

Functional Differences – UGW vs. Pillar Gateway

Binary Protocol – Session Configuration	
UGW Gateway	<ul style="list-style-type: none"> Certain session configuration settings may be specified by the firm via the “Logon Request” message. These can be changed intraday by logging off and logging back in with the new specified settings.
Pillar Gateway	<ul style="list-style-type: none"> The “Session Configuration Acknowledgment” message notifies the firm at start of day of their current session configuration settings. The settings can be changed intraday without logging off by sending the “Session Configuration Request” message. For details, refer to the “Pillar Gateway Binary Protocol Specification.”
Binary Protocol – Session Layer	
UGW Gateway	<ul style="list-style-type: none"> The default Heartbeat Interval for a session is 60 seconds, and may be changed by manual configuration. During periods of activity, any message may be sent by the firm in lieu of a Heartbeat message. A user defined CIOrdID is specified by the firm on every incoming Application Layer message. A client sending time is not provided by the firm on any incoming messages.
Pillar Gateway	<ul style="list-style-type: none"> The heartbeat interval is set at 1 second, and is not configurable. A heartbeat message must be sent regardless of other message activity. In addition to a user defined CIOrdID, a numeric “SeqMsgID” is applied by the firm on every incoming Application Layer message. The value provided must increment by one with each message sent, and will be validated by Pillar. A timestamp is required on all incoming Application Layer messages, represented in nanoseconds since UNIX Epoch. Pillar will convert the value provided by the firm to local time, and validate that it matches the current business day. If not, the message will be rejected. New – Reference data messages will be provided at start of day on the GT (Gateway-to-Trader) and REF (Reference Data) streams for each session. <ul style="list-style-type: none"> The reference data messages cover Symbols, MPV Classes and Levels, Session Configurations and MPID Status. In the event of intraday changes, the applicable messages will be published to the GT and REF streams intraday.
FIX Protocol – Message Sequence Numbers	
UGW Gateway	<ul style="list-style-type: none"> The firm may reset both the client and Exchange side sequence numbers to 0 upon login by sending ResetSeqNumFlag (141) = Y on the “Logon Request” message.

Pillar Gateway	<ul style="list-style-type: none"> The firm may not reset the client nor Exchange side sequence numbers on the “Logon Request” message. <ul style="list-style-type: none"> New – The next expected client side sequence number is provided by the Exchange in the tag “NextExpectedMsgSeqNum” (789) on both the “Logon Accept” and “Logout” messages. The firm may increase the client side sequence number by sending the “Sequence Reset” message, but may never reset it. For more information, see the “Pillar FIX Session Layer Handling” section of the “NYSE Pillar Gateway FIX Protocol Specification.”
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FIX Protocol – Session Layer	
UGW Gateway	<ul style="list-style-type: none"> A Heartbeat Interval must be specified by the firm via the “Logon Request” message, which includes an option to disable client-side heartbeating altogether. The value provided by the firm in “SendingTime” (52) is not validated.
Pillar Gateway	<ul style="list-style-type: none"> A Heartbeat Interval with a value between 1 and 60 seconds must be specified by the firm via the “Logon Request.” One missed heartbeat will result in a test request from Pillar. Two missed heartbeats will result in an unsolicited logout and closure of the TCP connection by Pillar. “SendingTime” (52) is required on all incoming Session and Application Layer messages, represented in UTC with millisecond resolution. Pillar will convert the value provided by the firm to local time and validate that it matches the current business day. If not, the message will be rejected. New – the Exchange will provide the tag “SessionStatus” (1409) on the “Logon Accept” and “Logout” messages to indicate whether the session is active, logged out, or failed login due to invalid username/password.

Username/Password Authentication	
UGW Gateway	<ul style="list-style-type: none"> Username and password authentication is not supported.
Pillar Gateway	<ul style="list-style-type: none"> Each session will be assigned a username and password which the firm must specify in their logon request messages.

