pillar Binary Gateway users may log in to the DR IP addresses configured for their sessions.
    - All open orders will be cancelled automatically, regardless of whether the user attempts to log back in or not and regardless of the Cancel on Disconnect configuration for the session.
    - StreamIDs will change for each session. The values assigned will have no correlation to the Primary Production Environment StreamIDs, the sequence number on the TG stream will reset to 1, and the GT and REF streams will follow start of day behavior. The updated sequence number for each stream will be advertised by StreamAvail messages.
    - Message data from the old streams that were active prior to the outage will not be recoverable.
- For more information, refer to the NYSE Pillar Stream Protocol Specification.

NYSE Pillar Risk Mitigation

In the event a matching engine enters an unexpected state, the Pillar Risk Mitigation process will be triggered.

- Gateway users will receive unsolicited cancels on all live orders on the impacted matching engine, including MOO, LOO, MOC, LOC, with a reason code '168 – Pillar Risk Mitigation'.
- The impacted matching engine will initiate an automatic recovery during which period new orders will be rejected with a reason code '76 – System not available'.
- Once the resumption is complete, users will need to resubmit MOO, LOO, MOC, and LOC orders.

1.4 Contact Us

The NYSE Group Market Support teams have a centralized phone number. Through this number, clients are able to reach all support contacts for Trading, Technical, Market Data and Client Relationship Services.

+1 212-896-2830

Follow the prompts for menu options.

2. Data Types

The following data types are used in Pillar Binary Gateway messages.

Type	Description
u8	8 bit Unsigned Little Endian
u16	16 bit Unsigned Little Endian
u32	32 bit Unsigned Little Endian
u64	64 bit Unsigned Little Endian
char	1 ASCII character
char(xx)	Fixed length string padded on the right with spaces
zchar(xx)	Fixed length string padded on the right with NUL (ASCII 0) characters
Price	Unsigned Little Endian 64 Bit with Price Scale of 8. Example – 123000000 = $1.23
Timestamp	Unsigned Little Endian 64 bit since UNIX Epoch, in nanoseconds

Bits/bytes reserved for future use **-** firms should populate all units denoted in this specification as "reserved for future use" with 0.

3. Maximum Order Price and Quantity

The maximum allowable limit Price and OrderQty for the NYSE Group equities markets are as follows. Order and Cancel/Replace messages entered with values larger than the following will be rejected.

- **Maximum Price** - for all NYSE Group equities markets except where noted. The maximum value is determined on a per symbol basis, adjusted nightly based on closing last sale.

  It is recommended that at the start of each trading day, firms refer to the Price Scale Code published in the NYSE XDP Symbol Index Mapping message:
  - **Symbols with price scale code 6** = $2,147.48
  - **Symbols with price scale code 4** = $214,748.364
  - **Symbols with price scale code 3** = $999,999.999

Price Scale	Closing Last Sale Threshold	Max Price
6	< $500.00	$2,147.480000
4	>= $500.00	$214,748.3640
3	>= $100,000.00	$999,999.999

- **Maximum OrderQty**
  - **NYSE Equities**
    - **Auction orders routed to matching engine** = 25,000,000 shares. Auction orders consist of MOO, LOO, MOC, LOC, Imbalance Offset for Close, Closing D Order, Opening D Order, and DMM orders representing manual interest for open and close. The maximum does not apply to Issuer Direct Offering (IDO) Order
    - **All other orders routed to matching engine** = 5,000,000 shares
  - **NYSE Arca Equities, NYSE American Equities, NYSE National Equities** = 5,000,000 shares
  - **NYSE Texas Equities**
    - **Cross orders** = 25,000,000 shares
    - **All other orders** = 5,000,000 shares

4. Pillar Message Streams

All inbound and outbound messaging on the Pillar Binary Gateway is conducted over streams. A stream is an append-only messaging sequence.

All messages transacted over Pillar message streams are classified as either Unsequenced or Sequenced.

- **Pillar Stream Protocol** – Unsequenced messages. They are used to manage and interact with Pillar message streams. For detailed information on stream functionality and the related unsequenced message types, please refer to the NYSE Pillar Stream Protocol specification.
- **Application Layer Payload** – Sequenced messages; must carry a sequence number which is incremented with each new message published to a given stream. The sequence number is contained in the data structure "SeqMsg," which must be present on all Application Layer Payload message types.

Both types of messages are transacted over the Pillar stream types shown below. Firms may read and/or write to these streams to the extent that those permissions are available. Availability is advertised via StreamAvail messages. The specific sequence of StreamAvail publication is not guaranteed.

Stream Type	Messaging Direction	Permissions	Description
TG	Inbound	Write	**"Trader to Gateway"** – individualized stream to which a particular firm routes all their Sequenced and Unsequenced messages destined for the Pillar trading platform.
GT	Outbound	Read	**"Gateway to Trader"** – individualized stream to which Pillar publishes all outbound Sequenced and Unsequenced messages to a particular firm, including both transactional and Reference Data messages.
REF	Outbound	Read	**"Reference Data" –** individualized stream to which Pillar publishes Symbol, MPV Class, MPV Level, and Session Configuration Acknowledgment reference data.

5. Data Structures

5.1 MsgHeader

User Type: All

MsgHeader is a basic structure required in all Pillar Binary Gateway messages. It declares the message type and message length.

Field	Type	Offset	Len	Values
type	u16	0	2	Message type. See Application Layer Payload message formats
length	u16	2	2	Total message length, including this header + all message payload/add-ons that follow this header.

5.2 SeqMsgId

User Type: All

SeqMsgId serves as the unique identifier of each SeqMsg message on the TG (Trader to Gateway) and GT (Gateway to Trader) streams. It is made up of a stream identifier and sequence number, the combination of which is globally unique across all firms transacting with the Pillar trading platform, and indefinitely unique across time.

Field	Type	Offset	Len	Values
stream_id	StreamId	0	8	Target stream identifier
seq	u64	8	8	Message sequence number, starting from 1

5.3 SeqMsg

User Type: All

SeqMsg serves as the header for Application Layer Payload messages. As such, it is required at the beginning of each Application Layer Payload message type, and is immediately followed by the Application message itself (e.g., New Order, Execution Report, etc.). The main purpose of this header is to provide all Application messages with a unique sequence number and timestamp.

Field	Type	Offset	Len	Values
msghdr	MsgHeader	0	4	Type: 0x0905 Minimum Length = 32
seqmsg	SeqMsgId	4	16	Globally unique message identifier
reserved	u32	20	4	Reserved field
timestamp	Timestamp	24	8	Time of message transmission.
payload	MsgHeader	32	4	Message payload. The Application Layer Payload message (New Order, Execution Report, etc.) will begin here with its own MsgHeader

5.4 BitfieldOrderInstructions

User Type: All

BitfieldOrderInstructions is a data structure defining a number of order instructions, attributes, and modifiers.

Field	Offset	Width (Bits)	Values	NYSE	American	National	Arca	Texas
Reserved	0	12	Bits reserved for future use	Yes	Yes	Yes	Yes	Yes
SubIDIndicator	12	1	When populating both MPSubID and SelfTradeType on an order, allows the firm to specify whether the MPSubID should be used or ignored for Self-Trade Prevention (STP) evaluation. See “Self-Trade Prevention” section of this spec for more details. If also using Pillar Pre-trade Risk Controls, the MPSubID will be used for Risk Entity purposes regardless of the value specified in this field. 0 = for this order, use MPSubID (within the MPID) for STP evaluation	0	0	0	0	0

Field	Offset	Width (Bits)	Values	NYSE	American	National	Arca	Texas
			1 = for this order, ignore the OnBehalfOfSubID for STP (conduct STP evaluation at MPID level only)	1	1	1	1	1
SpecialOrdType	13	4	0 = No SpecialOrdType 1 = DMM Open/Re-open/Close with or without Auction (AOC) 2 = DMM Pre-auction 3 = DMM After-auction 4 = QCT 8 = *Reserved for future use*	0 1 2 3	0	0	0	0
LocateReqd	17	1	0 = No LocateReqd Orders with Side of Sell Short, Sell Short Exempt, Cross Short, and Cross Short Exempt must be entered as LocateReqd = 0. If entered as LocateReqd = 1, order will be rejected.	0	0	0	0	0
RetailIndicator	18	1	0 = Not retail 1 = Retail order	0 1	0 1	0 1	0 1	0
AttributedQuote	19	3	0 = Not Attributed 1 = Attributed for Market Data Feeds 2 = Include in Broker Volume 3 = Attributed for Market Data Feeds, and Include in Broker Volume	0	0 1	0 1	0 1	0 1
OrderCapacity	22	3	1 = Agency 2 = Principal 3 = Riskless Principal 4 = Error Account (NYSE Floor Broker only)	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
InterestType	25	3	0 = No InterestType 1 = *Reserved for future use* 2 = *Reserved for future use* 3 = *Reserved for future use* 4 = Q-Order 5 = Capital Commitment Order (CCO) 6 = Capital Commitment Order (CCO) – partial fill contra-side	0 5 6	0 4	0 4	0 4	0 4
TradingSessionID	28	3	1 = Early Trading Session 2 = Core Trading Session 3 = Late Trading Session 4 = Early & Core Trading Sessions 5 = Core & Late Trading Sessions 6 = Early, Core & Late Trading Sessions	1 2 4* 5* 6*	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

Field	Offset	Width (Bits)	Values	NYSE	American	National	Arca	Texas
			*Note: for symbols trading on NYSE, all values that include Core designation (Core, Early/Core, Core/Late, and Early/Core/Late) will be allowed, if the order type supports the combination on other Pillar markets. However, for each of those values, Pillar will honor the applicable trading sessions included in the instruction based on Tape (B/C symbols - Early and Core; A symbols - Core only), and ignore the other trading sessions specified in the instruction (Tape B/C symbols - Late; Tape A symbols - Early and Late)					
TimeInForce	31	3	1 = Day 2 = IOC 3 = At the Opening 4 = On Close	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
ProactiveIfLocked	34	3	0 = No ProactiveIfLocked 1 = Proactive route 2 = Proactive trade non display (Non-display remove liquidity for non-displayed orders locked by contraside ALOs)	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2
SelfTradeType	37	3	0 = Use current Session Configuration STP setting for the Username 1 = No Self Trade Prevention 2 = Cancel Newest 3 = Cancel Oldest 4 = Cancel Both 5 = Cancel Decrement	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
CancelInstead OfReprice	40	4	0 = Not applicable (follow default order behavior) 1 = Cancel order instead of repricing – for LULD only 3 = Cancel order instead of repricing for any reason	0 3	0 1 3	0 1 3	0 1 3	0 1 3
RoutingInst	44	4	0 = No RoutingInst 1 = Non-routable 2 = Routable 3 = Directed (Primary Only) 4 = Directed + Routable (PO+S)	0 1 2	0 1 2 3 4	0 1 2 3 4	0 1 2 3 4	0 1 2 3 4

Field	Offset	Width (Bits)	Values	NYSE	American	National	Arca	Texas
			5 = Primary Market until 9:45		5	5	5	5
			6 = Primary Market after 3:55		6	6	6	6
			7 = BOTH Primary Market until 9:45 AND Primary Market after 3:55		7	7	7	7
			8 = Minimum Fill (must be entered with MinQty field populated with a non-zero value)	8	8	8	8	8
			10 = Route to ATS	10	10	10	10	10
ExtendedExecInst	48	4	0 = No ExtendedExecInst	0	0	0	0	0
			1 = Add Liquidity Only (ALO)	1	1	1	1	1
			3 = No route to IOI			3	3	3
			5 = Retail Order Type 1	5		5		
			6 = Retail Order Type 2			6		
			7 = Retail Provider	7		7		
			8 = Imbalance Offset	8	8		8	8
			9 = Discretionary Peg		9		9	
			10 = Dark (Non-Displayed) Primary Peg		10			
			14 = Issuer Direct Offering (IDO)	14				
ExecInst	52	4	0 = No ExecInst	0	0	0	0	0
			1 = *Reserved for future use*					
			2 = *Reserved for future use*					
			3 = Tracking Order		3	3	3	3
			4 = ISO	4	4	4	4	4
			5 = Primary Peg		5	5	5	5
			6 = Market Peg		6	6	6	6
			7 = Midpoint Liquidity	7	7	7	7	7
			8 = Non displayed (Retail Price Improvement and Limit-Non Displayed orders)	8	8	8	8	8
			9 = Trade-at ISO	9	9	9	9	9
			10 = Last Sale Peg	10				
OrdType	56	4	1 = Market	1	1	1	1	1
			2 = Limit	2	2	2	2	2
			3 = Inside limit	3	3	3	3	3
			4 = Pegged	4	4	4	4	4
Side	60	4	1 = buy	1	1	1	1	1
			2 = sell	2	2	2	2	2
			3 = sell short	3	3	3	3	3
			4 = sell short exempt	4	4	4	4	4
			5 = cross					5
			6 = cross short					6
			7 = cross short exempt					7

5.5 BitfieldFlowIndicator

User Type: All

BitfieldFlowIndicator is a data structure defining whether the inbound message was throttled.

Field	Offset	Width (Bits)	Values	NYSE	American	National	Arca	Texas
Throttled	0	1	0 = Inbound message was not throttled 1 = Inbound message was throttled	0 1	0 1	0 1	0 1	0 1
Reserved	1	7	Bits reserved for future use	Yes	Yes	Yes	Yes	Yes

5.6 OptionalOrderAddOn – Equities Customer

User Type: Equities customers

This is an optional data structure a firm may choose to append to an Order or Cancel/Replace Request message. A maximum of one OptionalOrderAddOn structures may be sent on a single message.

If included on the Order, the Exchange will also include it on certain outbound messages as specified in the "Application Layer Payload Messages" section of this specification.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0241, Length = 41	Yes	Yes	Yes	Yes	Yes
DeliverToCompID	zchar(5)	4	5	Not applicable.					
MaxFloor	u32	9	4	0 = No MaxFloor Otherwise, must be entered in Round Lots.	Yes	Yes	Yes	Yes	Yes
LocateBroker	zchar(4)	13	4	For orders with Side of Sell Short, Sell Short Exempt, Cross Short, and Cross Short Exempt, identifies which broker has loaned the stock to settle the short sale. For firms using Pillar Pre-trade Risk Controls, use of this field may be configured as mandatory.	Yes	Yes	Yes	Yes	Yes
Reserved	char(8)	17	8	Reserved for future use.	Yes	Yes	Yes	Yes	Yes
OffsetPrice	Price	25	8	0 = No OffsetPrice Otherwise, value must be:	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				- For Market Peg order - equal to or multiple of 0.01 - For Retail Price Improvement order (optional modifier on NYSE only) - equal to or multiple of 0.001					
EffectiveTime	Timestamp	33	8	Reserved for future use.					

5.7 OptionalSettlementTypeAddOn – NYSE Texas Equities

User Type: NYSE Texas Equities

This is an optional data structure a firm may choose to append to an Order or Cancel/Replace Request message. A maximum of one OptionalOrderAddOn structures may be sent on a single message.

If included on the Order, the Exchange will also include it on certain outbound messages as specified in the "Application Layer Payload Messages" section of this specification.

Field	Type	Offset	Len	Values	Texas
msghdr	MsgHeader	0	4	Type = 0x0246 Length = 5	Yes
SettlementType	zchar(1)	4	1	0 = Regular Way 1 = Cash* *Only supported on Cross Orders. If not specified, the settlement type is assumed as regular way	Yes

5.8 OptionalRoutingStrategyAddOn - Equities Customer

This is an optional data structure a firm may choose to append to an Order or Cancel/Replace Request message. A maximum of one OptionalOrderAddOn structures may be sent on a single message.

If included on the Order, the Exchange will also include it on certain outbound messages as specified in the "Application Layer Payload Messages" section of this specification.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0261, Length = 32	Yes	Yes	Yes	Yes	Yes
RoutingStrategy	u8	4	1	1 = Midpoint Ping 2 = Retail Price Improvement Seeking 3 = Retail Midpoint Ping	1	1	1 2 3	1	1
Reserved	N/A	5	27	Reserved for future use.	Yes	Yes	Yes	Yes	Yes

6. Reference Data

6.1 Start of Day

The "Gateway to Trader" (GT) and "Reference Data" (REF) streams contain a queue of Application Layer Payload messages as follows.

- **Symbol reference data** – For each symbol available for trading on a given gateway session, Pillar will publish a "Symbol Reference Data" message. The message contains the SymbolID used by the Exchange to uniquely identify that security as well as other information governing order entry for it such as RoundLotSize, MaxOrderPrice, and MPVClassName.
  Instead of ticker symbol, firms must use the associated SymbolID on each message requiring symbology. As such, firm applications will be expected to read request all the queued messages on their GT or REF stream through at least one of their gateway sessions for a given NYSE Group market before they begin sending orders to the Pillar trading platform for that market.
    - **For NYSE DMM sessions** - an additional "DMM Symbol Reference Data" message is published for each of the firm's assigned securities.
- **Minimum Price Variant reference data –** Pillar will publish various messages that together define the MPVs of the securities available for trading on the given gateway session. The MPV messages are:
    - **Minimum Price Variant Class Reference Data –** a fixed length message that defines an MPV Class by name and identification number, and provides the value of the Retail Price Improvement MPV for that Class.
    - **Minimum Price Variant Level Reference Data –** a variable length message that defines one or more MPV Levels within a single MPV Class. Each level corresponds to a security's price range (e.g. above $1.00 or below $1.00), and has its own MPV value governing limit order entry for securities belonging to that MPV Class and Level.

- **MPID configuration settings** – An instance of the unsolicited "MPID Configuration" message will be published for each MPID configured on an individual gateway session. The message indicates the current status of the MPID – Active, Inactive, or Prospect. The firm may enter Application Layer Payload messages (e.g. Order and Cancel/Replace Requests) for Active MPIDs only.
- **MMID configuration settings** – An instance of the unsolicited "MMID Configuration" message will be published for each MMID configured on an individual gateway session. The message provides the character representation of a Market Maker, LMM, SLP, SLMM or DMM and the integer MMID value assigned to it (remains static from day to day). These firms must provide their MMID along with its associated MPID on all orders intended to receive credit for satisfying their marking making/liquidity obligations.
- **Session configuration settings** – An unsolicited "User Session Configuration Acknowledgment" message will be published to the REF stream, providing the firm with confirmation of their currently configured (default) settings for an individual gateway session.

GT Stream only:

- **Risk Controls** – unsolicited "Risk Control Acknowledgement" messages will be published to Risk Admin sessions with information regarding current Risk Control configurations carried over from the prior trading day.

6.2 Intraday

At any time during the course of a trading day, symbol reference data may be updated, MPID statuses may change, and firms may choose to change their session configuration settings.

- **Symbol additions and changes** – In the event of an intraday symbol addition or a change to an existing symbol's reference data, a new "Symbol Equities Reference Data" message will be appended to the end of the GT and REF streams.
  In that case, the most recent reference data message available for that symbol on the stream should be read by the firm application, and the old message with earlier sequence number may be disregarded.
    - **For NYSE DMM sessions** - if the update is to a Tape A symbol, a new "DMM Symbol Reference Data" message will published to the sessions of the assigned DMM firm.
- **MPID status changes** – In the event that the status of an MPID changes intraday (typically by request of the firm), a new "MPID Configuration" message will be appended to the end of the GT and REF streams of all the gateway sessions configured to use that MPID. The new message will indicate the updated, current status.
- **Requesting changes to session configuration settings** – Firms may request a change in certain subscription based settings for an individual gateway session by sending a "Session Configuration Request" message via the "Trader to Gateway" (TG) stream.
  Pillar Binary Gateway will respond by appending to the GT and REF streams a new "Session Configuration Acknowledgment" message reflecting the updated settings.
  Session configuration changes made by NYSE Group staff on behalf of the firm will also produce these acknowledgment messages to the gateway.
- **DMM Symbol Subscription -** the DMM firm may subscribe for a given symbol from multiple sessions by sending a request on each session. For details, see the "Symbol Subscription Request" and "Symbol Subscription Acknowledgement" sections of this specification.
- **Risk Controls** – Risk Users may make intraday changes to Risk Control configurations via the NYSE Pillar Binary Gateway or NYSE Trade Ops Portal user interface, and Pillar may take automated action when risk limits are breached. As a result, solicited and unsolicited "Risk Control Acknowledgement" and "Risk Control Alert" messages will be published to Risk Admin sessions with details.

6.3 Mapping Orders and Executions to NYSE XDP Market Data

The NYSE Pillar Binary Gateway provides order and deal identifiers as unique 8 byte integers in the following outgoing message types.

Gateway Message Type	Field(s) for Mapping to XDP
Order Acknowledgement	OrderID
Order Modify/Cancel Request Acknowledgment	OrderID
Order Priority Update Acknowledgement	OrderID
Execution Report	OrderID, DealID
Trade Bust/Correct	OrderID, DealID

To correlate the OrderID and TradeID values provided in the Pillar FIX Gateway with XDP 2.1 products:

- The full 8 bytes of the gateway "OrderID" correspond to the 'OrderID' field in XDP messages.
- Bytes 5 through 8 of the gateway "DealID" correspond to the 'TradeID' field in XDP messages.
    - In all XDP feeds, the MarketID and SystemID are provided in the Symbol Index Mapping, and these values are static for the trading day.
    - The table below shows the data structure of the 8-byte DealID value provided in the Pillar FIX Gateway as it maps to XDP fields. This table assumes the client byte ordering is Little Endian. If the client byte ordering is Big Endian, the byte order is reversed.

XDP Field Name	Offset	Size (Bytes)	XDP Format	Description
Reserved	0	1	Binary	0
SystemID	1	1	Binary	Unique ID of the originating Pillar symbol partition. This value is found in the Symbol Index Mapping message's ID field
MarketID	2	2	Binary	ID of the Originating market in the Symbol Index Mapping
TradeID	4	4	Binary	Public TradeID as it will appear in XDP products

For more information, please refer to the XDP Common Client Specification at https://www.nyse.com/market-data/real-time.

7. Trading Services

7.1 Self-Trade Prevention

NYSE Group offers a Self-Trade Prevention (STP) service. This service is designed to allow firms to better manage their order flow and prevent unintended executions with themselves.

STP Firm Identifier - STP may be enforced using one of two alternative firm identifiers:

- **MPID based STP** - two orders with the same MPID + MPSubID (optional sub identifier) will be prevented from trading with each other.
- **ClientID based STP** - two orders with the same ClientID, an identifier registered with the Exchange, will be prevented from trading with each other regardless of whether the MPIDs are same or different. A firm may register a ClientID in support of a business unit within the same or affiliated firm, or for routing to the exchange through another member. ClientID STP is configuredas a session level default, available to order entry gateway sessions that have one MPID assigned. The default will NOT be echoed back on order acknowledgements via binary gateway. To register a new ClientID, please contact Client Relationship Services at CRS@nyse.com.
- The above identifiers are mutually exclusive. An order with a ClientID will always be allowed to trade with an order that does not have a ClientID, even if they are from the same MPID.

STP Types:

- **STP Cancel Newest –** An incoming order marked with this designation will not execute against opposite side resting interest that is marked with any of the STP Types. Instead, the incoming order or repriced order will be automatically cancelled back to the order originator. The resting order remains on the order book.
- **STP Cancel Oldest –** An incoming order marked with this designation will not execute against opposite side resting interest that is also marked with any of the STP Types. Instead, the resting order will be automatically cancelled back to the order originator. The incoming order will then continue to auto execute or be placed on the order book.
- **STP Cancel Both –** An incoming order marked with this designation will not execute against opposite side resting interest that is also marked with any of the STP Types. Instead, both the incoming order and the resting order will be cancelled back automatically.
- **STP Cancel Decrement –** An incoming order marked with this designation will not execute against opposite side resting interest marked with any of the STP Types. Instead, for price-time allocation, if both orders are equivalent in quantity, both orders will be cancelled back to the order originator. If the orders are not equivalent in quantity, the larger order is decremented by the quantity of the smaller order, and the smaller order is fully cancelled. For parity allocation (applicable only to NYSE), both the portion of a resting order that would receive an allocation and the portion of the incoming order that would be allocated to that resting order will be cancelled back to the order originator.

7.2 Message Throttling

Messages from the member firm to Pillar are read at a rate of 500 messages per rolling 100 milliseconds. The message read rate includes all applicable Stream and Application Layer Payload message types.

- **NYSE DMM Multi-message** - each individual message between the TG Begin/TG End sequence counts as 1 message toward the throttle calculation.
- **Risk Limit Update Request message** - is weighted such that each request counts as 50 messages toward the throttle calculation, or a maximum of 10 per 100 milliseconds.

A session becomes throttled when the message count reaches a value of 500 during the time window. A session becomes un-throttled when there are no messages to read from the firm.

Firms must define on session login how Pillar Gateway should handle a throttled message once it is read:

1. **Queue and Process** – Throttled messages will be queued and processed in time sequence as the message read rate allows
2. **Queue and Reject –** Throttled messages will be queued and rejected as the message read rate allows
    - New order messages will be rejected <78 – Throttle Reject >
    - Cancel, Modify and Bulk Cancel messages will be processed as if queued
    - Cancel portions of Cancel Replace messages will be processed as if queued. The Exchange will send the following response messages:
        - Cancel/Replace Reject with <78 – Throttle Reject>
        - UROUT for the cancelled order with BitfieldFlowIndicator, “Throttled” bit set to ‘1’ (Inbound Message was Throttled)
    - Outbound messages will not be throttled and will be processed without impact to processing of inbound messages

NYSE DMM multi-message - regardless of session configuration selected upon login, Pillar Gateway will always treat a multi-message as Queue and Process. TG Begin, TG End, and all messages in between will be queued and processed even if the session is configured for queue and reject.

7.3 Denial of Service Restrictions

Pillar maintains a running counter of log in attempts and session level rejects on a per SenderCompID/Target IP address basis over the course of a trading day. If either of the counters reaches 100, the SenderCompID/Target IP will go into Denial of Service Mode. Upon entering this mode Pillar will:

- Reset counters for the SenderCompID/Target IP to zero
- Cancel orders based on customer cancel on disconnect settings for the SenderCompID
- Disconnect the SenderCompID and refuse connection attempts to that specific TargetIP for 60 seconds

7.4 FIX Drop Copies

Drop copies of order activity transacted over the Pillar Binary Gateway are available via a separate FIX gateway interface. When ordering new FIX drop copy sessions, recipients may choose from the following configuration options.

- **Market Participant Filters** – receive drop copies of activity filtered by one of the following criteria:
  - SenderCompID(s) – a single or multiple order entry session SenderCompIDs
  - MPID(s) – a single or multiple MPIDs
  - Clearing Number(s) – a single or multiple clearing numbers
- **Order Activity Filters** – receive drop copies of outbound messages for either:
  - **All order activity** – all Execution Reports (MsgType = 8) regardless of OrdStatus, and all Order Cancel Rejects (MsgType = 9)
  - **Fills and Partial Fills only** – only Execution Reports (MsgType = 8) with OrdStatus = 1 (Partially Filled) and 2 (Filled)

FIX drop copy messages may be mapped to Pillar Binary Gateway messages delivered on GT Streams as follows:

- **ClOrdID (11)** = binary 'ClOrdID' represented in decimal/base 10 string format.
- **OrigClOrdID (41)** = binary 'OrigClOrdID' represented in decimal/base 10 string format.
- **ExecID (17)** = binary SeqMsgId ('seqmsg' field) converted to hexadecimal/base 16 string format, excluding leading zeros.
- **ExecRefID (19)** = binary 'RefSeqMsgID' converted to hexadecimal/base 16 string format (for Trade Bust/Correct only), excluding leading zeros.
- **SenderSubID (50)** = binary 'username' field from the Pillar Stream Protocol Login/Login Response messages. This represents the unique identifier (SenderCompID) of the originating binary order entry session.
- **TargetSubID (57)** = binary 'MMID' field (integer representation), converted to its corresponding 'MarketMaker' field value (character representation), according to the MMID Configuration message.
- **OnBehalfOfCompID (115)** = binary 'DeliverToCompID'.
- **DeliverToCompID (128)** = binary 'MPID'.
- **OnBehalfOfSubID (116)** = binary 'MPSubID'.
- **Account (1)** = binary 'UserData'.

FIX Drop Copy for NYSE DMM:
In addition to standard FIX drop copy functionality, the following features will apply for NYSE DMM.

- **Manual Order Activity** – will be included in FIX drop copy messages if the drop copy session is subscribed for either the:
  - DMM MPID, or
  - SenderCompID of the firm's DBK GUI stream
- **Manual Order Identification** – FIX drop copy messages for manual orders will carry SenderSubID (50) = the SenderCompID of the firm's DBK GUI stream. This identifier may be used to distinguish manual orders from electronic orders.
- **Tag SpecialOrdType (9202)**
  - Will be used for drop copy of both electronic and manual Open/Re-open/Close with/without Auction, Pre-auction, and After-auction messages
  - Represented using same values in FIX as in Binary order entry; see FIX spec
- **Additional Admin messages for Manual Opening/Re-opening/Closing with Auction**
  - When a Floor DMM prepares to conduct a manual opening/re-opening/closing auction, Pillar generates certain Admin messages to validate the quantity (PRIN), price, and side specified in the DBK GUI Opening/Closing templates

- The messages are generated when the Floor DMM presses the "Done" key on the template, and will appear on DMM FIX drop copy before any Manual Action Requests are sent for approval to the subscribed Binary session
- Admin messages will never be sent to the Binary subscribed session
- Format - the Admin messages will always be formatted as a Msg 8 order reject for a Manual Opening/Re-opening/Closing request (SpecialOrdType = 1) with SenderSubID (50) = the SenderCompID of the firm's DBK GUI stream
    - **If validation passes** - an Admin message with Text (58) = R220: Dry Run will be sent to FIX drop copy, followed by a Manual Action Request to the subscribed Binary session
    - **If validation fails** - an Admin message with Text (58) = other reason code describing why the validation failed will be sent to FIX drop copy (see protocol spec for list of all codes). A Manual Action Request will NOT be sent to the subscribed Binary session, since the auction will not proceed
- The Admin messages will also be included in end of day DMM Output files

7.5 Binary Echo Sessions

Binary Echo sessions may be established to provide duplicate copies of outgoing messages transacted over one or more of a firm's order entry sessions. A Binary Echo Session is configured with two streams as follows:

- **GT Stream** – provides aggregated copies of original messages from the GT streams of one or more specified order entry sessions. All original messages are included, except Reference Data message types, which are filtered out from delivery on the Binary Echo Session.

  Messages delivered over this stream are formatted with two "SeqMsg" data structures. The first serves as the message header for the binary echo GT stream itself, with the SeqMsgID containing its StreamID and a sequentially incrementing sequence number.

  The second "SeqMsg" data structure is an identical copy of the header from the original message sent over the order entry GT stream, with the SeqMsgID containing the original StreamID and sequence number. This is followed by the Application Layer Payload from the original message.

  Binary Echo GT Stream Message Format:

	Field	Type	Offset	Len	Values
SeqMsg structure *of the message transmitted on Binary Echo GT Stream*	**msghdr**	MsgHeader	0	4	Type: 0x0905 Minimum Length = 64
	seqmsg	SeqMsgId	4	16	Globally unique message identifier
	reserved	u32	20	4	Reserved field
	timestamp	Timestamp	24	8	Time of message transmission.
SeqMsg structure *of original message from Order Entry GT Stream*	**msghdr**	MsgHeader	32	4	Type: 0x0905, Minimum Length = 32
	seqmsg	SeqMsgId	36	16	Globally unique message identifier
	reserved	u32	52	4	Reserved field
	timestamp	Timestamp	56	8	Time of message transmission.

	Field	Type	Offset	Len	Values
Application Layer Payload *of original message from Order Entry GT Stream*	**payload**	MsgHeader	64	4	Message payload. The Application Layer Payload message (New Order, Execution Report, etc.) will begin here with its own MsgHeader

- **REF Stream** – provides a single stream of Reference Data messages for use by the Binary Echo Session.

Binary Echo for NYSE DMM – excludes the following message types, which are only sent to the single order entry session subscribed for a given Symbol:

- GT Begin
- GT End
- Auction Request
- Auction Price Data
- Manual Action Request
- Order activity messages (acks, fills, UROUTs, etc.) for manual DMM orders

7.6 Risk Controls

User Type: Risk Admin

Stream Type: TG

For Entering Firms and Clearing Firms using Pillar Risk Controls, the following message types are available via a dedicated Risk Admin session type (does not support order entry).

These messages are implemented in binary protocol only, but Risk Control functionality applies to both FIX and Binary order flow mapping to the Risk Entities for which risk limits are configured.

- Risk Limit Update Request
- Risk Action Request
- Risk Control Acknowledgement
- Risk Control Alert

The firm may send Risk Limit Update Requests and Risk Action Requests (to query/update limits, reinstate, take kill switch action, etc.) and will receive Risk Control Acknowledgements and Alerts only for the specific MPIDs configured for use on the session, and for the SubIDs associated with those MPIDs.

8. Member Firm to Pillar - Application Layer Payload Messages

8.1 Session Configuration Request

User Type: All

Stream Type: TG

This message may be sent by the firm to change their configuration settings for a given gateway session, as defined by its Username). If accepted by the gateway, the updated settings will be applied on a go forward basis only. For example, a change in the SelfTradePrevention setting will be applied to future Order and Cancel/Replace Requests sent after the request is accepted, but will not be applied to open orders entered before the request was sent. Changes will be persisted for the life of the StreamID (that is, for the length of the trading day or until the next time Pillar restarts).

In the future, additional fields may be added to the end of the message to support other configurations, using the "reserved" bytes shown below. Firms should be prepared to accept and process significant values in the reserved bytes.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0220 Length = 74	Yes	Yes	Yes	Yes	Yes
Username	char(16)	4	16	Unique identifier of the gateway session – SenderCompID.	Yes	Yes	Yes	Yes	Yes
CancelOnDisconnect	u8	20	1	1 = Enable Cancel on Disconnect; Cancel – Day; Directed Orders (This will cancel all orders for the Session EXCEPT Auction orders – TIF = 3-At the Opening and 4-On Close)* 2 = Enable Cancel on Disconnect. Cancel – ALL orders for the Session* *Exclusions – The following orders are always excluded from cancellation during a Cancel on Disconnect event: - IOC orders - NYSE Arca and NYSE American Equities - for primary symbols - MOO/LOO orders for 1 minute prior to the Core Opening Auction	1 2	1 2	1 2	1 2	1 2

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				- Primary Close Only Market/Limit (PO + MOC/LOC) orders for NYSE symbols after 3:50 PM - MOC/LOC orders during Closing Auction freeze; on NYSE, for primary symbols - MOC/LOC orders after 3:50 PM - NYSE Equities - for primary symbols - all orders after scheduled closing time - NYSE Equities - Issuer Direct Offering (IDO) order Note: the firm may only "upgrade" the Cancel on Disconnect subscription setting through the gateway Session Configuration Request. That is, if Cancel on Disconnect is Disabled by default, the request message can be used to Enable it (setting = 1 or 2). Or, if the default configuration value = 1, the request message can be used to set the configuration = 2. A change in configuration from 2 to 1 is not allowed through the request message, nor is Disabling Cancel on Disconnect. To make these changes, the firm must contact NYSE Group Market Support.					
ThrottlePreference	u8	21	1	0 = Queue orders when throttled 1 = Reject orders when throttled	0 1	0 1	0 1	0 1	0 1

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
SelfTradePrevention	u8	22	1	Session level default for the STP value on all Order and Cancel/Replace requests entered on the session. Note: if the STP value is set on an individual Order or Cancel/Replace Request, that value will override this session level default. 1 = No Self Trade Prevention 2 = Cancel Newest 3 = Cancel Oldest 4 = Cancel Both 5 = Cancel Decrement	 1 2 3 4 5	 1 2 3 4 5	 1 2 3 4 5	 1 2 3 4 5	 1 2 3 4 5
OrderPriorityUpdate AckSubscription	u8	23	1	0 = Not subscribed to receive the unsolicited "Order Priority Update Ack" message on the Session 1 = Receive unsolicited "Order Priority Update Ack" message on the Session (for Reserve Order replenishment)	0 1	0 1	0 1	0 1	0 1
BOLDDesignation	u8	24	1	**NYSE American Options -** Session level default for the BOLD setting on all Order and Cancel/Replace requests entered on the session. **For all other markets** - this field will be treated as filler. Any value specified will not be processed					
Reserved	zchar(49)	25	49	Bytes reserved for future use	Yes	Yes	Yes	Yes	Yes

8.2 Sequenced Filler Message

User Type: All

Stream Type: TG

This message type is used to increase the next expected sequence number of a TG stream by 1 on a given gateway session. An acknowledgment will not be sent for this message, which otherwise has no business meaning. The format consists only of an Application Layer Payload MsgHeader with a unique value for the 'Type' field. Once accepted and processed by the Pillar Binary Gateway, the updated value of the next expected sequence number will be reflected on the next StreamAvail message published to the TG Stream.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0282 Length = 4	Yes	Yes	Yes	Yes	Yes

8.3 New Order Single and Cancel/Replace Request

User Type: All

Stream Type: TG

This single message type is used as both a New Order message or a Cancel/Replacement message destined for the NYSE Pillar Trading Engine.

- **New Order** – Set the field 'OrigClOrdID' to zero (0).
- **Cancel/Replace Request** – Populate the field 'OrigClOrdID' with the ClOrdID of the order intended for replacement. The Cancel/Replace message is used to make changes to an order without preserving its ranking in the Exchange order book. The replacement order will get a new ClOrdID (equal to the ClOrdID of the Cancel/Replace Request), a new Timestamp, and a new OrderID. The following fields must be populated with the same values that were sent on the original order intended for replacement:
    - **MPID**
    - **MMID**

Data Structures used in this Message:

- **BitfieldOrderInstructions** – This message includes a bitfield containing a number of order instructions. See the "Data Structures" section at the beginning of this specification for a definition of the positions and valid values of each bit.
- **OptionalOrderAddOn** – This message is variable length, allowing the firm to send up to one of two optional add-ons at the end of the message to make use of additional order attributes and modifiers. See the "Data Structures" section at the beginning of this specification for the field formats and valid values of the available add-ons.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0240	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				Minimum Length = 65					
SymbolID	u32	4	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	8	4	Firm Identifier – MPID. On Cancel/Replace request, must match the MPID of the order intended for replacement.	Yes	Yes	Yes	Yes	Yes
MMID	u32	12	4	This value represents the integer representation of a Market Maker, LMM, SLP, SLMM or DMM, agreed upon between the firm and the Exchange. These firms must provide their MMID along with its associated MPID on all orders intended to receive credit for satisfying their marking making/liquidity obligations.	Yes	Yes	Yes	Yes	Yes
MPSubID	char	16	1	Customer defined – identifies specific entity/trading desk of customer firm.	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	17	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	Yes	Yes	Yes	Yes	Yes
OrigClOrdID	u64	25	8	Refers to the ClOrdID of a previously entered order.	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
BitfieldOrder Instructions	BitfieldOrder Instructions	33	8	Bitfield containing various order attributes and modifiers. See data structure defintion table for the positions and valid values of each bit.	Yes	Yes	Yes	Yes	Yes
Price	Price	41	8	0.000001-999999.999999	Yes	Yes	Yes	Yes	Yes
OrderQty	u32	49	4	1 - 999,999,999	Yes	Yes	Yes	Yes	Yes
MinQty	u32	53	4	0 = no MinQty Otherwise, Must be ≤ OrderQty	Yes	Yes	Yes	Yes	Yes
UserData	zchar(8)	57	8	Customer defined up to 8 characters; only printable ASCII characters allowed, excluding comma, semicolon, pipe delimiter, “at” symbol, greater than/less than, ampersand (&) and single/double quotation mark..	Yes	Yes	Yes	Yes	Yes
OptionalOrderAddOn		65	4	Data structure - one of two optional add-on structures may be appended to the Order message to make use of additional functionality. If present, add-on always begins with the 4 byte ‘msghdr’ field. See data structure definition table for the positions and valid values of each bit.	Yes	Yes	Yes	Yes	Yes

8.4 Order Cancel Request

User Type: All

Stream Type: TG

This message is used to cancel a single targeted order. Populate the field 'OrigClOrdID' with the ClOrdID of the order intended for cancellation.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
Msghdr	MsgHeader	0	4	Type = 0x0280 Length =28	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	4	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	8	4	Firm Identifier – MPID. Must match the MPID of the order intended for cancellation.	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	12	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	Yes	Yes	Yes	Yes	Yes
OrigClOrdID	u64	20	8	Refers to the ClOrdID of a previously entered order.	Yes	Yes	Yes	Yes	Yes

8.5 Order Modify Request

User Type: All

Stream Type: TG

This message is used to reduce the total number of shares/contract order quantity, or to change the side of an existing order between Sell, Sell Short, and Sell Short Exempt only, while preserving the order's ranking in the Exchange order book as well as its original OrderID.

The modified order, however, will get a new ClOrdID (equal to the ClOrdID of the Modify Request).

Note: Reducing the total quantity to 0 will cancel the order.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0270 Length =34	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	4	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	8	4	Firm Identifier – MPID. Must match the MPID of the order intended for modification.	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	12	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	Yes	Yes	Yes	Yes	Yes
OrigClOrdID	u64	20	8	Refers to the ClOrdID of a previously entered order.	Yes	Yes	Yes	Yes	Yes
OrderQty	u32	28	4	1 - 999,999,999 New desired order quantity. Note: Only a reduction in	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				quantity is allowed via the Modify Request					
Side	u8	32	1	0 = no change in Side 1= buy 2 = sell 3 = sell short 4 = sell short exempt 5 = cross 6 = cross short 7 = cross short exempt	0 2 3 4	0 2 3 4	0 2 3 4	0 2 3 4	0 2 3 4
LocateReqd	u8	33	1	0 = No LocateReqd, or Not Applicable Orders with Side of Sell Short, Sell Short Exempt, Cross Short, and Cross Short Exempt must be entered as LocateReqd = 0. If entered as LocateReqd = 1, order will be rejected.	0	0	0	0	0

8.6 Bulk Cancel Request

User Type: All

Stream Type: TG

This message is used to bulk cancel multiple orders based on the combination of criteria specified in the message.