Inbound Message Throttling	
UGW Gateway	<ul style="list-style-type: none"> Inbound messages are throttled on a per-session basis at a rate of 1000 messages/1 rolling second.
Pillar Gateway	<ul style="list-style-type: none"> Inbound messages are throttled on a per-session basis at a rate of 50 messages/10 rolling milliseconds. New – outbound Acknowledgments indicate when the corresponding inbound Order, Cancel/Replace Request, Modify Request, Cancel Request, or Bulk Cancel Request was throttled – binary “BitfieldFlowIndicator” field; FIX tag “FlowIndicator” (20005). New – NYSE Pillar Binary Gateway sessions have an option to specify in the “Login” request message to reject new inbound Orders when throttled, instead of the default

	<p>behavior to queue the messages until they can be processed.</p> <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> ▪ UROUT for the cancelled order with BitfieldFlowIndicator, “Throttled” bit set to ‘1’ (Inbound Message was Throttled). ▪ Cancel/Replace Reject with <78 – Throttle Reject>. ○ For more details, see the “Pillar Stream Protocol Specification” and the “Message Throttling” section of the “NYSE Pillar Gateway Binary Protocol Specification.”
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Firm Identifier	
UGW Gateway	<ul style="list-style-type: none"> ● Firms are identified by their 5 character Equity Trading Permit Identifiers (ETPIDs). ● The following functions are maintained at the ETPID level: <ul style="list-style-type: none"> ○ Credit limit checks for directed orders and routes to away markets that are not displaying protected quotations ○ Quote Attribution out to XDP feeds ○ STP validation ○ Exchange Participant ID on OATS Exchange Route Matching
Pillar Gateway	<ul style="list-style-type: none"> ● Firms are identified by their 4 character Market Participant Identifiers (MPIDs), and must provide a valid MPID on every Application Layer message sent to the Exchange. ● The following functions are maintained at the MPID level: <ul style="list-style-type: none"> ○ Credit limit checks for directed orders and routes to away markets that are not displaying protected quotations ○ Quote Attribution out to XDP feeds ○ STP validation (see separate section below for other changes related to STP validation) ○ Exchange Participant ID on OATS Exchange Route Matching

COrdID Validation	
UGW Gateway	<ul style="list-style-type: none"> ● COrdID is required to be unique per SenderCompID.
Pillar Gateway	<ul style="list-style-type: none"> ● COrdID is required to be unique for the combination of SenderCompID + OnBehalfOfCompID (FIX), or Username + MPID (Binary). Pillar will validate uniqueness among open orders only. However, the firm is responsible for ensuring that the COrdID provided is unique among all orders sent for the full length of the trading day by the given SenderCompID + OnBehalfOfCompID, or Username + MPID.

Symbology	
UGW Gateway	<ul style="list-style-type: none"> ● Orders must be entered using Comstock Symbology.

Pillar Gateway	<ul style="list-style-type: none"> • FIX – orders must be entered using NYSE Symbology in “Symbol” (55) and “SymbolSfx” (65). • Binary – orders must be entered using SymbolID, provided by the Exchange in the “Equities Symbol Reference Data” message (see section “Binary Protocol – Session Layer” above). The SymbolIDs provided are the same as those used on the NYSE XDP market data feeds.
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Price Scale (Binary Protocol Only)	
UGW Gateway	<ul style="list-style-type: none"> • A price scale must be specified on a message-by-message basis for both inbound and outbound messages.
Pillar Gateway	<ul style="list-style-type: none"> • A fixed price scale of 8 is used on all fields defined with a data type of “Price” (64-bit, unsigned Little Endian) in the NYSE Pillar Gateway Binary Protocol.

Self-Trade Prevention (STP) Validation	
UGW Gateway	<ul style="list-style-type: none"> • STP validation happens at the ETPID level.
Pillar Gateway	<ul style="list-style-type: none"> • STP validation happens at the MPID level. <ul style="list-style-type: none"> ○ Within an MPID a subID can be specified, to allow trades between the same MPID, as long as the subIDs do not match. ○ In FIX, the subID must be specified in “OnBehalfOfSubID” (116). ○ In Binary, the subID must be specified in the “MPSubID” field. • The firm can override the session level default for STP instruction on an order-by-order basis by providing any other value in the “SelfTradeType” field (in FIX, tag 7928).

*Note: STP across ETPIDs and MPIDs from the same firm will not be validated, and will be allowed to trade with one another.

Offsets on Market Pegs	
UGW Gateway	<ul style="list-style-type: none"> • Supported via the “PegDifference” field (in FIX, tag 211) <ul style="list-style-type: none"> ○ For Buy orders, the offset must be specified with a negative number ○ For Sell orders, the offset must be specified with a positive number
Pillar Gateway	<ul style="list-style-type: none"> • Supported via the “OffsetPrice” field (in FIX, tag 9403) <ul style="list-style-type: none"> ○ For Buy and Sell orders, the offset must be specified as a positive value, which will be applied as negative offset for buys, and a positive offset for sells

Working Price on Incoming Orders	
UGW Gateway	<ul style="list-style-type: none"> • The working price for a new order will be included on every new order acknowledgement in the “Price” field (in FIX, tag 44).
Pillar Gateway	<ul style="list-style-type: none"> • The working price for a new order will be included in every new order acknowledgement in the “WorkingPrice” field (in FIX, tag 20004). • The limit price for a new order will be included in every new order acknowledgement in the “Price” field (in FIX, tag 44).