- As with all Application Layer Payload messages, the 'MPID' field on the Bulk Cancel Request must be populated with a valid MPID configured for use on that session.
    - When selecting a code in the 'BulkCancelType' field for MPID-level order cancellation, the 'MPID' field will determine the MPID whose orders are cancelled.
    - When selecting a code in the 'BulkCancelType' field for Session-level order cancellation, all orders entered on the session will be cancelled, regardless of their MPIDs and the value provided in the 'MPID' field.
- To enter a Bulk Cancel Request for a particular MMID, the firm may populate the 'MMID' field with the identifier targeted for cancellation. This will limit the scope of cancellation to Q Orders entered with the specified MMID.
- Exclusions – the following orders are always excluded from cancellation by a Bulk Cancel Request:
    - IOC orders
    - NYSE Arca and NYSE American Equities - for primary symbols - MOO/LOO orders for 1 minute prior to the Core Opening Auction
    - Primary Close Only Market/Limit (PO + MOC/LOC) orders for NYSE symbols after 3:50 PM
    - MOC/LOC orders during Closing Auction freeze; on NYSE, for primary symbols - MOC/LOC orders after 3:50 PM
    - NYSE Equities - for primary symbols - all orders after scheduled closing time
    - NYSE Equities - Issuer Direct Offering (IDO)order

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0281 Length = 31	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	4	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	8	4	Firm Identifier - MPID	Yes	Yes	Yes	Yes	Yes
MMID	u32	12	4	This value represents the integer representation of a Market Maker, LMM, SLP, SLMM or DMM, agreed upon between the firm and the Exchange. These firms must provide their MMID along with its associated MPID on all orders intended to receive credit for satisfying their marking making/liquidity obligations. If specified on the Bulk Cancel Request, this will limit the scope of cancellation to Q Orders entered with the specified MMID.	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	16	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	Yes	Yes	Yes	Yes	Yes
DeliverToCompID	zchar(5)	24	5	Not applicable					
BulkCancelType	u8	29	1	1 = Cancel orders for the individual gateway session	1	1	1	1	1

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				only. Cancel – Day; Directed Orders					
				2 = Cancel orders for the individual gateway session only. Cancel – ALL orders	2	2	2	2	2
				3 = Cancel orders for the individual gateway session only. Cancel – At the Opening; Day; Directed orders	3	3	3	3	3
				4 = Cancel orders for the MPID. Cancel – At the Opening; Day; Directed orders	4	4	4	4	4
				5 = Cancel orders for the MPID. Cancel – Day; Directed orders	5	5	5	5	5
				6 = Cancel orders for the MPID. Cancel – GTC orders (NYSE Arca & American Options only)	6	6	6	6	6
				7 = Cancel orders for the MPID. Cancel – At the Opening and On Close orders	7	7	7	7	7
				8 = Cancel orders for the MPID. Cancel – Day orders	8	8	8	8	8
				9 = Cancel orders for the MPID, and Block all new order entry for the MPID. Cancel – Day; Directed orders	9	9	9	9	9
				10 = Block all new order entry for the MPID	10	10	10	10	10
				11 = Unblock new order entry for the MPID	11	11	11	11	11
					12	12	12	12	12

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				12 = Cancel orders for the MPID. Cancel – Directed orders 13 = Cancel orders for the MPID. Cancel – Capital Commitment Orders (NYSE DMM only)	13				
Side	u8	30	1	0 = No side 1= buy 2 = sell (will cancel all Sell, Sell Short, and Sell Short Exempt orders)	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2

8.7 Symbol Subscription Request

User Type: NYSE Designated Market Maker (DMM)

Stream Type: TG

This message is sent by the firm to designate a gateway session (Username) to receive the following messages for the specified symbol from Pillar:

- Auction Price Data
- Auction Request
- Manual Action Request
- Echo messages of order activity for DMM manual orders

Multiple sessions may subscribe for the same symbol, in which case they will each receive copies of the same messages. Subscription applies on a go-forward basis; new messages will be published to a session to the extent that they are generated after the time that particular session subscribed to the symbol. Old messages previously sent to a different subscribed session can only be replayed there, and not on the session that subscribed at a later time.

Subscription is retained upon normal disconnect or logout, until the next trading day or Pillar restart.

Field	Type	Offset	Len	Values	NYSE DMM
msghdr	MsgHeader	0	4	Type = 0x0346 Length = 24	Yes
SymbolID	u32	4	4	Identification number assigned to the security	Yes
Username	char(16)	8	16	Unique identifier of the gateway session – SenderCompID.	Yes

8.8 TG Begin

User Type: NYSE Designated Market Maker (DMM)

Stream Type: TG

This is used to define the beginning boundary of a multi-message originating from the firm, which is a sequence of messages that is intended to be read and processed atomically by Pillar.

- All messages within the multi-message must have the same SymbolID.
  Note - if Bulk Cancel Request is sent inside a multi-message, the SymbolID field of the Request must be populated with a non-zero value.
- A maximum of 20 individual messages may be sent inside the TG Begin/TG End sequence. All message types may be sent as part of multi-message except:
  - Session Configuration Request
  - Symbol Subscription Request
  - Sequenced Filler Message
- All messages within the multi-message must conform to ONE of the following three categories. The multi-message may NOT contain a mix of messages from multiple categories:
  - **Manual Action Responses**
  - **Requests targeting Electronic DMM orders** - regular Cancel, Cancel/Replace, Modify, Bulk Cancel requests targeting orders originally entered electronically.
  - **Requests targeting Manual DMM orders** - as described in the "Electronic Interaction with Manual DMM Orders" section of this specification. Cancel, Cancel/Replace, Modify, Bulk Cancel requests targeting manual DMM orders (originally entered via DBK GUI).

Pillar responses to multi-messages from the DMM application are always individual Acks/Rejects.

Field	Type	Offset	Len	Values	NYSE DMM
msghdr	MsgHeader	0	4	Type = 0x0343 Length = 4	Yes

8.9 TG End

User Type: NYSE Designated Market Maker (DMM)

Stream Type: TG

This is used to define the ending boundary of a multi-message, which is a set of messages originating from the firm that is intended to be read and processed atomically by Pillar. All messages within the multi-message must have the same SymbolID.

Field	Type	Offset	Len	Values	NYSE DMM
msghdr	MsgHeader	0	4	Type = 0x0344 Length = 4	Yes

8.10 Manual Action Response

User Type: NYSE Designated Market Maker (DMM)

Stream Type: TG

This message is used to approve or reject a Manual Action Request, and may be sent from any DMM firm session.

Format as Multi-message - this message type must always be entered as part of a multi-message, between TG Begin and TG End, along with one or more instances of the Manual Action Response.

- **One Response per Request is required**. A multi-message Response from the DMM application lacking explicit approvals/rejections for any corresponding Requests will void ALL the Requests and be treated as a timeout, even if the multi-message also contained some approvals
- Each Response must reference the **'ManualActionID'** provided on the corresponding Manual Action Request
- Each Response must carry a **ClOrdID** which Pillar will ONLY use if it needs to reject the Manual Action Response due to failed validation.

  Pillar will assign unique ClOrdIDs to all New Order, Cancel, Modify, and Bulk Cancel Requests that it generates on behalf of the DMM firm as a result of successfully validated and processed Manual Action Responses. These ClOrdIDs will not correlate to those provided by the DMM firm on their Response messages (see the "Electronic Interaction with Manual DMM Orders" section of this specification).

Reject and Timeout - if the firm responds with instructions to reject, or does not respond at all within 100 milliseconds, the pending manual action will not be processed and a reject/timeout message will be displayed on the DBK GUI. If specified, the 'DMMRejectReason' from the Manual Action Response will be used. If the pending manual action is for a 'position marking' request ('ManualOverride' = 2), see below for more details on how responses are handled.

Multi-message for Manual Open/Re-open/Close - for multi-message that includes a Manual Action Request for an Opening/Re-opening/Closing Auction ('ManualActionType' = 3, 4 or 5):

Pillar will conditionally process all other pending actions in the multi-message based on whether the opening/re-opening/closing was approved.

- **If the Opening/Re-opening/Closing was approved** ('ManualResponseType' = 1) - Pillar will proceed to process all other approval Responses in the multi-message, and cancel/timeout all pending actions that received a rejection Response or no Response.
- **If the Opening/Re-opening/Closing was rejected** ('ManualResponseType' = 2) - Pillar will cancel all other pending actions from the corresponding Request sequence, even if approval Responses were entered for those other actions.
    - A reject message will be displayed on the DBK GUI. If multiple rejection Responses are entered - the 'DMMRejectReason' from the first Manual Action Response with this field populated will be displayed on the DBK GUI.

Multi-message with only New Orders and/or Reductions to DMM Interest - for multi-message that consists only of Manual Action Request(s) to add a new order or reduce aggregate DMM order(s) quantity ('ManualActionType' = 1 and/or 2):

- Pillar will process or cancel/timeout all pending actions from the corresponding Request sequence as a whole - all or none.
- For the pending actions to be processed, the firm must enter a multi-message with a corresponding approval Response for each Request ('ManualResponseType' = 1).
- If the firm responds with rejects of some of the Requests and approvals of others, Pillar will reject the Responses and cancel all pending actions in the Request sequence.

A reject message will be displayed on the DBK GUI. If multiple rejection Responses are entered - the 'DMMRejectReason' from the first Manual Action Response with this field populated will be displayed on the DBK GUI.

Multi-message for 'Position Marking' Requests - each Manual Action Request will be processed independently based on the response

- If the 'position marking' request was approved ('ManualResponseType' = 1) - Pillar will proceed with the approved action applying the instructions indicated on the approval response in the same way as an approval response for an initial Manual Action Request (e.g. 'ManualOverride' = 0).
- If the 'position marking' request was rejected ('ManualResponseType' = 2) or timed out - Pillar will proceed with the specific action based on the DMM manual override.

Sell Orders - when approving a manual action on the Sell side for:

- **Opening/Re-opening/Closing Auction and Manual Cross DMM against NYSE Floor Broker** ('ManualActionType' = 3, 4, 5 or 6) - the firm must specify 'SellIndicator' and 'LocateReqd'
    - Pillar will mark the resulting message it generates on behalf of the DMM firm as Sell/Sell Short/Sell Short Exempt and LocateReqd of 0 or 1, according to these fields.
    - Any existing Sell/Sell Short/Sell Short Exempt orders on the book will retain their original Side and LocateReqd values.

- **New Orders** ('ManualActionType' = 1) - the firm must specify 'SellIndicator,' 'IntradaySellShortQty,' and 'LocateReqd.' SellIndicator must be populated as Sell, Sell Short, or Sell Short Exempt - else will be rejected.
    - **When 'IntradaySellShortQty' = 0** - Pillar will create one order for the full requested quantity with Side = 'SellIndicator.'
    - **When 'IntradaySellShortQty' = 'DMMRequestedQty'** on the corresponding Manual Action Request, Pillar will create **one Sell Short order** for the full requested quantity with LocateReqd as specified in the Response. The value specified in 'SellIndicator' will be validated as above but otherwise ignored.
    - **When 0 < 'IntradaySellShortQty' < 'DMMRequestedQty'** on the corresponding Manual Action Request, Pillar will create two orders:
        - **Sell Short order** - with OrderQty = 'IntradaySellShortQty' and LocateReqd as specified in the Response.
        - **A second order for the remaining shares of the request** - with Side = 'SellIndicator' (i.e. Sell or Sell Short Exempt) and OrderQty = 'DMMRequestedQty' minus 'IntradaySellShortQty'.

Field	Type	Offset	Len	Values	NYSE DMM
Msghdr	MsgHeader	0	4	Type = 0x0354 Length = 69	Yes
SymbolID	u32	4	4	Identification number assigned to the security	Yes
ClOrdID	u64	8	8	Usage: If Pillar needs to reject the Manual Action Response, this ClOrdID will be echoed back on the Reject message.	Yes

Field	Type	Offset	Len	Values	NYSE DMM
				Else, this ClOrdID will NOT be used by Pillar. Standard definition: Unique ID of the Manual Action Response message as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	
ManualActionID	SeqMsgID	16	16	Unique ID of the corresponding Manual Action Request.	Yes
SellIndicator	u8	32	1	Sets the Side value for the order quantity represented by DMMRequestedQty (from the corresponding Request) minus IntradaySellShort (as specified in the next field). **For Request with ManualActionType = 2,7 -** must be populated with: 0 = Not applicable **For Request with ManualActionType = 1,3,4,5,6** **and Request Side = 1 (Buy) -** must be populated with: 0 = Not applicable (Buy) **and Request Side = 2 (Sell) -** must be populated with:	Yes

Field	Type	Offset	Len	Values	NYSE DMM
				2 = Sell 3 = Sell Short 4 = Sell Short Exempt Note - Sell Short marking applies only if Pillar needs to create an additional order to fulfill the DMM requested participation quantity; the additional quantity only will be marked as Sell Short.	
IntradaySellShortQty	u32	33	4	**For Request with ManualActionType = 1 and Side = Sell:** Number of shares to mark as Sell Short. To mark entire position as Sell long/Sell Short Exempt (as specified in SellIndicator - the previous field), populate with 0. Note - subject to MaxOrderQuantity limit of the DMM session entering the Response (as advertised in the Session Configuration Acknowledgement message). **For Request with ManualActionType = 2,3,4,5,6,7** - must be populated with: 0 = Not applicable	Yes
MPSubID	char	37	1	Customer defined – identifies specific entity/trading desk of customer firm. If populated on the approval, will be applied to the resulting manual DMM order and included in the order ack.	Yes
LocateReqd	u8	38	1	0 = No LocateReqd 1 = LocateReqd for SSH Orders	0 1

Field	Type	Offset	Len	Values	NYSE DMM
SelfTradeType		39	1	0 = Use default for all DBK GUI streams - Cancel Newest 1 = No Self Trade Prevention 2 = Cancel Newest 3 = Cancel Oldest 4 = Cancel Both 5 = Cancel Decrement	0 1 2 3 4 5
UserData	zchar(8)	40	8	**For Request with ManualActionType = 1,3,4,5,6:** Customer defined up to 8 characters; only printable ASCII characters allowed, excluding comma, semicolon, pipe delimiter, “at” symbol, greater than/less than, ampersand (&) and single/double quotation mark.. Value provided will be applied to the resulting order. For all other ManualActionTypes, will be ignored.	Yes
ManualResponse Type	u8	48	1	1 = Approve Manual Action Request 2 = Reject Manual Action Request	1 2
DMMRejectReason	char(20)	49	20	When ManualResponseType = 2 - optional reject reason for display on DBK GUI. Customer defined up to 20 characters; only printable ASCII characters allowed excluding comma, semicolon, pipe delimiter, “at” symbol, greater than/less than, ampersand (&) and single/double quotation mark. When multiple Manual Action Responses are sent for multi-message Requests - the RejectReason from the first Manual Action Response	Yes

Field	Type	Offset	Len	Values	NYSE DMM
				with this field populated will be displayed on the DBK GUI. For a response to the 'position marking' request, the DMMRejectReason will not be displayed on the DBK GUI.	

8.11 Risk Limit Update Request

User Type: Risk Admin

Stream Type: TG

This message allows firms using Pillar Risk Controls to set/update the risk configurations of Risk Entities for which they have "write" entitlements.

Please refer to the NYSE Pillar Risk Controls document for all functional detail regarding the use of Pillar Risk Controls, including:

- For each Risk Control Type - Risk Entity applicability, mandatory fields, and minimum/maximum limit values
- Equities Symbol level Risk Entities - restrictions on the number of symbol level Risk Entities that may be configured
- Frequently Asked Questions

De-activating Risk Controls - to turn off a Risk Control, Risk Users may set RiskControlActivation = 0 (off). In response, Pillar will default the limit to (-1) which indicates "no limit."

Reject Sell Short/Sell Short Exempt (Equities Markets) - may be set for an individual symbol (send request message with SymbolID field populated), or for all symbols (send request message with SymbolID field null).

Maximum Order Qty as Percentage of Symbol ADV (Equities Markets) - may be set by ADV range, represented as RiskRangeID and applied to all symbols belonging to that range. Alternatively, a limit may be set for an individual symbol.

- **Limit for all Symbols in ADV Range**
  - Send one request message per RiskRangeID. Leave the SymbolID field null and populate the RiskRangeID field
  - Minimum ADV to Apply Check (optional) - to turn on, send request with RiskRangeID = 0 and specify the minimum ADV in the RiskMinimumValue field. To turn off, send RiskRangeID = 0 with RiskControlActivation = 0 (off)
  - Note: start of day reference data is available that defines the ADV Range/RiskRangeID to which each symbol belongs. See *Equities Symbol Reference Data* message type in this specification
- **Limit for Individual Symbol**
  - First create a symbol level Risk Entity via the Risk Action Request. This step must be completed before attempting to set risk limits for the symbol, else the Risk Limit Update Request will be rejected

- Next, send a Risk Limit Update Request. Populate the SymbolID field and leave the RiskRangeID field null
- Minimum ADV to Apply Check - to opt out of applying a minimum value, set the RiskMinimumValue field to (-1) on the Risk Limit Update Request. To opt in, populate it with the intended minimum ADV

Limit Order Price Protection - Price Protection Limits are configured by limit price range - represented as RiskRangeID. A Risk User who chooses to configure limits must specify a valid value for each range.

In addition, a Risk User may optionally specify certain multipliers to be applied across all ranges (Equities Markets).

Configuration is "all or none" - until Pillar accepts a limit for each range and the Risk User subsequently sends a request to activate their configurations, the Exchange default will apply for all ranges. To apply Multipliers on top of Exchange default limits, the Risk User must explicitly enter limits equal to the Exchange default in addition to specifying their Multiplier values.

Steps to configure:

- **Set Custom Limits** - send separate request messages with RiskControlType = 23 (Limit Order Price Protection - Custom Limits) for each RiskRangeID value > 0, specifying both USDLimit and PercentageLimit. Note that both limits must be less than or equal to certain Exchange default values (requests without both fields populated as such will be rejected). The greater of the two limits - either USD or Percentage - will be applied on an order-by-order basis
- **Set Early/Late Trading Multiplier (optional; Equities Markets)** - send one request message with RiskControlType = 24 (Limit Order Price Protection - Early/Late Trading Multiplier), CountLimit = the multiplier value, and RiskRangeID = 0 (not applicable)
- **Set Closing Only Multiplier (optional; Equities Markets)** - send one request message with RiskControlType = 25 (Limit Order Price Protection - Closing Only Multiplier), CountLimit = the multiplier value, and RiskRangeID = 0 (not applicable)
- **Activate Custom Limits & Multipliers** - send one request message with RiskControlType = 23 (Limit Order Price Protection - Custom Limits) and RiskRangeID = 0 (not applicable). If accepted, the configured limits for all RiskRangeIDs and Multipliers will be activated

To deactivate custom limits and return to Exchange default functionality, send one request message with RiskControlType = 23 (Limit Order Price Protection - Custom Limits), RiskRangeID = 0 (not applicable), and RiskControlActivation = 0 (off). If accepted, Pillar will set the limit and RiskControlActivation = 0 for all ranges.

An attempt to set a limit of (-1) or RiskControlActivation = 0 for a RiskRangeID > 0 will be rejected.

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
Msghdr	MsgHeader	0	4	Type = 0x0330 Length = 272	Yes
SymbolID	u32	4	4	Risk Entity – Symbol (equities) or Underlying Symbol (options). Identification number assigned to the security.	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				Required for the following RiskControlTypes: • Reject Restricted Symbol **May optionally be populated for the following RiskControlTypes:** • Activity-based – Rolling Transaction; Volume; Percentage • Reject Sell Short for Symbol; Sell Short Exempt for Symbol • Single Order Maximum Quantity as Percentage of Symbol ADV See guidance above this table for how the request is processed when SymbolID field is populated vs. null. **For all other RiskControlTypes** – not applicable; will be ignored if populated.	
MPID	zchar(4)	8	4	Risk Entity. Firm Identifier – MPID. Required.	Yes
MarketMaker	zchar(10)	12	10	Risk Entity. Options Market Maker identifier – alphanumeric MMID associated with the specified MPID. Populate if applicable.	
MPSubID	zchar(4)	22	4	Risk Entity – SubID associated with the specified MPID. Populate if applicable.	Yes
Reserved	u32	26	4	Bytes reserved for future use.	Yes
ClearingNumber	zchar(5)	30	5	*Reserved for future use.* Risk Entity – Clearing Number associated with the specified MPID. Populate if applicable.	
ClOrdID	u64	35	8	Unique ID of request as assigned by the firm. The firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Pillar will not systemically enforce this. Customer defined.	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
RiskUserCRD	u32	43	4	Risk User – CRD of the firm that owns the risk control represented by this message.	Yes
RiskUserType	char	47	1	Risk User – type of firm that owns the risk control represented by this message. E = Entering Firm C = Clearing Firm O = Options Market Maker Firm	 E C
RiskControlType	u8	48	1	0 = Not Applicable 1 = Single Order Max Qty 2 = Single Order Max Notional Value 3 = Gross Credit – Executed 4 = Gross Credit – Open 5 = Gross Credit – Open + Executed 6 = Maximum Duplicative Orders 7 = *Reserved for future use* 8 = Activity-based – Rolling Transaction 9 = Activity-based – Rolling Volume 10 = Activity-based – Rolling Percentage 11 = Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage 12 = *Reserved for future use* 13 = Reject Market Orders (except MOO & MOC) 14 = Reject MOO & MOC 15 = *not available* 16 = *not available* 17 = Reject Early Trading Session designation 18 = Reject Late Trading Session designation 19 = Reject Restricted Symbol 20 = Reject Sell Short for Symbol 21 = Reject Sell Short Exempt for Symbol 22 = Single Order Maximum Quantity as Percentage of Symbol ADV 23 = Limit Order Price Protection Equities - Custom Limits 24 = Limit Order Price Protection Equities - Early/Late Trading Multiplier 25 = Limit Order Price Protection Equities - Closing Only Multiplier 26 = Limit Order Price Protection Options - Single Leg Custom Limits 27 = Limit Order Price Protection Options - Complex Custom Limits 28 = Require LocateBroker on Sell Short and Sell Short Exempt orders 29 = Order Rate Threshold – Max Orders across All Symbols 30 = Reject ISO IOC	 1 2 3 4 5 6 13 14 17 18 19 20 21 22 23 24 25 28 29 30

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				31 = Reject ISO Day	31
RiskControlActivation	u8	49	1	0 = Risk Control turned off 1 = Risk Control turned on	0 1
USDLimit	i64	50	8	US Dollar limit. **Must be specified for the following RiskControlTypes:** • Single Order Max Notional Value • Gross Credit – Executed, Open, Open + Executed • Limit Order Price Protection – Custom Limits **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	Yes
TimeLimit	i32	58	4	Microsecond time period. **Must be specified for the following RiskControlTypes:** • Activity-based – Rolling Transaction; Volume; Percentage • Activity-based - Global Risk Mitigation Protection for Transaction/Volume/Percentage • Max Duplicative Orders • Order Rate Threshold – Max Orders across All Symbols **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	Yes
PercentageLimit	i32	62	4	Percentage (%). **Must be specified for the following RiskControlTypes:** • Activity-based – Percentage • Limit Order Price Protection – Custom Limits • Single Order Maximum Quantity as Percentage of Symbol ADV **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	Yes
CountLimit	i32	66	4	Count. **Must be specified for the following RiskControlTypes:** • Single Order Maximum Quantity	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				• Activity-based – Rolling Transaction. Represents max # transactions over rolling time period • Activity-based – Rolling Volume. Represents max # contracts executed over rolling time period • Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage. Represents max # breaches over rolling time period • Max Duplicative Orders • Limit Order Price Protection – Early/Late Trading Multiplier & Closing Only Multiplier • Order Rate Threshold – Max Orders across All Symbols **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	
BreachAction Request	u8	70	1	0 = Not Applicable 1 = Notifications Only 2 = Cancel Non-Auction Orders & Block 3 = Block Only **For the following RiskControlTypes** – must be set as 1/2/3: • Activity-based – Rolling Transaction; Volume; Percentage • Gross Credit – Executed; Open; Open + Executed **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	0 1 2 3
IOCAttribution	u8	71	1	0 = Not Applicable 1 = Include IOC orders in activity-based calculations 2 = Exclude IOC orders from activity-based calculations **For the following RiskControlTypes** - must be set as 1 or 2: • Activity-based – Rolling Transaction; Volume; Percentage **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	0
RiskRangeID	u8	72	1	Quantity or price range to which the risk limit is applied. 0 = [see below] or Not Applicable 1 = [see below]	 0 1

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				2 = [see below] 3 = [see below] 4 = [see below] 5 = [see below] 6 = [see below] 7 = [see below] 8 = [see below] 9 = [see below] 10 = [see below] **Available ranges and definitions are determined by the RiskControlType:** • Single Order Maximum Quantity as Percentage of Symbol ADV (Equities Markets): ○ 0 = Optional; used to specify Minimum ADV to Apply Check ○ 1 = Below or Equal to 10,000 shares ○ 2 = Above 10,000 shares and Below or Equal to 100,000 shares ○ 3= Above 100,000 shares and Below or Equal to 1,000,000 shares ○ 4 = Above 1,000,000 shares • Limit Order Price Protection - Custom Limits *Equities Markets:* ○ 1 = Below or Equal to $25.00 ○ 2 = Above $25.00 and Below or Equal to $50.00 ○ 3 = Above $50.00 *Options Markets:* ○ 1 = Below or Equal to $1.00 ○ 2 = Above $1.00 and Below or Equal to $2.00 ○ 3 = Above $2.00 and Below or Equal to $3.00 ○ 4 = Above $3.00 and Below or Equal to $5.00 ○ 5 = Above $5.00 and Below or Equal to $7.50 ○ 6 = Above $7.50 and Below or Equal to $10.00 ○ 7 = Above $10.00 and Below or Equal to $20.00 ○ 8 = Above $20.00 and Below or Equal to $50.00	2 3 4

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				○ 9 = Above $50.00 and Below or Equal to $100.00 ○ 10 = Above $100.00 **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	
RiskMinimumValue	i64	73	8	Minimum value for which to apply the risk control. **Definitions are determined by the RiskControlType:** • Single Order Maximum Quantity as Percentage of Symbol ADV ○ See guidance above this table for how to populate this field ○ May be used to specify a minimum Symbol ADV for which to apply this check ○ For symbols with ADV below the specified value, all orders will be accepted regardless of their quantity **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	Yes
PriceScale	u8	81	1	0 = no decimals; field will be interpreted as an integer 2 = two decimals; field will be interpreted as having two decimals. For example, USDLimit = 25 with PriceScale = 2 represents $0.25 **Must be specified for the following RiskControlTypes:** • Limit Order Price Protection - Custom Limits. Price Scale will be applied to the field USDLimit **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	0 2
Reserved	zchar(190)	82	190	*Bytes reserved for future use*	Yes

8.12 Risk Action Request

User Type: Risk Admin

Stream Type: TG

This message allows firms using Pillar Risk Controls to query Risk Entities for current configurations/calculations/status, invoke Kill Switch actions, and Approve Reinstatement following a breach with "Block" instructions.

All actions must be performed per individual Risk Entity + RiskControlType (bulk actions not supported via this message).

SymbolID - must be populated for the following actions:

- **Equities Markets - Add, Remove, or Query Symbol Level Risk Entity** - a Risk User must first create a symbol level Risk Entity via the Risk Action Request before it becomes available for setting risk limits

Please refer to the NYSE Pillar Risk Controls document for all functional detail regarding the use of Pillar Risk Controls, including:

- For each Risk Control Type - Risk Entity applicability, mandatory fields, and minimum/maximum limit values
- Equities Symbol level Risk Entities - restrictions on the number of symbol level Risk Entities that may be configured
- Process for reinstatement following a limit breach with Block or Cancel & Block automated breach action
- Frequently Asked Questions

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
Msghdr	MsgHeader	0	4	Type = 0x0331 Length = 250	Yes
SymbolID	u32	4	4	Risk Entity – Symbol (equities) or Underlying Symbol (options). Identification number assigned to the security. **Required to Add/Remove Symbol level Risk Entities (RiskActionTypes = 9 and 10)** - applicable to equites markets only **Required to Query (RiskActionType = 1) the following RiskControlTypes:** • Reject Restricted Symbol • Reject Sell Short for Symbol; Sell Short Exempt for Symbol - when configured for individual symbol • Single Order Maximum Quantity as Percentage of Symbol ADV - when configured for individual Symbol **Required to Query (RiskActionType = 1) or Approve Reinstatement (RiskActionType = 7) for the following RiskControlTypes:**	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				• Activity-based – Rolling Transaction; Volume; Percentage **For all other RiskControlTypes** – not applicable; will be ignored if populated. **May be specified for RiskActionType** - Kill Switch commands.	
MPID	zchar(4)	8	4	Risk Entity. Firm Identifier – MPID. Required.	Yes
MarketMaker	zchar(10)	12	10	Risk Entity. Options Market Maker identifier – alphanumeric MMID associated with the specified MPID. Populate if applicable.	
MPSubID	zchar(4)	22	4	Risk Entity – SubID associated with the specified MPID. Populate if applicable.	Yes
Reserved	u32	26	4	Bytes reserved for future use.	
ClearingNumber	zchar(5)	30	5	*Reserved for future use.* Risk Entity – Clearing Number associated with the specified MPID. Populate if applicable.	
ClOrdID	u64	35	8	Unique ID of request as assigned by the firm. The firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Pillar will not systemically enforce this.	Yes
RiskUserCRD	u32	43	4	Risk User – CRD of the firm that owns the risk control represented by this message.	Yes
RiskUserType	char	47	1	Risk User – type of firm that owns the risk control represented by this message. E = Entering Firm C = Clearing Firm O = Options Market Maker Firm	 E C
RiskControlType	u8	48	1	0 = Not Applicable 1 = Single Order Max Qty 2 = Single Order Max Notional Value 3 = Gross Credit – Executed 4 = Gross Credit – Open 5 = Gross Credit – Open + Executed	 1 2 3 4 5

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				6 = Maximum Duplicative Orders 7 = *Reserved for future use* 8 = Activity-based – Rolling Transaction 9 = Activity-based – Rolling Volume 10 = Activity-based – Rolling Percentage 11 = Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage 12 = *Reserved for future use* 13 = Reject Market Orders (except MOO & MOC) 14 = Reject MOO & MOC 15 = *not available* 16 = *not available* 17 = Reject Early Trading Session designation 18 = Reject Late Trading Session designation 19 = Reject Restricted Symbol 20 = Reject Sell Short for Symbol 21 = Reject Sell Short Exempt for Symbol 22 = Single Order Maximum Quantity as Percentage of Symbol ADV 23 = Limit Order Price Protection Equities - Custom Limits 24 = Limit Order Price Protection Equities - Early/Late Trading Multiplier 25 = Limit Order Price Protection Equities - Closing Only Multiplier 26 = Limit Order Price Protection Options - Single Leg Custom Limits 27 = Limit Order Price Protection Options - Complex Custom Limits 28 = Require LocateBroker on Sell Short and Sell Short Exempt orders 29 = Order Rate Threshold – Max Orders across All Symbols 30 = Reject ISO IOC 31 = Reject ISO Day	6 13 14 17 18 19 20 21 22 23 24 25 28 29 30 31
RiskActionType	u8	49	1	0 = Not Applicable 1 = Query Risk Entity for current Risk Control configs/calculations/status 2 = Kill Switch – Block 3 = Kill Switch – UnBlock 4 = Kill Switch – Cancel Auction Orders 5 = Kill Switch – Cancel Non-Auction Orders 6 = Kill Switch – Cancel GTC Orders 7 = Approve Reinstatement 8 = Risk Entity Reinstated (all necessary reinstatement approvals received; reinstatement processed) 9 = Add Symbol level Risk Entity 10 = Remove Symbol level Risk Entity	 1 2 3 4 5 7 9 10

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
RiskRangeID	u8	50	1	Quantity or price range to which the risk limit is applied. 0 = [see below] or Not Applicable 1 = [see below] 2 = [see below] 3 = [see below] 4 = [see below] 5 = [see below] 6 = [see below] 7 = [see below] 8 = [see below] 9 = [see below] 10 = [see below] **Available ranges and definitions are determined by the RiskControlType:** • Single Order Maximum Quantity as Percentage of Symbol ADV (Equities Markets): ○ 0 = Optional; used to specify Minimum ADV to Apply Check ○ 1 = Below or Equal to 10,000 shares ○ 2 = Above 10,000 shares and Below or Equal to 100,000 shares ○ 3= Above 100,000 shares and Below or Equal to 1,000,000 shares ○ 4 = Above 1,000,000 shares • Limit Order Price Protection - Custom Limits *Equities Markets:* ○ 1 = Below or Equal to $25.00 ○ 2 = Above $25.00 and Below or Equal to $50.00 ○ 3 = Above $50.00 *Options Markets:* ○ 1 = Below or Equal to $1.00 ○ 2 = Above $1.00 and Below or Equal to $2.00 ○ 3 = Above $2.00 and Below or Equal to $3.00 ○ 4 = Above $3.00 and Below or Equal to $5.00 ○ 5 = Above $5.00 and Below or Equal to $7.50 ○ 6 = Above $7.50 and Below or Equal to $10.00 ○ 7 = Above $10.00 and Below or Equal to $20.00	0 1 2 3 4

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				○ 8 = Above $20.00 and Below or Equal to $50.00 ○ 9 = Above $50.00 and Below or Equal to $100.00 ○ 10 = Above $100.00 **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	
Reserved	zchar(199)	51	199	*Bytes reserved for future use*	Yes

9. Pillar to Member Firm - Application Layer Payload Messages

9.1 Equities Symbol Reference Data

User Type: All

Stream Type: GT, REF

This message is published for each security traded on the market for which a gateway session is configured to trade. It provides the firm with the information needed to enter orders for those securities.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0232 Length = 56	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	12	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
NYSESymbol	char(24)	16	24	NYSE/XDP Market Data Symbology	Yes	Yes	Yes	Yes	Yes
ListedMIC	char(4)	40	4	Market Identifier Code (MIC) of Primary Market	Yes	Yes	Yes	Yes	Yes
RoundLotSize	u8	44	1	Round lot size	Yes	Yes	Yes	Yes	Yes
ADVRiskRangeID	u8	45	1	For firms using the NYSE Pillar Risk Control "Single Order Maximum Quantity as Percentage of Symbol ADV."	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				Represents the ADV range to which the symbol belongs. A percentage limit configured for the matching RiskRangeID will be applied to this and all other symbols grouped under that RiskRangeID. ○ 1 = Below or Equal to 10,000 shares ○ 2 = Above 10,000 shares and Below or Equal to 100,000 shares ○ 3 = Above 100,000 shares and Below or Equal to 1,000,000 shares ○ 4 = Above 1,000,000 shares					
Reserved	char(7)	46	7	Bytes reserved for future use.	Yes	Yes	Yes	Yes	Yes
MPVClassID	u16	53	2	Identification number assigned to the MPVClass	Yes	Yes	Yes	Yes	Yes
TestSymbolIndicator	u8	55	1	0 = Production Symbol 1 = Test Symbol	0 1	0 1	0 1	0 1	0 1

9.2 DMM Symbol Reference Data

User Type: NYSE Designated Market Maker (DMM)

Stream Type: GT and REF

This message is provided to firms for each of their assigned securities. It is published at start of day to all sessions configured for use by the DMM firm, regardless of symbol subscription.

Field	Type	Offset	Len	Values	NYSE DMM
Msghdr	MsgHeader	0	4	Type = 0x0832 Length = 129	Yes
TransactTime	Timestamp	4	8	Exchange application time	Yes
SymbolID	u32	12	4	Identification number assigned to the security	Yes
NYSESymbol	char(24)	16	24	NYSE/XDP Market Data Symbology	Yes
Book	char(8)	40	8	Book Name	Yes
MPID	zchar(4)	48	4	DMM MPID	Yes
DMMUnitNum	char(3)	52	3	DMM Unit Identification Number	Yes
Post	char(2)	55	2	NYSE Trading Floor Location	Yes
MedianVolume	u64	57	8	Depth Guidelines - The symbol's median adjusted volume for Trailing Period. Minimum is 1 round lot	Yes
RDSeq	u64	65	8	Depth Guidelines - The symbol's Relevant Depth Sequence size for the trade date	Yes
Ridge	Price	73	8	Depth Guidelines - The symbol's Relevant Individual Depth Guideline for the trade date	Yes
PPP1	Price	81	8	Depth Guidelines - The symbol's Price Participation Point 1 for the trade date	Yes
PPP2	Price	89	8	Depth Guidelines - The symbol's Price Participation Point 2 for the trade date	Yes
PPP3	Price	97	8	Depth Guidelines - The symbol's Price Participation Point 3 for the trade date	Yes

Field	Type	Offset	Len	Values	NYSE DMM
OpenOnTrade MaxQty	u64	105	8	Maximum print quantity for electronic Opening/Re-opening Auction. Represented in number of shares.	Yes
CloseOnTrade MaxQty	u64	113	8	Maximum print quantity for electronic Closing Auction. Represented in number of shares.	Yes
LMOCP	Price	121	8	Listing Market Official Closing Price.	Yes

9.3 Minimum Price Variant Class Reference Data

User Type: All

Stream Type: GT, REF

This message defines a single MPV Class by name and Identification number, and provides attributes belonging to that class.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0230 Length = 50	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
MPVClassName	char(20)	12	20	Name of the Minimum Price Variant (MPV) Class.	Yes	Yes	Yes	Yes	Yes
MPVClassID	u16	32	2	Identification number assigned to the MPVClass.	Yes	Yes	Yes	Yes	Yes
RPIMPV	Price	34	8	Numeric value of the Minimum Price Variation for Retail Price Improvement (RPI) orders for securities belonging to the MPVClass.	Yes	Yes	Yes	Yes	Yes
LULDMPV	Price	42	8	Numeric value of the Minimum Price Variation for LULD bands for securities belonging to the MPVClass.	Yes	Yes	Yes	Yes	Yes

9.4 Minimum Price Variant Level Reference Data

User Type: All

Stream Type: GT, REF

Data Structures used in this Message: This variable length message defines one or more MPV Levels within a single MPV Class. The data structure "MPVLevelDefinition" is embedded in the message for that purpose, and one or more instances of the structure may be present depending on the number of MPV Levels currently in use by the MPV Classes.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0231 Minimum Length = 12	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
MPVLevelDefinition	MPVLevel Definition	12	50	Data structure - see format below. Each instance of the data structure defines a single MPV Level within the MPV Class. In variable length "MPV Level Reference Data" message, multiple MPVLevel data structures may be present to define various MPV levels within the MPV Class.	Yes	Yes	Yes	Yes	Yes

MPVLevelDefinition is a data structure which defines the following attributes for a given 'MPVLevelName':

- **A security price range ('Price')** – for example, less than $1.00 or above $1.00.
- **Quoting Minimum Price Variation ('Quoting MPV')** – the quoting MPV value associated with the price range, which governs limit order entry and quoting for securities belonging to the MPV Level.
- **Trading Minimum Price Variation ('Trading MPV')** – the trading MPV value associated with the price range, which governs trading for securities belonging to the MPV level.

Field	Type	Offset	Len	Values
MPVLevelName	char(24)	0	24	Name of the Minimum Price Variant (MPV) Level. Naming convention includes the MPVClassName
Price	Price	24	8	Order entry Limit price range for the MPVLevel defined in this message
QuotingMPV	Price	32	8	Numeric value of the Quoting Minimum Price Variation for the MPVLevel and Price defined in this message. For the equity markets, this value indicates the security's order entry limit price and

Field	Type	Offset	Len	Values
				quoting increment, as governed by the security's Tick Size Pilot Program group.
TradingMPV	Price	40	8	Numeric value of the Trading Minimum Price Variation for the MPVLevel and Price defined in this message. For the equity markets, this value indicates the security's trading increment, as governed by the security's Tick Size Pilot Program group.
MPVClassID	u16	48	2	Identification number assigned to the MPVClass.

9.5 MPID Configuration

User Type: All

Stream Type: GT, REF

An instance of this message is provided, unsolicited, at start of day for each MPID configured on a gateway session. It indicates the current status of the MPID.

The message will also be provided intraday in the event of an intraday change to an MPID configuration.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0272 Length = 83	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
MPIDStatus	u8	12	1	Indicates the status of the MPID. 1 = Active 2 = Inactive 3 = Prospect	 1 2 3	 1 2 3	 1 2 3	 1 2 3	 1 2 3
MPID	zchar(4)	13	4	Firm Identifier - MPID	Yes	Yes	Yes	Yes	Yes
Username	char(16)	17	16	Unique identifier of the gateway session – SenderCompID.	Yes	Yes	Yes	Yes	Yes
Reserved	char(50)	33	50	Bytes reserved for future use	Yes	Yes	Yes	Yes	Yes

9.6 MMID Configuration

User Type: Equities Market Makers

Stream Type: GT, REF

An instance of this message is provided, unsolicited, at start of day for each MMID configured on a gateway session. It provides the character representation of a Market Maker, LMM, SLP, SLMM or DMM and the integer MMID value assigned to it (remains static from day to day). These firms must provide their MMID along with its associated MPID on all orders intended to receive credit for satisfying their marking making/liquidity obligations.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0273 Length = 142	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
MarketMaker	char(10)	12	10	Character representation of the market maker.	Yes	Yes	Yes	Yes	Yes
MMID	u32	22	4	This value represents the integer representation of a Market Maker, LMM, SLP, SLMM or DMM, agreed upon between the firm and the Exchange. These firms must provide their MMID along with its associated MPID on all orders intended to receive credit for satisfying their marking making/liquidity obligations.	Yes	Yes	Yes	Yes	Yes
Username	char(16)	26	16	Unique identifier of the gateway session– SenderCompID.	Yes	Yes	Yes	Yes	Yes
Reserved	char(100)	42	100	Bytes reserved for future use	Yes	Yes	Yes	Yes	Yes

9.7 Session Configuration Acknowledgement

User Type: All

Stream Type: GT, REF

This message is provided, unsolicited, at start of day. The message indicates the currently configured (default) settings for the gateway session, as defined by its Username.

This acknowledgment is also provided in response to a Session Configuration Request. The 'AckStatus' field indicates whether the request was accepted or rejected. In either case, the values sent in the message indicate the current settings.

Notes on Throttle Preference:

- Throttle preference must be specified in the Pillar Stream Protocol when opening a TG stream via the "Open" request message
- Stream Open request message and Session Configuration Request/Ack are independent of each other
- The value set in Open request always takes precedent, but will not trigger an update to the Session Configuration Ack
- To change settings intraday for a stream that is already open, the firm can send a Session Configuration Request, and will receive an Ack for the updated setting

In the future, additional fields may be added to the end of the message to support other configurations, using the "reserved" bytes shown below. Firms should be prepared to accept and process significant values in the reserved bytes.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0221, Length = 98	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
UserSessionType	u8	12	1	Defines the permission type assigned to the gateway session. UserSessionType controls the message types and values available to the session.					
				1 = Customer (all asset clases) and/or Equities Market Maker	1	1	1	1	1
				2 = Service Bureau	2	2	2	2	2
				3 = Designated Market Maker (DMM)	3				
				4 = Options Market Maker					
				12 = Risk Admin	12	12	12	12	12
UserSessionStatus	u8	13	1	Indicates the status of the gateway session.					
				1 = Active (permission to open streams for reading and writing)	1	1	1	1	1
				2 = Inactive	2	2	2	2	2

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				(permission to open read-only streams) 3 = Prospect (permission to open read-only streams)	3	3	3	3	3
Username	char(16)	14	16	Unique identifier of the gateway session – SenderCompID.	Yes	Yes	Yes	Yes	Yes
MIC	char(4)	30	4	Market Identifier Code (MIC) of the connected market. ARCX = NYSE Arca Equities XASE = NYSE American Equities XCHI = NYSE Texas Equities XCIS = NYSE National Equities XNYS = NYSE Equities	Yes	Yes	Yes	Yes	Yes
CancelOnDisconnect	u8	34	1	0 = Cancel on Disconnect Disabled 1 = Enable Cancel on Disconnect; Cancel – Day; Directed Orders (This will cancel all orders for the Session EXCEPT Auction orders – TIF = 3-At the Opening and 4-On Close)* 2 = Enable Cancel on Disconnect. Cancel – ALL orders for the Session* *Exclusions – The following orders are always excluded from cancellation during a Cancel on Disconnect event: - IOC orders - NYSE Arca and NYSE American Equities - for primary symbols - MOO/LOO orders for 1 minute prior to the Core Opening Auction - Primary Close Only Market/Limit (PO +	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				MOC/LOC) orders for NYSE symbols after 3:50 PM - MOC/LOC orders during Closing Auction freeze; on NYSE, for primary symbols - MOC/LOC orders after 3:50 PM - NYSE Equities - for primary symbols - all orders after scheduled closing time - NYSE Equities - Issuer Direct Offering (IDO)order					
ThrottlePreference	u8	35	1	0 = Queue orders when throttled 1 = Reject orders when throttled	0 1	0 1	0 1	0 1	0 1
ThrottleWindow	u16	36	2	Time period over which the ThrottleThreshold is enforced. Represented in millseconds.	Yes	Yes	Yes	Yes	Yes
ThrottleThreshold	u16	38	2	Maximum number of inbound messages allowed over the time period specified by ThrottleWindow.	Yes	Yes	Yes	Yes	Yes
SymbolEligibility	u8	40	1	Session level permission to control order entry based on type of symbol. 1 = All Symbols (Production and Test Symbols) 2 = Test Symbols only	1 2	1 2	1 2	1 2	1 2
MaxOrderQuantity	u32	41	4	Maximum allowable OrderQty for Order and Cancel/Replace Requests entered on the gateway session.	Yes	Yes	Yes	Yes	Yes
SelfTradePrevention	u8	45	1	Session level default for the STP value on all Order and Cancel/Replace requests entered on the session. Note: if the STP value is set on an individual Order or					

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				Cancel/Replace Request, that value will override this session level default. 1 = No Self Trade Prevention 2 = Cancel Newest 3 = Cancel Oldest 4 = Cancel Both 5 = Cancel Decrement	 1 2 3 4 5	 1 2 3 4 5	 1 2 3 4 5	 1 2 3 4 5	 1 2 3 4 5
OrderPriorityUpdate AckSubscription	u8	46	1	0 = Not subscribed to receive the unsolicited "Order Priority Update Ack" message on the Session 1 = Receive unsolicited "Order Priority Update Ack" message on the Session (for Reserve Order replenishment)	0 1	0 1	0 1	0 1	0 1
AckStatus	u8	47	1	0 = Unsolicited/Start of Day 1 = User Request Valid 2 = User Request Invalid (Rejected)	0 1 2	0 1 2	0 1 2	0 1 2	0 1 2
BOLDDesignation	u8	48	1	**NYSE American Options** - Session level default for the BOLD setting on all Order and Cancel/Replace requests entered on the session. **For all other markets** - this field will be treated as filler. Any value specified will not be processed					
Reserved	zchar(49)	49	49	Bytes reserved for future use	Yes	Yes	Yes	Yes	Yes

9.8 Order and Cancel/Replace Acknowledgement

User Type: All

Stream Type: GT

This message is provided by the Exchange in response to an Order/Cancel Replace Request. It is represented by 'AckType' values New Interest Ack, Pending Replace, and Replaced.