LULD Band Behavior	
UGW Gateway	<ul style="list-style-type: none"> • Default behavior is to cancel orders that would execute through the bands. • All limit orders may include a discretionary instruction to reprice except: <ul style="list-style-type: none"> ○ If entered with repricing instructions, MPL, MPL ALO, and MPL RPI will not reprice, but will be held undisplayed until the midpoint of the PBBO is at or within the LULD bands • Cross orders priced through an LULD band will reject regardless of repricing instructions
Pillar Gateway	<ul style="list-style-type: none"> • Default behavior is to reprice limit orders that would execute or route through the bands and cancel market orders, Limit IOC and Day ISOs that would execute or route through the bands. • Below are exceptions to repricing behavior: <ul style="list-style-type: none"> ○ MPL, MPL ALO, and MPL RPI will not reprice, but will be held undisplayed until the midpoint of the PBBO is at or within the LULD bands. These orders support an option to cancel instead by providing a value of “1” in the “CancelInsteadOfReprice” field (in FIX, tag 20003) ○ Cross orders priced through an LULD band will reject regardless of repricing instructions • Limit orders support the option to cancel instead of reprice for LULD bands by providing a value of “1” in the “CancelInsteadOfReprice” field (in FIX, tag 20003)

Cancel/Replace Handling	
UGW Gateway	<ul style="list-style-type: none"> • The following fields cannot be change from original order to cancel/replace as they are copied form the original order message: <ul style="list-style-type: none"> ○ ExecInst – cannot change to or from “f” but can change other values ○ ExecBroker ○ ExtendedExecInst
Pillar Gateway	<ul style="list-style-type: none"> • With the exception of symbol and side from B to S or vice versa, all other fields can be changed from the order to the cancel/replace

Modify Request Handling	
UGW Gateway	<ul style="list-style-type: none"> • A Cancel/Replace request which reduces the total number of shares or changes the side of an existing order (between Sell, Sell Short, Sell Short Exempt) is handled in Pillar as a “Modify Request,” preserving the order’s ranking in the Exchange order book as well as its original OrderID.
Pillar Gateway	<ul style="list-style-type: none"> • FIX – same as UGW Gateway above. • Binary – “Modify Request” is a unique message type, separate from the “Order/Cancel Replace” message.

Defaulting For Tags not Sent by Firms	
UGW Gateway	<ul style="list-style-type: none"> • If TimeInForce (in FIX, tag 59) is not provided on an order, it is defaulted to “Day” • If trading session (in FIX, tag 336) is not provided on an order, it is defaulted as follows <ul style="list-style-type: none"> ○ For Opening (TIF = 2) and Closing (TIF = 7), trading session is defaulted to Core ○ For Market Orders, trading session is defaulted to Core ○ For all other order types <ul style="list-style-type: none"> ▪ if current session is early or pre-open, trading session will be defaulted to Early and Core ▪ if current session is core, trading session will be defaulted to Core
Pillar Gateway	<ul style="list-style-type: none"> • TimeInForce (in FIX, tag 59) must be present on all order messages, and no defaulting will occur • Trading session (in FIX, tag 336) must be present on all order messages, and no defaulting will occur

Order Priority Update Ack Message	
UGW Gateway	<ul style="list-style-type: none"> • When a reserve order is triggered to replenish, the replenishment will get a new order ID, which is not provided back to the firm via an unsolicited ack.
Pillar Gateway	<ul style="list-style-type: none"> • When a reserve order is triggered to replenish, the replenishment will get a new order ID. On a session, a firm can specify whether or not they would like the corresponding unsolicited “Priority Update Acknowledgment” for replenishments on an opt-in/opt-out basis.

Bulk Cancel Differences	
UGW Gateway	<ul style="list-style-type: none"> • Customers specify bulk cancel requests in a cancel message in both Binary and FIX. If an invalid bulk cancel code is provided, the request is treated like a regular cancel message.
Pillar Gateway	<ul style="list-style-type: none"> • Customers specify bulk cancel requests in a Cancel Request message in FIX (OrderID/tag 37) and the “Bulk Cancel Request” message in Binary. If an invalid bulk cancel code is provided, the request will be rejected with “R136: Invalid Bulk Cancel.”