Data Structures used in this Message:

- **BitfieldOrderInstructions** – This message includes a bitfield containing a number of order instructions. See the "Data Structures" section at the beginning of this specification for a definition of the positions and valid values of each bit.
- **BitfieldFlowIndicator** – This message includes a bitfield indicating whether the inbound message was throttled. See the "Data Structures" section at the beginning of this specification for a definition of the positions and valid values of each bit.
- **Optional Order Add-On** – This message is variable length. Whether the firm sent only the Order/Cancel Replace Request base message, or included one of two optional add-ons at the end of the message, the Ack for it will follow the same format. See the "Data Structures" section at the beginning of this specification for the field formats and valid values of the available add-ons.
- **Optional Settlement Type Add-On** - This message is variable length. Whether the firm sent only the Order/Cancel Replace Request base message, or included this add-on at the end of the message, the Ack for it will follow the same format. See the "Data Structures" section at the beginning of this specification for the field formats and valid values of the available add-ons.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0260 Minimum Length = 102	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	12	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	16	4	Firm Identifier - MPID	Yes	Yes	Yes	Yes	Yes
MMID	u32	20	4	This value represents the integer representation of a Market Maker, LMM, SLP, SLMM or DMM, agreed upon between the firm and the Exchange. These firms must provide their MMID along with its associated MPID on all orders intended to receive credit for satisfying their marking making/liquidity obligations.	Yes	Yes	Yes	Yes	Yes
MPSubID	char	24	1	Customer defined – identifies specific entity/trading desk of customer firm.	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
ClOrdID	u64	25	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	Yes	Yes	Yes	Yes	Yes
OrigClOrdID	u64	33	8	Refers to the ClOrdID of a previously entered order.	Yes	Yes	Yes	Yes	Yes
BitfieldOrder Instructions	Bitfield Order Instructions	41	8	Bitfield containing various order attributes and modifiers. See data structure definition table for the positions and valid values of each bit.	Yes	Yes	Yes	Yes	Yes
Price	Price	49	8	0.000001-999999.999999	Yes	Yes	Yes	Yes	Yes
OrderQty	u32	57	4	1 - 999,999,999	Yes	Yes	Yes	Yes	Yes
MinQty	u32	61	4	0 = no MinQty Otherwise, Must be ≤ OrderQty	Yes	Yes	Yes	Yes	Yes
OrderID	u64	65	8	Unique identifier of most recent order as assigned by the Exchange. Published externally to market data feeds	Yes	Yes	Yes	Yes	Yes
LeavesQty	u32	73	4	0 - 999,999,999	Yes	Yes	Yes	Yes	Yes
WorkingPrice	Price	77	8	0.000001-999999.999999	Yes	Yes	Yes	Yes	Yes
WorkingAway FromDisplay	u8	85	1	0 = Working Price is equal to Display Price 1 = Working Price is different from Display Price	0 1	0 1	0 1	0 1	0 1

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
PreLiquidityIndicator	zchar(4)	86	4	0 = None 1 = Candidate for setting a new displayed bid or offer on the local market 4 = Candidate for setting a new displayed bid or offer on the local market and joining the NBBO 5 = Candidate for setting a new displayed bid or offer on the local market and setting the NBBO	0 1 4 5	0 1 4 5	0 1 4 5	0 1 4 5	0 1 4 5
ReasonCode	u16	90	2	These reason codes are provided by the matching engine and qualify the event that produced the message. See Appendix for list of values.	Yes	Yes	Yes	Yes	Yes
AckType	u8	92	1	1 = New Interest 2 = Order Priority Update – New OrderID 3 = Order Priority Update – Same OrderID 4 = Bulk Cancel Ack 5 = Pending Cancel 6 = Pending Replace 7 = Pending Modify 8 = Replaced 9 = Modified 10 = Eligible for Cross 11 = Canceled 12 = Done for Day 13 = Billable Cancel – Adding Liquidity 14 = Billable Cancel – Removing Liquidity 15 = Billable Cancel – Sub Dollar Adding Liquidity 16 = Billable Cancel – Sub Dollar Removing Liquidity	1 6 8	1 6 8	1 6 8	1 6 8	1 6 8
BitfieldFlowIndicator	BitfieldFlow Indicator	93	1	Bitfield indicating whether the inbound message was throttled. See data structure definition table for the positions and valid values of each bit.	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
UserData	zchar(8)	94	8	Customer defined up to 8 characters; only printable ASCII characters allowed, excluding comma, semicolon, pipe delimiter, “at” symbol, greater than/less than, ampersand (&) and single/double quotation mark.	Yes	Yes	Yes	Yes	Yes
OptionalOrderAddOn		102	4	Data structure - one of two optional add-on structures may be appended to the Order message to make use of additional functionality. If present, add-on always begins with the 4 byte ‘msghdr’ field. See data structure definition table for the positions and valid values of each bit.	Yes	Yes	Yes	Yes	Yes

9.9 Order Modify/Cancel Request Acknowledgment and UROUT

User Type: All

Stream Type: GT

This message is used as a Modify Request Acknowledgement, a Cancel Request Acknowledgment, a UROUT, and a Billable Cancel. Firms may be able to distinguish the use case by the ‘AckType’ field.

- **Modify Request Acknowledgement –** Represented by ‘AckType’ values Pending Modify and Modified.
- **Cancel Request Ack** – Represented by ‘AckType’ values Bulk Cancel Ack and Pending Cancel.
- **UROUT** – Indicates the firm’s order has been cancelled by the Exchange. Represented by ‘AckType’ values Canceled and Done for Day.
- **Billable Cancel –** Represented by ‘AckType’ values Billable Cancel – Adding Liquidity, Billable Cancel – Removing Liquidity, Billable Cancel – Sub Dollar Adding Liquidity, and Billable Cancel – Sub Dollar Removing Liquidity.
    - This message is sent only for STP types Cancel Both and Cancel Decrement, and is generated for the quantity that was prevented from trading (matching quantity). Then, if the balance of either order needs to be cancelled as a result of the STP instruction, a UROUT will be sent for the remaining shares with ‘AckType’ Canceled.
    - On the Billable Cancel message, the ‘OrderQty’ field represents the matching quantity and the ‘Price’ field represents the price at which the orders would have executed had they been allowed to trade.

For NYSE DMM session subscribed to a symbol - this message may additionally be sent as an **Unsolicited Modify Ackowledgement**, to notify the firm that a Manual DMM Order has been reduced as a result of a manual action from DBK GUI. Represented by:

- 'AckType' = 9 (Modified)
- 'RefClOrdID' = a new, unique value assigned by Pillar
- 'OrigClOrdID' = the ClOrdID of the order before it was reduced
- 'ReasonCode' = 218 (DMM GUI Reduction in Manual Order Qty)

Data Structures used in this Message:

- **BitfieldFlowIndicator** – This message includes a bitfield indicating whether the inbound message was throttled. See the "Data Structures" section at the beginning of this specification for a definition of the positions and valid values of each bit.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0271 Minimum Length = 74	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	12	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	16	4	Firm Identifier – MPID	Yes	Yes	Yes	Yes	Yes
OrderID	u64	20	8	Unique identifier of most recent order as assigned by the Exchange. Published externally to market data feeds	Yes	Yes	Yes	Yes	Yes
RefClOrdID	u64	28	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined. **On Modify/Cancel Request Acknowledgements:**	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				Refers to the ClOrdID of the incoming Modify, Cancel, or Bulk Cancel Request. **On UROUTs (order cancellation):** - Solicited UROUTs – this field will refer to the ClOrdID of the incoming Cancel or Bulk Cancel Request. - Self Trade Prevention UROUTs – this field will refer to the ClOrdID of the contra-side order that triggered the STP cancellation. (Note: when STP cancellation occurs against a contra-side order entered in the FIX protocol, this field will be populated only if the FIX ClOrdID is all numeric; else it will be populated with 0) - All other unsolicited UROUTs – this field will be set to 0. **NYSE DMM session subscribed to symbol:** On unsolicited Modify Acknowledgements - this field will be set to a new, unique value assigned by Pillar.					
OrigClOrdID	u64	36	8	Refers to the ClOrdID of a previously entered order.	Yes	Yes	Yes	Yes	Yes
Price	Price	44	8	0.000001-999999.999999	Yes	Yes	Yes	Yes	Yes
OrderQty	u32	52	4	1 - 999,999,999	Yes	Yes	Yes	Yes	Yes
LeavesQty	u32	56	4	0 - 999,999,999	Yes	Yes	Yes	Yes	Yes
Side	u8	60	1	1 = buy 2 = sell 3 = sell short 4 = sell short exempt 5 = cross 6 = cross short 7 = cross short exempt	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4 5 6

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
LocateReqd	u8	61	1	0 = No LocateReqd Orders with Side of Sell Short, Sell Short Exempt, Cross Short, and Cross Short Exempt must be entered as LocateReqd = 0. If entered as LocateReqd = 1, order will be rejected.	0	0	0	0	0
ReasonCode	u16	62	2	These reason codes are provided by the matching engine and qualify the event that produced the message. See Appendix for list of values.	Yes	Yes	Yes	Yes	Yes
AckType	u8	64	1	1 = New Interest 2 = Order Priority Update – New OrderID 3 = Order Priority Update – Same OrderID 4 = Bulk Cancel Ack 5 = Pending Cancel 6 = Pending Replace 7 = Pending Modify 8 = Replaced 9 = Modified 10 = Eligible for Cross 11 = Canceled 12 = Done for Day 13 = Billable Cancel – Adding Liquidity 14 = Billable Cancel – Removing Liquidity 15 = Billable Cancel – Sub Dollar Adding Liquidity 16 = Billable Cancel – Sub Dollar Removing Liquidity	 4 5 7 9 11 12 13 14 15 16	 4 5 7 9 11 12 13 14 15 16	 4 5 7 9 11 12 13 14 15 16	 4 5 7 9 11 12 13 14 15 16	 4 5 7 9 11 12 13 14 15 16
BitfieldFlowIndicator	BitfieldFlow Indicator	65	1	Bitfield indicating whether the inbound message was throttled. See data structure definition table for the positions and valid values of each bit.	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
UserData	zchar(8)	66	8	Customer defined up to 8 characters; only printable ASCII characters allowed.	Yes	Yes	Yes	Yes	Yes

9.10 Order Priority Update Acknowledgment

User Type: All

Stream Type: GT

This message is sent unsolicited by the Exchange to notify the firm of a Reserve Order replenishment event. This is represented by the 'AckType' value Order Priority Update – New OrderID. The Ack indicates that the displayed portion of a Reserve Order has been replenished according to the order's 'MaxFloor'. The replenishment order is assigned a new OrderID, which is provided in the message.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0262 Length = 62	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	12	4	Identification number assigned to the security.	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	16	4	Firm Identifier – MPID	Yes	Yes	Yes	Yes	Yes
OrderID	u64	20	8	Unique identifier of most recent order as assigned by the Exchange. Published externally to market data feeds.	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	28	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				trading day by the given Username + MPID. Customer defined.					
WorkingPrice	Price	36	8	0.000001-999999.999999	Yes	Yes	Yes	Yes	Yes
OrderQty	u32	44	4	1 - 999,999,999	Yes	Yes	Yes	Yes	Yes
WorkingAway FromDisplay	u8	48	1	0 = Working Price is equal to Display Price 1 = Working Price is different from Display Price	0 1	0 1	0 1	0 1	0 1
PreLiquidity Indicator	zchar(4)	49	4	0 = None 1 = Candidate for setting a new displayed bid or offer on the local market Note: Order Priority Update Acks will only be populated with value 0 or 1. The value 1 will be returned when the original order ack was populated with 1, 4, or 5	0 1	0 1	0 1	0 1	0 1
AckType	u8	53	1	1 = New Interest 2 = Order Priority Update – New OrderID 3 = Order Priority Update – Same OrderID 4 = Bulk Cancel Ack 5 = Pending Cancel 6 = Pending Replace 7 = Pending Modify 8 = Replaced 9 = Modified 10 = Eligible for Cross 11 = Canceled 12 = Done for Day 13 = Billable Cancel – Adding Liquidity 14 = Billable Cancel – Removing Liquidity 15 = Billable Cancel – Sub Dollar Adding Liquidity 16 = Billable Cancel – Sub Dollar Removing Liquidity	2	2	2	2	2
UserData	zchar(8)	54	8	Customer defined up to 8 characters; only printable ASCII characters allowed, excluding comma,	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				semicolon, pipe delimiter, “at” symbol, greater than/less than, ampersand (&) and single/double quotation mark.					

9.11 Execution Report

User Type: All

Stream Type: GT

This message type will be returned on executions for Orders and indicates whether an order has been partially or entirely filled.

Data Structures used in this Message:

- If the executed order was originally sent with the data structure "OptionalSettlementTypeAddOn”, the Exchange will include the same data structure in this execution report.
- Otherwise, this message will be sent without an add-on. See the “Data Structures” section at the beginning of this specification for the field formats and valid values of the available add-ons.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0290 Minimum Length = 84	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	12	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	16	4	Firm Identifier – MPID	Yes	Yes	Yes	Yes	Yes
OrderID	u64	20	8	Unique identifier of most recent order as assigned by the Exchange. Published externally to market data feeds	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	28	8	Unique ID of the new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request as assigned by the firm. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order,	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.					
DealID	u64	36	8	Unique identifier of a transaction, assigned by the Exchange to both Execution reports representing the two sides of a single trade. Published externally to market data feeds.	Yes	Yes	Yes	Yes	Yes
LastPx	Price	44	8	Price of current partial fill or fill message 0.000001-999999.999999	Yes	Yes	Yes	Yes	Yes
LeavesQty	u32	52	4	0 - 999,999,999	Yes	Yes	Yes	Yes	Yes
CumQty	u32	56	4	1-999,999,999	Yes	Yes	Yes	Yes	Yes
LastQty	u32	60	4	Quantity of current partial fill or fill message 1 - 999,999,999	Yes	Yes	Yes	Yes	Yes
LiquidityIndicator	zchar(4)	64	4	On Partial Fills and Fills: See Appendix for Values	Yes	Yes	Yes	Yes	Yes
DisplayedLiquidity Indicator	zchar(4)	68	4	Values TBD	Yes				
LocateReqd	u8	72	1	0 = No LocateReqd Orders with Side of Sell Short, Sell Short Exempt, Cross Short, and Cross Short Exempt must be entered as LocateReqd = 0. If entered as LocateReqd = 1, order will be rejected.	0	0	0	0	0
ParticipantType	u8	73	1	1 = Customer 2 = Market Maker/LMM 3 = DMM 4 = SLP 5 = NYSE Floor Broker/NYSE Texas IB	1 2 3 4	1 2	1 2	1 2	1 2
ReasonCode	u16	74	2	These reason codes are provided by the matching engine and qualify the event	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				that produced the message. See Appendix for list of values.					
UserData	zchar(8)	76	8	Customer defined up to 8 characters; only printable ASCII characters allowed, excluding comma, semicolon, pipe delimiter, “at” symbol, greater than/less than, ampersand (&) and single/double quotation mark.	Yes	Yes	Yes	Yes	Yes
Optional Add Ons		84	4	Data structure: "OptionalSettlementType AddOn" If present, add-on always begins with the 4 byte ‘msghdr’ field. See data structure definition table for the positions and valid values of each bit.	Yes				Yes

9.12 Trade Bust/Correct

User Type: All

Stream Type: GT

This message is sent as a result of a report bust or correction (NYSE Texas only).

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0292 Length = 82	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	12	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	16	4	As entered on the order originally executed in the transaction that is busted or corrected. Firm Identifier – MPID	Yes	Yes	Yes	Yes	Yes
OrderID	u64	20	8	OrderID of the order originally executed in the transaction that is busted or corrected. Unique identifier of most recent order as assigned by the Exchange. Published externally to market data feeds	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	28	8	ClOrdID of the order originally executed in the transaction that is busted or corrected. Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	Yes	Yes	Yes	Yes	Yes

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
RefSeqMsgID	SeqMsgId	36	16	Contains the SeqMsgID of the transaction (original Execution Report) that is busted or corrected	Yes	Yes	Yes	Yes	Yes
DealID	u64	52	8	Busts - original DealID of the transaction that is being busted. Corrections - new DealID for the corrected transaction. Unique identifier of a transaction, assigned by the Exchange to both Execution reports representing the two sides of a single trade. Published externally to market data feeds.	Yes	Yes	Yes	Yes	Yes
LastPx	Price	60	8	Busts - original execution price Corrections - corrected price 0.000001-999999.999999	Yes	Yes	Yes	Yes	Yes
LastQty	u32	68	4	Busts - original execution quantity Corrections - corrected execution quantity 1 - 999,999,999	Yes	Yes	Yes	Yes	Yes
ReasonCode	u16	72	2	These reason codes are provided by the matching engine and qualify the event that produced the message. See Appendix for list of values	Yes	Yes	Yes	Yes	Yes
UserData	zchar(8)	74	8	Customer defined up to 8 characters; only printable ASCII characters allowed, excluding comma, semicolon, pipe delimiter, “at” symbol, greater than/less than, ampersand (&) and single/double quotation mark.	Yes	Yes	Yes	Yes	Yes

9.13 Application Layer Reject

User Type: All

Stream Type: GT

This message informs the firm that a New Order, Cancel, Cancel/Replace, or Modify request has been rejected.

For NYSE DMM sessions - it is also used to reject TG Action and Manual Action Response.

The field 'ReasonCode' provides further detail on why the message has been rejected. See Appendix for a list and descriptions of the Pillar Reason Codes.

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
msghdr	MsgHeader	0	4	Type = 0x0263 Length = 43	Yes	Yes	Yes	Yes	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes	Yes	Yes	Yes	Yes
SymbolID	u32	12	4	Identification number assigned to the security	Yes	Yes	Yes	Yes	Yes
MPID	zchar(4)	16	4	Firm Identifier – MPID	Yes	Yes	Yes	Yes	Yes
ClOrdID	u64	20	8	ClOrdID of the message that is rejected (incoming new Order, Cancel/Replace, Cancel, Modify, or Bulk Cancel request). Pillar will validate that the ClOrdID is unique for the combination of Username + MPID that entered the order, among open orders only. However, the firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Customer defined.	Yes	Yes	Yes	Yes	Yes
ReasonCode	u16	28	2	These reason codes are provided by the matching engine and qualify the event that produced the message. See Appendix for list of values.	Yes	Yes	Yes	Yes	Yes
RejectType	u8	30	1	1 = Order/Cancel Replace reject 2 = Modify Request reject 3 = Cancel Request reject	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3

Field	Type	Offset	Len	Values	NYSE	American	National	Arca	Texas
				4 = Bulk Cancel Request reject 5 = *Reserved for future use* 6 = Manual Action Response reject 7 = Risk Limit Update Request reject 8 = *not applicable for equites markets* 9 = *Reserved for future use* 10 = *not applicable for equites markets* 11 = Risk Action Request reject	4 6 7 11	4 7 11	4 7 11	4 7 11	4 7 11
UserData	zchar(8)	31	8	Customer defined up to 8 characters; only printable ASCII characters allowed, excluding comma, semicolon, pipe delimiter, "at" symbol, greater than/less than, ampersand (&) and single/double quotation mark.	Yes	Yes	Yes	Yes	Yes
Reserved	char(4)	39	4	Bytes reserved for future use	Yes	Yes	Yes	Yes	Yes

9.14 Symbol Subscription Acknowledgement

User Type: NYSE Designated Market Maker (DMM)

Stream Type: GT and REF

This acknowledgement is provided in response to a Symbol Subscription Request. The 'SubscriptionStatus' field indicates whether or not the DMM gateway session is subscribed to the symbol (request was accepted or rejected).

Field	Type	Offset	Len	Values	NYSE DMM
Msghdr	MsgHeader	0	4	Type = 0x0347 Length = 33	Yes
TransactTime	Timestamp	4	8	Exchange application time.	
SymbolID	u32	12	4	Identification number assigned to the security	Yes
Username	char(16)	16	16	Unique identifier of the gateway session – SenderCompID.	Yes

Field	Type	Offset	Len	Values	NYSE DMM
SubscriptionStatus	u8	32	1	1 = Subscribed 2 = Not Subscribed (Rejected)	1 2

9.15 GT Begin

User Type: NYSE Designated Market Maker (DMM)

Stream Type: GT - subscribed session

This is used to define the beginning boundary of a multi-message, which is a sequence of messages originating from Pillar that is intended to be read and processed atomically by the firm. All messages within a given multi-message will have the same SymbolID. It is published to the gateway session subscribed for the symbol.

Field	Type	Offset	Len	Values	NYSE DMM
Msghdr	MsgHeader	0	4	Type = 0x0349 Length = 12	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes

9.16 GT End

User Type: NYSE Designated Market Maker (DMM)

Stream Type: GT - subscribed session

This is used to define the ending boundary of a multi-message, which is a sequence of messages originating from Pillar that is intended to be read and processed atomically by the firm. All messages within a given multi-message will have the same SymbolID. It is published to the gateway session subscribed for the symbol

Field	Type	Offset	Len	Values	NYSE DMM
Msghdr	MsgHeader	0	4	Type = 0x0350 Length = 12	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes

9.17 Auction Price Data

User Type: NYSE Designated Market Maker (DMM)

Stream Type: GT - subscribed session

This message provides the firm with opening/re-opening/closing auction imbalance and DMM interest information at each price point within the allowable range for an auction trade, as determined by the auction reference price.

It is sent as part of a multi-message, between GT Begin and GT End, with one instance of the Auction Price Data message per price point. The multi-message is sent once for the opening and once for the closing, and is published to the gateway session subscribed for the symbol.

The reference price for the opening/re-opening/closing auction will always be sent as the first instance of the Auction Price Data message inside the multi-message, followed by all other price points in minimum to maximum sequence with the exceptions defined below.

For the opening auction only, four additional price points will be sent as the 2nd to the 5th instance of the Auction Price Data inside the multi-message, after the Auction Reference Price.

- 2nd price point -> Continuous Book Clearing Price
- 3rd price point -> NBB
- 4th price point -> NBO
- 5th price point -> NBBO Midpoint or LMOCP (if the NBBO is zero, one-sided or crossed, or the NBBO spread is greater than 10% of the midpoint)

Note: These four price points are not sent for the re-opening auction.

If any of the four additional price points are not available (e.g. NBB is zero), a zero price will be sent in its place in the Auction Price Data message with all other fields for this price point set to zero except for the Imbalance Side.

For the closing auction only, an additional price point containing the Continuous Book Clearing Price will be sent as the 2nd instance of the Auction Price Data inside the multi-message, after the Auction Reference Price. In the event there is no Continuous Book Clearing Price, a zero price will be sent in the Auction Price Data message with all other fields for this price point set to zero except for the Imbalance Side.

Example 1: For the opening auction, if the auction reference price is 10.00, the Continuous Book Clearing Price is 10.01, the NBBO is 9.98 x 10.01, and there are orders on the book at 9.99 and 10.01, the sequence of Auction Price Data messages will be as follows - 10.00, 10.01, 9.98, 10.01, 9.995, 9.99, 10.01.

Example 2: For the closing auction, if the auction reference price is 10.00 and Continuous Book Clearing Price is 10.01, and there are orders on the book at 9.99 and 10.01, the sequence of Auction Price Data messages will be as follows - 10.00, 10.01, 9.99, 10.01.

Field	Type	Offset	Len	Values	NYSE DMM
msghdr	MsgHeader	0	4	Type = 0x0352 Length = 46	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes
SymbolID	u32	12	4	Identification number assigned to the security.	Yes
ImbalanceSide	u8	16	1	0 = No Imbalance 1 = Buy Imbalance 2 = Sell Imbalance	0 1 2
SideOfUnpairedQty	u8	17	1	0 = Paired	0

Field	Type	Offset	Len	Values	NYSE DMM
				1 = Buy side not paired 2 = Sell side not paired	1 2
ImbalanceVolume	u32	18	4	Unpaired better-priced shares (relative to the specified Price), excluding DMM.	Yes
Price	Price	22	8	Limit price at which imbalance data is calculated.	Yes
PairedQty	u32	30	4	Paired shares at the specified Price, excluding DMM.	Yes
UnpairedQty	u32	34	4	Unpaired at- and better-priced shares (relative to the specified Price), excluding DMM.	Yes
BuyDMM AvailableQty	u32	38	4	All buy DMM shares priced at and higher than the specified Price.	Yes
SellDMM AvailableQty	u32	42	4	All sell DMM shares priced at and lower than the specified Price.	Yes

9.18 Auction Request

User Type: NYSE Designated Market Maker (DMM)

Stream Type: GT - subscribed session

This message serves as a request from Pillar to the firm to open or close a symbol with an auction trade.

It is sent after and outside the multi-message containing multiple instances of the Auction Price Data message. The multi-message is sent once for the opening and once for the closing, and is published to the gateway session subscribed for the symbol.

To electronically open/re-open/close the symbol with an auction trade:

- A DMM Open/Re-open/Close with Auction message must be used for the response, and may be sent to the TG stream of any gateway session configured for use by the DMM firm, regardless of symbol subscription.
- The firm must respond within 100 milliseconds of the Auction Request message publication.

If Pillar does not receive a response within the 100 millisecond time period:

- The firm may electronically open/re-open/close the symbol without an auction trade by sending a DMM Open/Re-open/Close WITHOUT Auction message.
- Alternatively, the symbol may be opened or closed manually from the NYSE Trading Floor.

Field	Type	Offset	Len	Values	NYSE DMM
msghdr	MsgHeader	0	4	Type = 0x0348 Length = 25	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes
SymbolID	u32	12	4	Identification number assigned to the security.	Yes
AuctionType	u8	16	1	0 = Opening Auction 1 = Re-opening Auction 2 = Closing Auction	0 1 2
SSRFilingPrice	Price	17	8	Sell Short Restriction Filing Price used for the auction if SSR Filing Price is available. If not available, will be set to 0.	Yes

9.19 Manual Action Request

User Type: NYSE Designated Market Maker (DMM)

Stream Type: GT - subscribed session

This message provides the firm with details of a manual action taken by a DMM on the NYSE Trading Floor via DBK GUI.

It is always sent as part of a multi-message, between GT Begin and GT End, along with one or more instances of the Manual Action Request depending on the state of the book and the scope of the action committed by the DMM in DBK GUI. The multi-message is published to the gateway session subscribed for the symbol.

Manual actions consist of:

- **New Manual DMM Order** - via DMM Interest Template. Represented by 'ManualActionType' = 1
- **Reduction in Manual DMM Order(s) Quantity** - via DMM Interest Template. This quantity signifies the aggregate reduction in quantity for the specified Price level, and may span one or multiple manual orders at that price. When multiple orders are reduced/cancelled, the aggregate reduction in quantity is applied on the basis of LIFO (last in, first out) - the orders with later time sequence are reduced/cancelled before orders with earlier time sequence. Represented by 'ManualActionType' = 2
- **Opening Auction** - via Opening Template. Represented by 'ManualActionType' = 3
- **Re-opening Auction** - via Opening Template. Represented by 'ManualActionType' = 4
- **Closing Auction -** via Closing Template. Represented by 'ManualActionType' = 5
- **Manual Cross DMM against NYSE Floor Broker** - via G-Key Template. Represented by 'ManualActionType' = 6
- **Cancel All Manual DMM Orders Per Side** - via DMM Interest Template. Represented by 'ManualActionType' = 7

Pending State - all manual actions will be held in a pending state for 100 milliseconds during which the firm may electronically respond with an approval or rejection of the action.

Manual Override - DMMs on the NYSE Trading Floor have the ability to manually override a timeout or DMM application reject via DBK GUI. In that case:

- Prior to committing the DMM manual override, Pillar will send a multi-message Manual Action Request reflecting all actions of the manual override with 'ManualOverride' = 2 (for 'position marking'). Although sent for

both buy and sell, this request is intended to provide the firm a final opportunity to electronically mark any sell orders that will be created as long or short. For example, if the DMM on the NYSE Trading Floor marked a sell interest as sell short during the manual override, before Pillar creates the interest, it will send a multi-message Manual Action Request to the DMM and the DMM can change (within 100 milliseconds) the side from sell short to sell short exempt or sell long.

- Pillar will then publish a Manual Action Request with 'ManualOverride' = 1 reflecting the final result to the gateway session subscribed for the symbol. If provided by the DMM on the NYSE Trading Floor, a text 'ManualOverrideReason' will be included in the message.
- Once processed, echoes of all order activity messages resulting from the override manual action (Order/Cancel-Replace Ack, Modify-Cancel Request Ack/UROUT, Execution Report) and any changes from the approval response to the 'position marking' request (described above) will also be sent to the subscribed session. For format of the echo messages, see the "Binary Echo Sessions" section of this specification.
- **Self Trade Prevention** - the default of STP - Cancel Newest will be applied to all manual DMM orders resulting from the override unless otherwise specified by the 'position marking' approval response.

See the "Manual Action Response" section of this specification for related information.

Field	Type	Offset	Len	Values	NYSE DMM
msghdr	MsgHeader	0	4	Type = 0x0353 Length = 95	Yes
TransactTime	Timestamp	4	8	Exchange application time.	Yes
SymbolID	u32	12	4	Identification number assigned to the security.	Yes
IntroducingBadgeID	zchar(4)	16	4	When ManualOverride = 1 or 2 - Populated with NYSE Floor DMM supervisor badge. 0 – 4 numeric characters	Yes
MPID	zchar(4)	20	4	Firm Identifier – MPID.	Yes
MMID	u32	24	4	Integer representation of the market maker, agreed upon between the firm and the Exchange.	Yes
ManualActionID	SeqMsgID	28	16	Unique ID of the Manual Action Request.	Yes
Side	u8	44	1	1 = Buy 2 = Sell 3 = Sell Short - may only be set when ManualOverride = 1 (Alert) or 2 (Position Marking) 4 = Sell Short Exempt - may only be set when ManualOverride = 1 *When ManualActionType = 7, Side of Sell includes Sell,	1 2 3 4

Field	Type	Offset	Len	Values	NYSE DMM
				Sell Short, and Sell Short Exempt *When ManualActionType = 3, 4 or 5 and DMMRequestedQty = 0, Side is defaulted to 2 - Sell. However, DMM is not participating in auction on either side (PRIN has been set to 0 on both sides)	
Price	Price	45	8	0.000001-999999.999999	Yes
DMMRequestedQty	u32	53	4	**For ManualActionType = 1,2,6,7** - aggregate increase or decrease quantity for the specified Price level ("delta" quantity) **For ManualActionType = 3,4,5** - PRIN quantity at the time the Floor DMM commits the template. Value reflects actual unrounded shares (may be odd/mixed lot), in cases where template displays round lot.	Yes
DMMAvailableQty	u32	57	4	**For ManualActionType = 1,2,6,7** - will always be 0 **For ManualActionType = 3,4,5** - all buy/sell DMM shares priced at or higher/lower than the specified Price of the auction trade	Yes
DMMAllocatedQty	u32	61	4	**For ManualActionType = 1,2,6,7** - will always be 0 **For ManualActionType = 3,4,5** - the amount of the DMMAvailableQty that will be allocated in the auction trade	Yes
SSRFilingPrice	Price	65	8	**For ManualActionType = 1,2,7** - will always be 0	

Field	Type	Offset	Len	Values	NYSE DMM
				For ManualActionType = 3,4,5,6 - Sell Short Restriction Filing Price if available. If not available, will be set to 0	
ManualOverride	u8	73	1	0 = Not applicable 1 = Alert for DBK GUI Manual Override 2 = Position Marking - for DMM Manual Override	0 1 2
ManualOverride Reason	char(20)	74	20	When ManualOverride = 1 or 2 - optional reason text provided by DMM via DBK GUI.	Yes
ManualActionType	u8	94	1	1 = New Manual DMM Order; entered via DMM Interest Template 2 = Aggregate reduction in Manual DMM Order(s) Quantity; entered via DMM Interest Template 3 = Opening Auction 4 = Re-opening Auction 5 = Closing Auction 6 = Manual Cross DMM against NYSE Floor Broker 7 = Cancel all Manual DMM Orders per Side	1 2 3 4 5 6 7

9.20 Risk Control Acknowledgement

User Type: Risk Admin

Stream Type: GT

For firms using Pillar Risk Controls, this message provides the current configurations and calculations of a Risk Entity. Pillar may send it in the following ways:

- **Solicited**
  - Ack for Risk Limit Update Request
  - Ack for Risk Action Request
- **Unsolicited** - sent to all Risk Users with "read" entitlements for the Risk Entity. This may include both the firm who set a Risk Control as well as those with read only entitlement. For example, Entering Firm sets/updates a risk limit for an MPID and Pillar sends the correspondent Clearing Firm with read entitlement for that MPID a copy of this message with the updated limit.
  - Start of Day - Risk Control configs carried over from the previous day will be sent to entitled Risk Users
  - Intraday notification of configuration changes enacted by Risk Users via
    - NYSE Pillar Trade Ops Portal
    - Gateway - Risk Limit Update Request, Risk Action Request

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
Msghdr	MsgHeader	0	4	Type = 0x0332 Length = 314	Yes
SymbolID	u32	4	4	Risk Entity – Symbol (equities) or Underlying Symbol (options). Identification number assigned to the security. **Required to Add/Remove Symbol level Risk Entities (RiskActionTypes = 9 and 10)** - applicable to equites markets only **Required for the following RiskControlTypes:** • Reject Restricted Symbol **May optionally be populated for the following RiskControlTypes:** • Activity-based – Rolling Transaction; Volume; Percentage • Reject Sell Short for Symbol; Sell Short Exempt for Symbol • Single Order Maximum Quantity as Percentage of Symbol ADV	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				For all other RiskControlTypes – not applicable; will be ignored if populated.	
MPID	zchar(4)	8	4	Risk Entity. Firm Identifier – MPID. Required.	Yes
MarketMaker	zchar(10)	12	10	Risk Entity. Options Market Maker identifier – alphanumeric MMID associated with the specified MPID. Populate if applicable.	
MPSubID	zchar(4)	22	4	Risk Entity – SubID associated with the specified MPID. Populate if applicable.	Yes
Reserved	u32	26	4	Bytes reserved for future use.	
ClearingNumber	zchar(5)	30	5	*Reserved for future use.* Risk Entity – Clearing Number associated with the specified MPID. Populate if applicable.	
ClOrdID	u64	35	8	Unique ID of request as assigned by the firm. The firm is responsible for ensuring that the ClOrdID provided is unique among all orders sent for the full length of the trading day by the given Username + MPID. Pillar will not systemically enforce this. **Solicited Ack** - will be populated with the ClOrdID of the corresponding Risk Limit Update Request or Risk Action Request **Unsolicited Ack** - will be set as 0.	Yes
RiskAckType	u8	43	1	0 = Solicited Ack 1 = Unsolicited Ack	0 1
RiskUserCRD	u32	44	4	Risk User – CRD of the firm that owns the risk control represented by this message.	Yes
RiskUserType	char	48	1	Risk User – type of firm that owns the risk control represented by this message. E = Entering Firm C = Clearing Firm O = Options Market Maker Firm	 E C
RiskControlType	u8	49	1	0 = Not Applicable 1 = Single Order Max Qty 2 = Single Order Max Notional Value 3 = Gross Credit – Executed	 1 2 3

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				4 = Gross Credit – Open 5 = Gross Credit – Open + Executed 6 = Maximum Duplicative Orders 7 = *Reserved for future use* 8 = Activity-based – Rolling Transaction 9 = Activity-based – Rolling Volume 10 = Activity-based – Rolling Percentage 11 = Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage 12 = *Reserved for future use* 13 = Reject Market Orders (except MOO & MOC) 14 = Reject MOO & MOC 15 = *not available* 16 = *not available* 17 = Reject Early Trading Session designation 18 = Reject Late Trading Session designation 19 = Reject Restricted Symbol 20 = Reject Sell Short for Symbol 21 = Reject Sell Short Exempt for Symbol 22 = Single Order Maximum Quantity as Percentage of Symbol ADV 23 = Limit Order Price Protection Equities - Custom Limits 24 = Limit Order Price Protection Equities - Early/Late Trading Multiplier 25 = Limit Order Price Protection Equities - Closing Only Multiplier 26 = Limit Order Price Protection Options - Single Leg Custom Limits 27 = Limit Order Price Protection Options - Complex Custom Limits 28 = Require LocateBroker on Sell Short and Sell Short Exempt orders 29 = Order Rate Threshold – Max Orders across All Symbols 30 = Reject ISO IOC 31 = Reject ISO Day	4 5 6 13 14 17 18 19 20 21 22 23 24 25 28 29 30 31
RiskControlActivation	u8	50	1	0 = Risk Control turned off 1 = Risk Control turned on	0 1
RiskActionType	u8	51	1	0 = Not Applicable 1 = Query Risk Entity for current Risk Control configs/calculations/status 2 = Kill Switch – Block 3 = Kill Switch – UnBlock 4 = Kill Switch – Cancel Auction Orders 5 = Kill Switch – Cancel Non-Auction Orders	0 1 2 3 4 5

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				6 = Kill Switch – Cancel GTC Orders 7 = Approve Reinstatement 8 = Risk Entity Reinstated (all necessary reinstatement approvals received; reinstatement processed) 9 = Add Symbol level Risk Entity 10 = Remove Symbol level Risk Entity	 7 9 10
USDLimit	i64	52	8	US Dollar limit. **Must be specified for the following RiskControlTypes:** • Single Order Max Notional Value • Gross Credit – Executed; Open; Open + Executed • Limit Order Price Protection – Custom Limits **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	Yes
TimeLimit	i32	60	4	Microsecond time period. **Must be specified for the following RiskControlTypes:** • Activity-based – Rolling Transaction; Volume; Percentage • Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage • Max Duplicative Orders • Order Rate Threshold – Max Orders across All Symbols **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	Yes
PercentageLimit	i32	64	4	Percentage (%). **Must be specified for the following RiskControlTypes:** • Activity-based – Percentage • Limit Order Price Protection – Custom Limits • Single Order Maximum Quantity as Percentage of Symbol ADV **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	Yes
CountLimit	i32	68	4	Count.	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				Must be specified for the following RiskControlTypes: • Single Order Maximum Quantity • Activity-based – Rolling Transaction. Represents max # transactions over rolling time period • Activity-based – Rolling Volume. Represents max # contracts executed over rolling time period • Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage. Represents max # breaches over rolling time period • Max Duplicative Orders • Limit Order Price Protection – Early/Late Trading Multiplier & Closing Only Multiplier • Order Rate Threshold – Max Orders across All Symbols **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	
BreachActionResponse	u8	72	1	0 = Not Applicable 1 = Notifications Only 2 = Cancel Non-Auction Orders & Block 3 = Block **For the following RiskControlTypes** – must be set as 1/2/3: • Activity-based – Rolling Transaction; Volume; Percentage • Gross Credit – Executed; Open; Open + Executed **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	0 1 2 3
IOCAttribution	u8	73	1	0 = Not Applicable 1 = Include IOC orders in Activity-based calculations 2 = Exclude IOC orders from activity-based calculations **For the following RiskControlTypes** - must be set as 1 or 2: • Activity-based – Rolling Transaction; Volume; Percentage **For all other RiskControlTypes** – will be set as 0.	0

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
USDCalculation1	i64	74	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Open: ALL ORDERS calculation.** **For all other RiskControlTypes** – will be set as 0.	Yes
USDCalculation2	i64	82	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Open: AUCTION ORDERS calculation.** **For all other RiskControlTypes** – will be set as 0.	Yes
USDCalculation3	i64	90	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Executed: ALL ORDERS calculation.** **For all other RiskControlTypes** – will be set as 0.	Yes
USDCalculation4	i64	98	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Executed: AUCTION ORDERS calculation.** **For all other RiskControlTypes** – will be set as 0.	Yes
CountCalculation	u32	106	4	Count. **For the following RiskControlTypes** – will be populated with current calculation in Pillar. • Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage. Represents # breaches over rolling time period **For all other RiskControlTypes** – will be set as 0.	
BlockedByBreach Indicator	u8	110	1	0 = Not Blocked by Breach 1 = Blocked by Breach 2 = Blocked by Arbitrage Check (Options Market Maker only) 3 = Blocked by Intrinsic Value Check (Options Market Maker only)	0 1

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
BlockedByKillSwitchIndicator	u8	111	1	0 = Not Blocked by Kill Switch 1 = Blocked by Kill Switch	0 1
ReinstatementRequiredbySelf	u8	112	1	Indicates whether Reinstatement Approval from SELF (the Risk User to which this message is sent) is required for this Risk Entity upon breach 0 = Not Required 1 = Required	 0 1
ReinstatementRequiredbyOther	u8	113	1	Indicates whether Reinstatement Approval from OTHER Risk User(s) is required for this Risk Entity upon breach 0 = Not Required 1 = Required	 0 1
RiskRangeID	u8	114	1	Quantity or price range to which the risk limit is applied. 0 = [see below] or Not Applicable 1 = [see below] 2 = [see below] 3 = [see below] 4 = [see below] 5 = [see below] 6 = [see below] 7 = [see below] 8 = [see below] 9 = [see below] 10 = [see below] **Available ranges and definitions are determined by the RiskControlType:** • Single Order Maximum Quantity as Percentage of Symbol ADV (Equities Markets): ○ 0 = Optional; used to specify Minimum ADV to Apply Check ○ 1 = Below or Equal to 10,000 shares ○ 2 = Above 10,000 shares and Below or Equal to 100,000 shares ○ 3= Above 100,000 shares and Below or Equal to 1,000,000 shares ○ 4 = Above 1,000,000 shares • Limit Order Price Protection *Equities Markets:* ○ 1 = Below or Equal to $25.00	 0 1 2 3 4

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				○ 2 = Above $25.00 and Below or Equal to $50.00 ○ 3 = Above $50.00 *Options Markets:* ○ 1 = Below or Equal to $1.00 ○ 2 = Above $1.00 and Below or Equal to $2.00 ○ 3 = Above $2.00 and Below or Equal to $3.00 ○ 4 = Above $3.00 and Below or Equal to $5.00 ○ 5 = Above $5.00 and Below or Equal to $7.50 ○ 6 = Above $7.50 and Below or Equal to $10.00 ○ 7 = Above $10.00 and Below or Equal to $20.00 ○ 8 = Above $20.00 and Below or Equal to $50.00 ○ 9 = Above $50.00 and Below or Equal to $100.00 ○ 10 = Above $100.00 **For all other RiskControlTypes** – will be set as 0.	
RiskMinimumValue	i64	115	8	Minimum value for which to apply the risk control. **Definitions are determined by the RiskControlType:** • Single Order Maximum Quantity as Percentage of Symbol ADV ○ See guidance above this table for how to populate this field ○ May be used to specify a minimum Symbol ADV for which to apply this check ○ For symbols with ADV below the specified value, all orders will be accepted regardless of their quantity **For all other RiskControlTypes** – will be set as 0.	Yes
PriceScale	u8	123	1	0 = no decimals; field will be interpreted as an integer	0