Cancel On Disconnect	
UGW Gateway	<ul style="list-style-type: none"> • If enabled, cancellation criteria includes all live and pending orders, excluding MOC/LOC
Pillar Gateway	<ul style="list-style-type: none"> • If enabled, cancellation criteria can be either of the options below: <ul style="list-style-type: none"> ○ Value of 1 - All live and pending orders excluding auction Orders (MOO/LOO/MOC/LOC) ○ Value of 2 -All live and pending orders

Functionality Supported in Different Fields	
UGW Gateway	<ul style="list-style-type: none"> • For Retail program, “RET” is sent in the “SenderSubID” field (in FIX, tag 50). • MMID for a Q order is sent in the “SenderSubID” field (in FIX, tag 50). • Proactive If Locked is supported on routable orders with a value of “Y” in the “ProactivelyLocked” field (in FIX, tag 9733).

	<ul style="list-style-type: none"> • Non-display remove functionality is supported with a value of “Y” in “ProactivelyLocked” field (in FIX, tag 9733) on MPL, MPL ALO, Non-displayed Limit, and Arca Only orders. • Reprice for LULD instead of cancel is supported with a value of “1” or “2” in “ProactivelyLocked” field (in FIX, tag 9733). • AttributedQuote is supported in FIX only.
Pillar Gateway	<ul style="list-style-type: none"> • For Retail program <ul style="list-style-type: none"> ○ “RET” is sent in TargetSubID (57) in FIX ○ The “RetailIndicator” field is sent as “1” in Binary • MMID on a Q order is sent <ul style="list-style-type: none"> ○ In SenderSubID (50) in FIX ○ In “MMID” field in Binary • Proactive If Locked is supported on routable orders with a value of “1” in “ProactivelyLocked” field (in FIX, tag 20002). • Non-display remove functionality is supported with a value of “2” in the “ProactivelyLocked” field (in FIX, tag 20002) on MPL, MPL ALO, Non-Displayed Limit, and Arca Only orders. • Cancel instead of reprice for LULD will be supported with a value of “1” in the “CancelInsteadOfReprice” field (in FIX, tag 20003) – functionality described in separate section below). • “AttributedQuote” is supported in both Binary and FIX (20001) – functionality described in separate section below.

Outgoing Messages	
UGW Gateway	<ul style="list-style-type: none"> • Some, but not all, order modifiers and attributes sent by the firm on inbound Order and Cancel/Replace Requests are sent back in Acknowledgements. • A Cancel, Modify, or Cancel/Replace Request always receives a “pending” message, even if it can be applied right away. • Pending Cancel/Replace and Pending Modify Acknowledgments are both represented with an “OrdStatus” (in FIX, tag 30) of “Pending Cancel/Replace.” • The “LastMkt” field (in FIX, tag 30) is provided on both FIX and Binary execution reports. It is populated with a value combining two pieces of information – the NYSE Group executing market, and the market data Tape (A/B/C) to which the trade is reported. • FIX protocol only – the following tags are provided on certain outgoing messages: <ul style="list-style-type: none"> ○ AvgPx (6) – on executions. ○ OrdRejReason (103) and CxlRejReason (102) – on Order rejects and Cancel/Cancel-Replace rejects, respectively.
Pillar Gateway	<ul style="list-style-type: none"> • All order modifiers and attributes sent by the firm on inbound Order and Cancel Replace Requests are sent back in Acknowledgments, including on FIX drop copies of the Acknowledgments. • A Cancel, Modify, or Cancel/Replace Request will only receive a pending message if it cannot be applied right away due to market conditions (i.e. auction running or interest routed away). • Pending Cancel/Replace and Pending Modify Acknowledgments are distinguished from each other with separate values. In the binary protocol, this is represented by the “AckType” field on the “Order Modify/Cancel Request Acknowledgment.” In the FIX