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				2 = two decimals; field will be interpreted as having two decimals. For example, USDLimit = 25 with PriceScale = 2 represents $0.25 **Must be specified for the following RiskControlTypes:** • Limit Order Price Protection - Custom Limits. Price Scale will be applied to the field USDLimit **For all other RiskControlTypes** – not applicable, should be set to 0 and will be ignored if populated with any other value.	2
Reserved	zchar(190)	124	190	*Bytes reserved for future use*	Yes

9.21 Risk Control Alert

User Type: Risk Admin

Stream Type: GT

For firms using Pillar Risk Controls, this message provides notification of the following events:

- **Threshold/Breach & Reinstatement** - for Gross Credit and Activity-based risk controls
- **Kill Switch** - order cancellation and block/unblock

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
Msghdr	MsgHeader	0	4	Type = 0x0333 Length = 305	Yes
SymbolID	u32	4	4	Risk Entity – Symbol (equities) or Underlying Symbol (options). Identification number assigned to the security. **Will be populated for the following RiskControlTypes:** • Activity-based – Rolling Transaction; Volume; Percentage **For all other RiskControlTypes** – not applicable.	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
MPID	zchar(4)	8	4	Risk Entity. Firm Identifier – MPID. Required.	Yes
MarketMaker	zchar(10)	12	10	Risk Entity. Options Market Maker identifier – alphanumeric MMID associated with the specified MPID. Populated if applicable.	
MPSubID	zchar(4)	22	4	Risk Entity – SubID associated with the specified MPID. Populated if applicable.	Yes
Reserved	u32	26	4	Bytes reserved for future use.	
ClearingNumber	zchar(5)	30	5	*Bytes reserved for future use.* Risk Entity – Clearing Number associated with the specified MPID. Populate if applicable.	
RiskUserCRD	u32	35	4	Risk User – CRD of the firm receiving this message.	Yes
RiskUserType	char	39	1	Risk User – type of firm receiving this message. E = Entering Firm C = Clearing Firm O = Options Market Maker Firm	 E C
RiskControlType	u8	40	1	0 = Not Applicable 1 = Single Order Max Qty 2 = Single Order Max Notional Value 3 = Gross Credit – Executed 4 = Gross Credit – Open 5 = Gross Credit – Open + Executed 6 = Maximum Duplicative Orders 7 = *Reserved for future use* 8 = Activity-based – Rolling Transaction 9 = Activity-based – Rolling Volume 10 = Activity-based – Rolling Percentage 11 = Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage 12 = *Reserved for future use* 13 = Reject Market Orders (except MOO & MOC) 14 = Reject MOO & MOC 15 = *not available* 16 = *not available* 17 = Reject Early Trading Session designation 18 = Reject Late Trading Session designation 19 = Reject Restricted Symbol 20 = Reject Sell Short for Symbol	 3 4 5

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				21 = Reject Sell Short Exempt for Symbol 22 = Single Order Maximum Quantity as Percentage of Symbol ADV 23 = Limit Order Price Protection Equities - Custom Limits 24 = Limit Order Price Protection Equities - Early/Late Trading Multiplier 25 = Limit Order Price Protection Equities - Closing Only Multiplier 26 = Limit Order Price Protection Options - Single Leg Custom Limits 27 = Limit Order Price Protection Options - Complex Custom Limits 28 = Require LocateBroker on Sell Short and Sell Short Exempt orders 29 = Order Rate Threshold – Max Orders across All Symbols 30 = Reject ISO IOC 31 = Reject ISO Day	
USDLimit	i64	41	8	US Dollar limit. **Will be specified for the following RiskControlTypes:** • Gross Credit – Executed; Open; Open + Executed **For all other RiskControlTypes** – not applicable.	Yes
TimeLimit	i32	49	4	Microsecond time period. **Will be specified for the following RiskControlTypes:** • Activity-based – Rolling Transaction; Volume; Percentage • Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage • Order Rate Threshold – Max Orders across All Symbols **For all other RiskControlTypes** – not applicable.	
PercentageLimit	i32	53	4	Percentage (%). **Will be specified for the following RiskControlTypes:** • Activity-based – Percentage **For all other RiskControlTypes** – not applicable.	
CountLimit	i32	57	4	Count.	

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				Will be specified for the following RiskControlTypes: • Activity-based – Rolling Transaction. Represents max # transactions over rolling time period • Activity-based – Rolling Volume. Represents max # contracts executed over rolling time period • Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage. Represents max # breaches over rolling time period • Order Rate Threshold – Max Orders across All Symbols **For all other RiskControlTypes** – not applicable.	
BreachAction Response	u8	61	1	0 = Not Applicable 1 = Notifications Only 2 = Cancel Non-Auction Orders & Block 3 = Block **For the following RiskControlTypes** – will be set as 1/2/3: • Activity-based – Rolling Transaction; Volume; Percentage • Gross Credit – Executed; Open; Open + Executed **For Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage** – always configured as 2 (Cancel Non-Auction Orders) and 3 (Block) **For all other RiskControlTypes** – will be set as 0.	0 1 2 3
IOCAttribution	u8	62	1	0 = Not Applicable 1 = Include IOC orders in Activity-based calculations 2 = Exclude IOC orders from activity-based calculations **For the following RiskControlTypes** - will be set as 1 or 2: • Activity-based – Rolling Transaction; Volume; Percentage **For all other RiskControlTypes** – will be set as 0.	0
USDCalculation1	i64	63	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Open: ALL ORDERS calculation.**	Yes

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				For all other RiskControlTypes – will be set as 0.	
USDCalculation2	i64	71	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Open: AUCTION ORDERS calculation.** **For all other RiskControlTypes** – will be set as 0.	Yes
USDCalculation3	i64	79	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Executed: ALL ORDERS calculation.** **For all other RiskControlTypes** – will be set as 0.	Yes
USDCalculation4	i64	87	8	US Dollar calculation. **For Gross Credit** – will be populated with the **Executed: AUCTION ORDERS calculation.** **For all other RiskControlTypes** – will be set as 0.	Yes
CountCalculation	u32	95	4	Count. **For the following RiskControlTypes** – will be populated with current calculation in Pillar. • Activity-based – Global Risk Mitigation Protection for Transaction/Volume/Percentage. Represents # breaches over rolling time period **For all other RiskControlTypes** – will be set as 0.	
RiskActionType	u8	99	1	0 = Not Applicable 1 = Query Risk Entity for current Risk Control configs/calculations/status 2 = Kill Switch – Block 3 = Kill Switch – UnBlock 4 = Kill Switch – Cancel Auction Orders 5 = Kill Switch – Cancel Non-Auction Orders 6 = Kill Switch – Cancel GTC Orders 7 = Approve Reinstatement 8 = Risk Entity Reinstated (all necessary reinstatement approvals received; reinstatement processed)	0 2 3 8

Field	Type	Offset	Len	Values	Risk Admin - Equities Markets
				9 = Add Symbol level Risk Entity 10 = Remove Symbol level Risk Entity	
ThresholdBreachLevel	u8	100	1	0 = Not Applicable 1 = Greater than 50% 2 = Greater than 75% 3 = Greater than 90% 4 = Greater than 100% **For the following RiskControlTypes** – will be set as 1/2/3/4: • Gross Credit – Executed; Open; Open + Executed **For all other RiskControlTypes** – will be set as 0.	0 1 2 3 4
BlockedByBreachIndicator	u8	101	1	0 = Not Blocked by Breach 1 = Blocked by Breach 2 = Blocked by Arbitrage Check (Options Market Maker only) 3 = Blocked by Intrinsic Value Check (Options Market Maker only)	0 1
BlockedByKillSwitchIndicator	u8	102	1	0 = Not Blocked by Kill Switch 1 = Blocked by Kill Switch	0 1
ReinstatementRequiredbySelf	u8	103	1	Indicates whether Reinstatement Approval from SELF (the Risk User to which this message is sent) is required for this Risk Entity upon breach 0 = Not Required 1 = Required	 0 1
ReinstatementRequiredbyOther	u8	104	1	Indicates whether Reinstatement Approval from OTHER Risk User(s) is required for this Risk Entity upon breach 0 = Not Required 1 = Required	 0 1
Reserved	zchar(200)	105	200	*Bytes reserved for future use*	Yes

10. Appendix A: Liquidity Indicators

Pillar will populate the LiquidityIndicator field on Execution Report fills. This value represents the conditions under which an order was executed and whether it added or removed liquidity from the Exchange order book. Billing rates are determined in part by this value.

A list of all Liquidity Indicators is available at the web link below:

https://www.nyse.com/publicdocs/nyse/NYSE_Pillar_Reason_Codes_and_Liquidity_Indicators.xlsx

11. Appendix B: Pillar Reason Codes

Pillar will return a set of event reason codes in the 'ReasonCode' field on messages from the exchange to firm. These codes qualify the event that produced the message.

A list of all Pillar Reason Codes is available at the web link below:

https://www.nyse.com/publicdocs/nyse/NYSE_Pillar_Reason_Codes_and_Liquidity_Indicators.xlsx

12. Appendix C: Order Types

An inventory of the order types and modifiers available to firms via the Pillar Binary Gateway is available at:

https://www.nyse.com/publicdocs/NYSE_Pillar_Binary_Gateway_Order_Type_Matrix.xlsx

13. Appendix D: Field/Value Applicability - by Participant & Symbol

In addition to differences between markets denoted throughout this specification, within a given market there are certain fields and values applicable only to a subset of participants and/or symbols (Tape A or Tape B/C).

		NYSE Equities			
Description	**Field Name/Value**	**Customer/ Market Maker or Service Bureau**	**Designated Market Maker (DMM)**	**Tape - A Symbols**	**Tape - B/C Symbols**
Order Entry from Firm to Exchange - fields/values marked as "No" will be rejected					
Market Order	OrdType = 1	Yes	No	Yes	Yes
Inside Limit Order	OrdType = 3	Yes	No	Yes	Yes
Limit On Close	OrdType = 2 with TimeInForce = 4	Yes	No	Yes	Yes
Trading Session Designation - Early	TradingSessionID = 1	Yes	No	No	Yes
Trading Session Designation - Late	TradingSessionID = 3	No	No	No	No
ExtendedExecInst -	ExtendedExecInst = 5	Yes	No	Yes	Yes

		NYSE Equities			
Description	**Field Name/Value**	**Customer/ Market Maker or Service Bureau**	**Designated Market Maker (DMM)**	**Tape - A Symbols**	**Tape - B/C Symbols**
Retail Order Type 1					
ExtendedExecInst - Imbalance Offset (On Close)	ExtendedExecInst = 8	Yes	No	Yes	No
Capital Commitment Order (CCO) and CCO – partial fill contra-side	InterestType = 5 InterestType = 6	No	Yes	Yes	No
DMM Open/Re-open/Close with or without Auction (AOC)	SpecialOrdType = 1	No	Yes	Yes	No
DMM Pre-auction	SpecialOrdType = 2	No	Yes	Yes	No
DMM After-auction	SpecialOrdType = 3	No	Yes	Yes	No
Route to ATS	RoutingInst = 10	Yes	No	Yes	Yes

14. Appendix E: NYSE DMM Electronic Opening/Re-opening/ Closing

DMM firms may electronically open, re-open or close each of their assigned NYSE Listed symbols, with or without an auction trade.

- **DMM Open/Re-open/Close with Auction**
  - See NYSE Pillar Gateway Order Validation Matrix - Binary
  - Must be entered within 100 milliseconds of the time the corresponding Auction Request message was published to the session subscribed for the symbol.
  - **OrderQty**
    - *Equal to 0* - designates no DMM participation in auction.
      If OrderQty = 0, Pillar will respond via a New Ack message (AckType = 1) with LeavesQty = 0. In that case, after processing, a separate UROUT message will NOT be sent.
    - *Greater than 0* - designates that DMM will participate in the auction, and specifies the total quantity of DMM shares that will participate.
  - **Side** - designates the side of DMM participation in auction; must be populated with Buy, Sell, Sell Short, Sell Short Exempt. In the case where OrderQty = 0, Side must still be populated with one of these values and Pillar will echo it back on outbound messages but otherwise ignore when processing.
  - **Price** - populate with the Price of DMM interest to participate in auction.

- **DMM Open/Re-open/Close WITHOUT Auction**
    - See NYSE Pillar Gateway Order Validation Matrix - Binary
    - **OrderQty** - may be equal to 0, or greater than 0. In either case, Pillar will echo back the value provided on outbound messages but otherwise ignore when processing.
      If OrderQty = 0, Pillar will respond via a New Ack message (AckType = 1) with LeavesQty = 0. In that case, after processing, a separate UROUT message will NOT be sent.
    - **Side** - must be populated with Buy, Sell, Sell Short, or Sell Short Exempt. In any case, Pillar will echo it back on outbound messages but otherwise ignore when processing.
    - **Price** = 0

Open/Re-open/Close with Auction and WITHOUT Auction messages:

- May be entered on any gateway session configured for use by the DMM firm, regardless of symbol subscription.
- Are accepted only during pre-open, trading halt, and pending close, and rejected at all other times.

Pre-auction and After-auction Orders

- To be processed as intended, Pre- and after- auction orders **must always be entered BEFORE an Open/Re-open/Close with Auction or WITHOUT Auction message**
- Pre-auction orders
    - Designated with SpecialOrdType = 2
    - If entered during an auction freeze (pre-open, trading halt, or pending close) - pre-auction orders will be processed upon arrival before the first quote is published, in relative sequence.
    - If entered at any other time, will be accepted and the pre-auction designation will be echoed back on outbound messages but otherwise ignored when processing.
- After-auction orders
    - Designated with SpecialOrdType = 3
    - If entered during an auction freeze (pre-open, trading halt, or pending close) - after-auction orders will be processed immediately after the first quote is published.
    - If entered at any other time, will be accepted and the after-auction designation will be echoed back on outbound messages but otherwise ignored when processing.
- The following order types may be sent with instructions to be handled as Pre-auction or After-auction orders:
    - Limit Day
    - Limit Day Non-Routable
    - Limit Day Non-Routable ALO
    - Limit Reserve
    - Limit Reserve Non-Routable
    - Limit Reserve Non-Routable ALO
- All of the above instructions - Open/Re-open/Close with Auction, Open/Re-open/Close WITHOUT Auction, Pre-auction and After-auction - may optionally be sent as part of a multi-message (between TG Begin and TG End). However, the above processing applies regardless of whether the orders are sent individually or inside a multi-message.

15. Appendix F: Electronic Interaction with Manual DMM Orders

Once a Manual Action Request is approved by the DMM application or via DBK GUI override, Pillar generates a new manual order or reduces existing manual order(s).

All manual orders are maintained on Pillar streams dedicated to DBK GUI. The DMM firm is given electronic visibility to manual order activity via echo messages (Pillar to DMM). The firm may also access the manual orders electronically by sending requests targeting the DBK GUI streams (DMM to Pillar).

- **Echoes of Manual Order Activity**
    - Once processed, echoes of all order activity messages resulting from a manual action (Order/Cancel-Replace Ack, Modify-Cancel Request Ack/UROUT, Execution Report) will be sent to the GT stream of the DMM session subscribed to the symbol.
    - **Binary Echo GT Stream Messages** - are formatted with two 'SeqMsg' data structures. For details, see the "Binary Echo Sessions" section of this specification.
    - **Second SeqMsg** - provides visibility into the specific DBK GUI stream which originated the manual order. The 'SeqMsgID' includes the DBK GUI TG 'Stream_ID'. The payload of the second SeqMsg includes the **unique ClOrdID of the message** as assigned by Pillar.
    - **MPSubID Defaulting on Manual AOC Orders** - when Pillar generates an AOC order on behalf of the DMM to manually open/re-open/close on a quote (Market AOC) or manually open/re-open/close on a trade via DBK GUI override (Limit AOC), the MPSubID field on that order will be populated with a default value corresponding to the auction as follows:
        - '3' - for Open
        - '4' - for Re-open
        - '5' - for Close

- **Electronic Requests Targeting Manual Orders**
    - After a manual order is placed on the book, it may be electronically cancel/replaced, modified, cancelled, or bulk cancelled by any of the DMM firm's Pillar Binary Gateway sessions.
    - Similar to the Binary Echo GT message from Pillar to DMM, the DMM application can send a request to Pillar targeting a manual DMM order by formatting the message with two 'SeqMsg' data structures.
    - **First SeqMsg** - is the message header for the electronic DMM session. The 'SeqMsgID' must contain the session's TG 'Stream_ID' and a sequentially incrementing sequence number.
    - **Second SeqMsg -** is the message header targeting the manual order's DBK GUI stream.
        - **SeqMsgID -** must be populated with the 'Stream_ID' of the manual order intended for modification. This can be copied from any of the Binary Echo GT messages for the order, then replace the 'StreamType' byte with the value for TG (15) instead of GT (13).
        - **Seq** - must be set to 0. Once Pillar routes the request to the appropriate DBK GUI stream, it will populate this field with the next expected sequence number for that stream to ensure compliance with the stream protocol.
    - **Payload** - is the request targeting the manual order:
        - **Valid Request Types**
            - Cancel/Replace Request - *must be a plain Limit Day order.*
            - Cancel Request
            - Modify Request
            - Bulk Cancel Request
        - **ClOrdID of Request** - must be set to 0. Once Pillar routes the request to the appropriate DBK GUI stream, it will generate a unique ClOrdID for that stream to ensure compliance with the application layer protocol.
        - **OrigClOrdID of Request** - must be set to the ClOrdID of the manual DMM order intended for replacement, modification, or cancellation. This can be copied from any of the Binary Echo GT messages for the order.

- Once created, a Manual DMM order will remain accessible to both the DMM on the NYSE Trading Floor and the DMM firm's electronic gateway sessions for the life of the order.

  Even after electronic modification/replacement, it will continue to be displayed on the DBK GUI (with its updated price/quantity) and remain available for manual modification/replacement via the DMM Interest Template.

  Electronic Cancel/Replace Requests targeting manual orders are restricted to use plain Limit Day orders, thereby maintaining equal privileges between manual and electronic users.

Electronic DMM Request Targeting Manual DMM Order:

	Field	Type	Offset	Len	Values
SeqMsg structure *of the electronic DMM request on TG Stream*	**msghdr**	MsgHeader	0	4	Type: 0x0905, Minimum Length = 64
	seqmsg	SeqMsgId	4	16	Globally unique message identifier. • **Stream_ID** - of electronic DMM TG stream • **Seq** - sequentially incrementing sequence number for electronic DMM TG stream
	reserved	u32	20	4	Reserved field
	timestamp	Timestamp	24	8	Time of message transmission.
SeqMsg structure *targeting the manual order's DBK GUI stream.*	**msghdr**	MsgHeader	32	4	Type: 0x0905, Minimum Length = 32
	seqmsg	SeqMsgId	36	16	Globally unique message identifier. • **Stream_ID** - of manual order DBK GUI stream. Copy from Binary Echo GT message and replace the 'StreamType' byte with the value for TG (15) instead of GT (13) • **Seq** - set to 0
	reserved	u32	52	4	Reserved field
	timestamp	Timestamp	56	8	Time of message transmission.

	Field	Type	Offset	Len	Values
Electronic DMM Request *targeting the manual order.*	**payload**	MsgHeader	64	4	**Application Layer Request will begin here with its own MsgHeader:** • Cancel/Replace Request - *must be a plain Limit Day order* • Cancel Request • Modify Request • Bulk Cancel Request **For all of the above:** • **ClOrdID -** set to 0. • **OrigClOrdID** - set to the ClOrdID of the manual DMM order intended for replacement, modification, or cancellation. Copy from Binary Echo GT message

16. Document Version History

Date	Spec Version #	Change Summary
May 17, 2025	5.15	Added support for Imbalance Offset (ExtendedExecInst = 8) and Q-Orders (InterestType= 4) on NYSE Texas
March 28, 2025	5.14	Rebranded NYSE Chicago to NYSE Texas
February 14, 2025	5.13	RoutingStrategy AddOn - Equities Customer - added to support Routing Strategies for all equities markets
September 18, 2024	5.12	Auction Price Data (NYSE DMM) - for the opening auction, added support for additional price points providing the Continuous Book Clearing Price, the NBBO and the NBBO Midpoint (or LMOCP). MinQty - removed the requirement for MinQty to be ≥ Round Lot.
June 17, 2024	5.11	NYSE Pillar Risk Controls

		- Added support for Order Rate Threshold – Max Orders across All Symbols (RiskControlType = 29) - Removed support for Reject ISO (RiskControlType = 12); replaced with the following: o Added support for Reject ISO IOC (RiskControlType = 30) o Added support for Reject ISO Day (RiskControlType = 31) Updated NYSE DMM Manual Order Processing: - Manual Action Request / Manual Action Response - Updated protocol to support position marking of sell interest when there is a DMM Manual Override SettlementType - eliminated "Next Day" modifier.
March 11, 2024	5.10	NYSE Pillar Risk Controls - added support for Gross Credit – Executed and Gross Credit – Open limits.
November 16, 2023	5.9	Appendix E - added Limit Reserve Non-Routable ALO to list of order types that may be sent with instructions to handle as Pre-auction or After-auction orders
August 23, 2023	5.8	Updated NYSE DMM Manual Order Processing: - Manual Action Response message - updated processing of the MPSubID field - Appendix F Electronic Interaction with Manual DMM Orders: Echoes of Manual Order Activity - added support for MPSubID Defaulting on Manual AOC Orders
June 27, 2023	5.7	Removed support for following values on NYSE Arca Equities and added support on NYSE National: - ExtendedExecInst - values 5 (Retail Order Type 1), 6 (Retail Order Type 2), 7 (Retail Provider) - Appendix A liquidity indicators - ARP, ARM, RRT Removed support for following liquidity indicators (Appendix A) - AMLR, AMLO, ARER, AREO, ARRI, AROI. SpecialOrdType - removed support for value 8 (No Interaction with Retail Taker). Minimum Price Variant Class Reference Data - updated data type of field MPVClassName. Session Configuration Request & Session Configuration Acknowledgment - added BOLDDesignation field; updated data type of Reserved bytes. Trading Services: Self-Trade Prevention - clarified use cases for ClientID registration. Risk Controls - streamlined messaging for Risk Control Acknowledgement & Risk Control Alert: - Risk Controls section - updated session entitlements based on MPIDs configured for use on the session & the SubIDs associated with those MPIDs, instead of all identifiers associated with the firm's CRD - BreachActionResponse field - value 2 is updated from Cancel Non-Auction Orders to represent Cancel Non-Auction Orders & Block

		- A single ack or alert message will be sent in response to a request and upon Gross Credit breach, instead of multiple messages that separately represent notification, cancel non-auction orders & block
March 9, 2023	5.6	ExtendedExecInst - removed support for value 6 (Retail Order Type 2). SpecialOrdType - added support for value 8 (No Interaction with Retail Taker). Appendix A Liquidity Indicators: - Added support for new indicators - AMLR, AMLO, AREI, ARER, AREO, ARRI, AROI, ARIZ, RR, RRZ, RIR, RIRZ, RBD, RBI, RBDZ, RBIZ, RNDR, RNRZ, OMR, OR, CMR, CR - Updated descriptions of existing indicators - ARP, RRT - Removed support for ARP on NYSE Arca Equities
March 3, 2023	5.5	Risk Controls: - Message Throttling - added message weights for Risk Limit Update Request - Application Layer Reject - added support for following values in RejectType field: 7 = Risk Limit Update Request reject; 11 = Risk Action Request reject - Risk Limit Update Request & Risk Ack - for Max Order Qty as % of Symbol ADV, updated guidance regarding the RiskMinimumValue field - Risk Limit Update Request, Risk Action Request & Risk Ack - for Reject Sell Short/Sell Short Exempt, updated SymbolID field as optional to support configuration at MPID/MPID + SubID level (across all symbols)
January 9, 2023	5.4	Self-Trade Prevention - added support for ClientID based STP. Risk Controls - updated entitlements for Risk Admin session. Risk Limit Update Request & Risk Action Request - added RiskRangeID = 0 and details regarding configuration of the Minimum ADV to Apply Check. Risk Control Ack & Risk Control Alert - added RiskRangeID = 0 and details regarding multiple ack/alert messages for Gross Credit.
October 25, 2022	5.3	Risk Controls - updated entitlements based on MPIDs configured for use on the session, and for the SubIDs associated with those MPIDs. Risk Limit Update Request - Limit Order Price Protection - added details regarding deactivation of custom limits. Risk Control Acknowledgement & Risk Control Alert - BreachActionResponse field - updated value 2 = reserved for future use and value 4 = Cancel Non-Auction Orders & Block. RiskControlType field - updated description of value 13 to “Reject Market Orders (except MOO & MOC).” Auction Price Data (NYSE DMM) - for the closing auction, added support for additional price point containing the Continuous Book Clearing Price.

		Appendix A - updated descriptions of following liquidity indicators - AML, AMZ, AND, ANZ, ARP, ARM, RML. Appendix B - added reason codes 326, 327, 906, 999. Updated text for reason code 313.
August 12, 2022	5.2	Trading Services - added section "Denial of Service Restrictions." FIX Drop Copies - added support for Clearing Number filter. Order Modify/Cancel Request Acknowledgment and UROUT - made correction to remove Optional Order Add-on (not supported on this message type).
July 25, 2022	5.1	LocateReqd and LocateBroker - added reference to orders with Side of Cross Short and Cross Short Exempt. Appendix B - removed code 326.
June 30, 2022	5.0	LocateReqd - for orders with Side of Sell Short and Sell Short Exempt, must be entered as LocateReqd = 0. If entered as LocateReqd = 1, order will be rejected. RoutingInstruction - added support for 10 = Route to ATS; Appendix A - added liquidity indicators XWA and XDA. ExtendedExecInst - removed support for 2 = No trade against MPL and 4 = No trade against MPL and no route to IOI. ProactiveIfLocked - added support on NYSE for 1 = Proactive if Locked for routable orders and 2 = Proactive trade non display (non-display remove liquidity for non-displayed orders locked by contraside ALOs. CancelInsteadOfReprice - added support for 3 = Cancel order instead of repricing for any reason. Added support for Risk Controls: - Added section Trading Services → Risk Controls - Updated Reference Data → Start of Day, Intraday - Equities Symbol Reference Data message - replaced MaxOrderPrice field (Price - u64) with two fields, ADVRiskRangeID (u8) and *Reserved* (char(7)) - OptionalOrderAddOn Equities Customer - replaced *Reserved* field (char(4)) with LocateBroker (zchar(4)) - Added message types - Risk Limit Update Request, Risk Action Request, Risk Control Acknowledgement, Risk Control Alert Appendix B - added new reject codes 311-326. Updated text of the following codes to "Session Transition" instead of "Symbol Transition": 154-157.
February 17, 2022	4.9	Added support for: - NYSE - Inside Limit order - OrdType = 3 (Inside Limit); updated Appendix D with Inside Limit details - NYSE Arca Equities - Discretionary Peg order - ExtendedExecInst = 9 (Discretionary Peg)

		Added new section - Maximum Order Price and Quantity Removed the following sections: - OptionalOrderAddOn – NYSE Floor Broker - OptionalReportAddOn – NYSE Floor Broker Cancel on Disconnect and Bulk Cancel - clarified that on NYSE, MOC/LOC orders for primary symbols are excluded from cancellation after 3:50 PM (added time reference). Prohibited characters in freeform text fields - added guidance regarding character restrictions in the fields UserData and DMMRejectReason. Cancel/Replace Request - clarified that MPID and MMID on the replacement order must be same as the original order. RetailIndicator field - added support for value 1 (to designate an order as eligible for retail execution billing) on NYSE American Equities and NYSE National. Appendix A - added support for the following liquidity indicators by market: - NYSE Arca Equities - ADB, ADM, ADZ, RDB, RDM, RDZ - NYSE American Equities & NYSE National - ARE, AREZ, RRM, XNRT, XPRT, XDRT - NYSE National - XART Appendix B: - Added new codes: 191, 213-214, 228 - 269, 271-279, 281-289, 291-310, 400, 800 - Removed codes: 900-906 - Updated text of the following codes to cover options series in addition to equities symbol ("symbol/series" instead of "symbol"): 20, 79, 80, 84, 110, 138, 139
December 9, 2020	4.8	NYSE - added support for: • SelfTradeType = 4 (Cancel Both) • SelfTradeType = 5 (Cancel Decrement)
October 28, 2020	4.7	Added support for Issuer Direct Offering (IDO) order: • ExtendedExecInst = 14 • Excluded from cancel on disconnect; bulk cancel • Pillar Reason Codes 270, 280, 290
August 3, 2020	4.6	Message Throttling section - eliminated throttle formula that approximated a point in time when messages arrived during the previous 100 milliseconds, in favor of a true 100 millisecond rolling window NYSE DMM - added support for subscribing to a given symbol from multiple sessions. See the following sections of this specification for details: • Reference Data → Intraday • Symbol Subscription Request PreLiquidityIndicator on Order and Cancel/Replace Acknowledgement - added support for pre-liquidity indicator values 4 (Candidate for setting a new displayed bid or offer on the local market and joining the NBBO) and 5 (Candidate for setting a new displayed bid or offer on the local market and setting the NBBO)

		Liquidity Indicators (Appendix) - added new NYSE liquidity indicators for executions of orders routed to MEMX (XU, XUZ); MIAX (XH, XHZ); LTSE (XL, XLZ, XLA, XLT, XLRT, XLZD) Pillar Reason Codes (Appendix) - added new codes 200, 223-227
May 11, 2020	4.5	Added support for new field SubIDIndicator in BitfieldOrderInstructions.
November 4, 2019	4.4	NYSE American - added support for values to be introduced on a date announced via Trader Update: - ExtendedExecInst field - added 1 = Add Liquidity Only (ALO) as a valid value - ProactiveIfLocked field - added 2 = Non-display Remove liquidity as a valid value
October 17, 2019	4.3	NYSE Chicago: - Trade Bust/Correct - in DealID field, updated description for busts and corrections - OptionalOrderAddOn – Equities Customer - added support for NYSE Chicago. Liquidity Indicators (Appendix) - added support for new indicators RBN/RBNZ for all markets on a date announced via Trader Update; added back missing indicators OIO/OIOZ, previously removed in error. Designated Limit Cross - IOC for elimination on NYSE Arca Equities, NYSE American Equities, and NYSE National on a date announced via Trader Update.
September 5, 2019	4.2	UserData field - corrected data type to reflect zchar(8). Manual Action Response - UserData field - clarification regarding for which ManualActionTypes this value is applied vs. ignored. Manual Action Response - IntradaySellShortQty field - added detail that the value of this field is limited by the MaxOrderQuantity configured for the DMM session entering the Response. Liquidity Indicators (Appendix): - Merged the updated liquidity indicators for “Executions in Opening/Re-opening Auctions” and “Executions in Closing Auctions” from addendum table into main table. Removed designation that these codes will be introduced “beginning on a date announced via Trader Update” as they have since been implemented. - Corrected the indicators for “additional manual PRIN interest - NYSE DMM only” as OL and “additional manual PRIN interest - NYSE DMM only - Sub Dollar” as “OLZ.” Corrected the cancel cutoff time for Primary Close Only Market/Limit (PO + MOC/LOC) orders for NYSE symbols - 3:50 PM. Removed support for ExecInst value of "11" for NYSE Chicago, as not applicable for Binary at this time. OffsetPrice - updated description to cover both Market Peg and Retail Price Improvement (optional modifier on NYSE only).
June 26, 2019	4.1	Pillar Gateway support for NYSE, specific to Designated Market Maker (DMM):

		- Section “FIX Drop Copies” - added detail regarding FIX Drop Copy for NYSE DMM - Section “Binary Echo Sessions” - added detail regarding Binary Echo for NYSE DMM - Section “Member Firm to Pillar” - added following message types - Symbol Subscription Request; TG Begin; TG End; Manual Action Response - Section “Pillar to Member Firm” - added following message types - Symbol Subscription Acknowledgement; GT Begin; GT End; Auction Price Data; Auction Request; Manual Action Request - Added Appendix - “NYSE DMM Electronic Opening/Re-opening/Closing” - Added Appendix - “Electronic Interaction with Manual DMM Orders” OptionalSettlementTypeAddOn - NYSE Chicago - updated message Type value in field msghdr.
June 17, 2019	4.0	Added support for NYSE Chicago throughout all data structures and sections of the document. Added new optional Add-On for NYSE Chicago to support Non-Regular Way Settlement on Cross Orders. Order Modify/Cancel Request Acknowledgment and UROUT - updated detail regarding DMM session subscribed to symbol, Unsolicited Modify Ack - RefClOrdID = a new, unique value assigned by Pillar. Appendix B, “Pillar Reason Codes”: - Updated R191, R202, R213, and R214 as reserved for future use - Added R212: No Prev Closing Price, R220: Dry Run, R221: Unsupported by BrokerPlex, and R222: Cross Blocked by BBO/PBBO
March 29, 2019	3.2	Pillar Gateway support for NYSE: - Appendix “Liquidity Indicators” - added codes for Executions on Routed Orders; Primary Only to NASDAQ; Primary Only to BATZ; Primary Only to IEX - TradingSessionID field - added clarification for NYSE, that all values that include Core designation (Core, Early/Core, Core/Late, and Early/Core/Late) will be allowed, but only if the order type supports the combination on other Pillar markets. See field description for how the values are processed based on Tape of the Symbol - Section “Reference Data” → “Intraday” - added support for intraday changes to DMM Symbol Reference Data - Appendix “Pillar Reason Codes” - updated text for codes 171, 200, 211 Section “Data Types” - added detail that bytes/bits “reserved for future use” should be populated with 0. Clarification that MMID must be provided along with its associated MPID on Market Maker, LMM, SLP, SLMM and DMM orders intended to receive credit for satisfying their marking making/liquidity obligations. RountingInstruction field - changed description of the value for “Routable IOC” to “Routable” for greater flexibility in future use.

January 14, 2019	3.1	Added new field SpecialOrdType in the data structure BitfieldOrderInstructions, with values to support NYSE DMM electronic opening/re-opening/closing and pre-auction, after-auction instructions. Appendix B, "Pillar Reason Codes" - updated text for R065 to "Invalid InterestType"; R070 to "Invalid DOrderAuctionPrice." Clarification that MMID must be provided on all market maker orders.
November 19, 2018	3.0	Liquidity Indicators (Appendix) - added supplemental table with planned changes for Opening/Re-opening and Closing auction liquidity indicators on all Pillar markets with auction eligible securities - NYSE Arca Equities, NYSE American Equities, and NYSE. Pillar Gateway support for NYSE, general: - Throughout spec, updated field/value applicability for NYSE market - Eliminated business descriptions of the following fields; updated as reserved bytes for future use - MinPegQty, DiscPriceRng, DisplayInd - Re-named QuoteType as InterestType - Introduced new value to the following field: o ExecInst - added support for Last Sale Peg - Liquidity Indicators (Appendix) o Updated value applicability for NYSE market o Introduced new values - ASPZ, AJPZ, ASP, AJP, ADR, AC, RDA, ZB, ZBZ - Pillar Reason Codes (Appendix) - added new reason codes 169+ - Added new Appendix - Order Type/Modifier Applicability by Participant & Symbol - Bulk Cancel Request and Cancel on Disconnect - updated list of exclusions for order cancellation Pillar Gateway support for NYSE, specific to Designated Market Maker (DMM): - Reference Data section - added descriptions for DMM Symbol Reference Data (Start of Day) and DMM Symbol Subscription (Intraday) - Message Throttling section - added details regarding multi-message - Application Layer Reject message - added details to reject TG Action and Manual Action Response messages - Introduced new values to following fields: o InterestType - added support for Capital Commitment Order and Capital Commitment Order – Partial Fill contra-side o BulkCancelType - added support to cancel CCO orders within MPID o RejectType - added support to reject TG Action and Manual Action Response messages Denoted changes to protocol support for the following markets beginning on a date announced via Trader Update - NYSE Arca Equities and NYSE National - introduction of Minimum Fill (via RoutingInstruction)
August 20, 2018	2.2	Added example in section "Failure Recovery" → "Primary Production Environment."
May 24, 2018	2.1	Added new Liquidity Indicators for NYSE Arca Equities (Appendix) - Add Retail Provider Sub Dollar (AREZ); 945/355 Executed on NYSE Retail (XNRT); 945/355 Executed on NYSE American Retail (XART); 945/355 Executed on Away Market Non-NYSE Group (XDRT).
February 8, 2018	2.0	Added protocol support for NYSE National.

October 3, 2017	1.10	Updated message throttle rate to 500 messages/100 milliseconds. Updated protocol support for NYSE Arca Equities and NYSE American Equities – new ExtendedExecInst value 8 = Imbalance Offset. New liquidity indicators for NYSE Arca Equities and NYSE American in support of Imbalance Offset order.
September 13, 2017	1.9	Updated protocol support for NYSE American Equities – new RoutingInst value 8 = Minimum Fill (must be entered with MinQty tag populated with a non-zero value)
July 17, 2017	1.8	Added implementation detail in section Message Throttling. Removed duplicate entries of liquidity indicators AND, RND for Dark Primary Peg, and simplified original descriptions to be applicable to non-displayed orders in general (including Dark Primary Peg), in Appendix.
June 22, 2017	1.7	Added New Liquidity Indicators for NYSE American – in support of Discretionary Peg Order and Dark Primary Peg Order. Updated references of "Arca/American/NYSE Only" order to "Non-Routable Limit Order" (for NYSE Arca Equities, still known as Arca Only Order pending official name change). Clarification regarding field 'RefClOrdID' for STP cancellation against a contra-side order entered in FIX protocol.
May 16, 2017	1.6	Updated protocol applicability for NYSE American Equities: - MinPegQty and DiscPriceRng – removed - MMID – added
April 12, 2017	1.5	Updated protocol applicability for NYSE American Equities (formerly known as NYSE MKT Equities): - RetailIndicator – removed support for Retail Order - TradingSessionID – added support all trading sessions - OrderCapacity – removed support for Error Account - ExtendedExecInst – removed support for Add Liquidity Only; No Route to IOI; No Trade against MPL and No Route to IOI; Retail Order Type 1; Retail - Order Type 2; Retail Provider; Imbalance Offset. Added support for Discretionary Peg; Dark Primary Peg - QuoteType – added support for Q-Order - ProactiveIfLocked – removed support for Proactive Trade Non Display Added Liquidity Indicator values and definitions in support of NYSE American Equities (Appendix). Added new Liquidity Indicators for both NYSE Arca Equities and NYSE American Equities – Add MPL Sub Dollar Execution; Add Non-Displayed Sub Dollar Execution; Remove Regular Limit IOC; Remove Sub Dollar IOC; Remove Sub Dollar MPL Order; Remove Non-Displayed Sub Dollar Limit Order. Updated the binary Order Types matrix in support of NYSE American Equities (link to the matrix in Appendix) – added Discretionary Peg Order and Dark Primary Peg order types. Added descriptive detail to the section FIX Drop Copies – regarding the mapping of binary 'UserData' field to the FIX drop copy tag Account (1).
February 23, 2017	1.4	Performed some or all of the following modifications to each of the below message types (lengths and offsets changed) – eliminated fields OrdKey/OrigOrdKey; added fields ClOrdID/OrigClOrID; added field MPID; resized/moved/added field UserData - New Order Single and Cancel/Replace Request - Order Cancel Request - Order Modify Request

		- Bulk Cancel Request - Order and Cancel/Replace Acknowledgement - Order Modify/Cancel Request Acknowledgment and UROUT - Order Priority Update Acknowledgment - Execution Report - Trade Bust/Correct - Order/Cancel/Cancel-Replace/Modify Reject Removed field ParentFirmOrdKey and added field ParentFirmClOrdID on the following data structures: - OptionalOrderAddOn – NYSE Floor Broker - OptionalReportAddOn – NYSE Floor Broker Added detail on validation of the field UserData. Added descriptive detail to the following sections: - Failure Recovery – added sub-section Pillar Risk Mitigation - MsgHeader – regarding calculation of the field 'length' - FIX Drop Copies – regarding the mapping of binary order entry fields to FIX drop copy message tags - Session Configuration Request/Acknowledgement – regarding ThrottlePreference settings and UserSessionStatus values - New Order Single and Cancel/Replace Request; Order Modify Request – regarding expected ClOrdID value during order chaining Redefined value 13 and added values 14 through 16 to the field AckType. Added Pillar Reason Codes 167 (Invalid UserData) and 168 (Pillar Risk Mitigation) to Appendix. Added hyperlink and guidelines for interpretation of NYSE Arca Equities order type validation matrix to Appendix. Clarification that the fields MinPegQty and DiscPriceRng are not currently available for NYSE Arca Equities.
January 5, 2017	1.3	Modified field SelfTradePrevention on message types User Session Configuration Ack and User Session Configuration Request – updated data type to u8. Updated description for field Username on message types User Session Configuration Ack, User Session Configuration Request, MPID Configuration, and MMID Configuration. Clarified section Failure Recovery – to indicate that the number of old, recovered GT streams available after intraday session restart (without software rollback) will be equal to the number of such restarts completed during that trading day.
December 8, 2016	1.2	Updated permission for Trader to Gateway (TG) stream to Write only. Added new message type – Sequenced Filler Message. Added format for messages delivered over Binary Echo Session, Gateway to Trader (GT) stream. Updated message length of Trade Bust/Correct to 78 bytes. Clarification that OptionalOrderAddOn will never be sent for NYSE Arca Equities on Order Modify/Cancel Request Acknowledgement and UROUT (will be sent conditionally for NYSE and NYSE MKT only). Updated the following fields: - MMID – updated data type to u32 - MPVClassID – updated data type to u16 - RejectType – updated data type to u8

		- Side – on Bulk Cancel Request, valid values are 1 (buy) and 2 (sell) Removed description of the value '0' from fields where '0' is not accepted – OrderCapacity, TradingSessionID, TimeInForce, OrdType, Side, BulkCancelType, AckType, ParticipantType. Clarification that MPID on Cancel/Replace Request must match the original order. Added Pillar Reason Code 166 (Invalid Permission for SenderCompID) to Appendix.
October 28, 2016	1.1	Added the following new message types: - MPID Configuration - MMID Configuration Added the following new fields to existing message types: - TransactTime – to all outgoing (GT stream) messages that did not previously have it - SymbolID – to all incoming (TG stream) and all outgoing (GT stream) messages that did not previously have it - TestSymbolIndicator – to Equities Symbol Reference Data message - EffectiveTime – to OptionalOrderAddOn - Equities Customer - OrdKey and WorkingAwayFromDisplay – to Order and Cancel/Replace Acknowledgment message; re-sequenced among other fields - PreLiquidityIndicator – to Order Priority Update Acknowledgment - Filler – additional bytes reserved for future use added to Order/Cancel/ Cancel-Replace/Modify Reject message - Various new fields and new values – to Session Configuration Acknowledgment and Session Configuration Request messages Modifications to existing fields: - MPVClassID – replaced MPVClassName in Equities Symbol Reference Data message - CancelInsteadOfReprice – replaced RepriceOrCancel in BitfieldOrderInstructions, and values updated - RefSeqMsgID – replaced RequestSeqMsgID in Order Modify/Cancel Request Acknowledgment and UROUT - OrdKey – replaced OrigOrdKey in Order Modify/Cancel Request Acknowledgment and UROUT Updated values for existing fields: - Message 'Type' – in SeqMsg data structure - AttributedQuote - TimeInForce - SelfTradeType - BulkCancelType - Side - AckType - PreLiquidityIndicator - Pillar Reason Codes – added 154 through 165; see Appendix Added/updated descriptive detail to the following sections: - Failure Recovery - Reference Data – start of day and intraday

		- Self Trade Prevention - Message Throttling - FIX Drop Copies - Binary Echo Sessions - Session Configuration Acknowledgment and Session Configuration Request - Bulk Cancel Request
August 12, 2016	1.0	Initial version of the specification.