	<p>protocol, a value of “M” for “Pending Modify” has been added to “OrdStatus” (39) and ExecType (150).</p> <ul style="list-style-type: none"> • The “LastMkt” field (in FIX, tag 30) is provided only on FIX execution reports, and not in Binary (instead, the binary Pillar Stream Protocol “Login” accept message indicates the MIC of the connected market). In FIX, this tag on executions is populated in accordance with standard FIX Protocol, with the Market Identification Code (MIC) of the NYSE Group market that sent the message. • FIX protocol only – <ul style="list-style-type: none"> ○ The following tags are not provided on any outgoing messages: AvgPx (6), OrdRejReason (103), and CxlRejReason (102). ○ On Order, Cancel, Cancel/Replace, and Modify rejects, the Exchange will provide specific reject codes in the binary “ReasonCode” field and in the FIX tag “Text” (58). • New – the “Participant Type” field (in FIX, tag 20008) on executions provides information regarding the executing party’s market participant type (Customer, Market Maker/LMM, etc.) • New – FIX protocol only – two custom tags, NanosecondSendingTime (20009) and NanosecondTransactTime (20010) provide UTC timestamps with nanosecond resolution on outgoing messages. These tags provide the same data points as the standard FIX Header tags SendingTime (52) and TransactTime (60), with more granularity. The Exchange provides all four tags on all outgoing messages in the NYSE Pillar FIX Gateway.
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ExecID	
UGW Gateway	<ul style="list-style-type: none"> • Populated on fills, partial fills, busts, and corrections, with the following concatenated values, GTIndicator + SystemID + MarketID + DeallID of the trade. This will be provided to both sides of a trade <ul style="list-style-type: none"> ○ In FIX, the unsigned 64 bit representation is copied to the appropriate fields as an ASCII string ○ In Binary, the unsigned 64 bit representation will be translated into the correct Binary Format for the appropriate field length • On any other message, where ExecID field is present, the value will be zero
Pillar Gateway	<ul style="list-style-type: none"> • Will be populated in FIX on all MsgType = 8 messages with a string of up to 32 characters (alphanumeric), which is globally unique. • In Binary, this field will not be provided, but each response message has its own SeqMsgID, which is globally unique.

FIX Drop Copy Configuration	
UGW Gateway	<ul style="list-style-type: none"> • Drop copy messages are delivered in FIX 4.0 format. • Message filters consist of ETPID and All Message Activity, All Except Done for Day/Rejects/Billable Cancels, or Fills/Partial Fills only. • Drop copy sessions may be configured to receive copies of inbound Order messages, in addition to outgoing Order Acknowledgments. Order Acks do not include all the tags from the inbound Orders.
Pillar Gateway	<ul style="list-style-type: none"> • Both order entry and drop copy sessions are configured with FIX 4.2, and drop copy

	<p>messages are delivered in FIX 4.2. For FIX order entry sessions with corresponding FIX drop copy sessions, the original messages and the drop copy messages are identical in format (see “Execution Report”/MsgType = 8 in the “NYSE Pillar Gateway FIX Protocol Specification”).</p> <ul style="list-style-type: none"> • Message filters consist of SenderCompID(s), MPID(s) or ClearingAccount, and either All Message Activity or Fills/Partial Fills Only. • Drop copy sessions may be configured to receive copies of outgoing Order Acknowledgments only, and not copies of inbound Orders. Order Acks include all the tags from the inbound Orders. • New – for Binary order entry sessions with corresponding FIX drop copy sessions, the outgoing binary message can be mapped to the outgoing FIX drop copy message using order and message sequence number identifiers. For details, see the “FIX Drop Copies” section of the “NYSE Pillar Gateway Binary Protocol Specification.” • New – drop copy gateways for order activity transacted on UGW are separate from drop copy gateways for order activity transacted on Pillar Gateway.
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Failure Recovery	
UGW Gateway	<ul style="list-style-type: none"> • Each session is configured with one IP address. In the event of a gateway failure, the affected sessions are moved to a cold backup that assumes the IP addresses of the primary sessions. Firms experience an interruption of service during the recovery process.
Pillar Gateway	<ul style="list-style-type: none"> • Each session is configured with two pairs of destination Pillar IP addresses, all sharing the same port number. Two IPs correspond to the Pillar Primary Production environment and the other two IPs to the DR Production environment, which become active only if the Primary is unavailable. Within the active production environment, the pair of IP addresses is synchronized to the same session data at all times. <ul style="list-style-type: none"> ○ In the event that one IP destination becomes unavailable, the firm may log in (FIX) or request write access to the streams (binary) on the second IP destination. ○ During the failover, cancel on disconnect will be triggered subject to the Cancel on Disconnect configuration for the session. Because the two IP destinations are synchronized at all times, message state and sequence numbers are preserved and gap fill can occur on the second IP destination. ○ For more details, see the “Failure Recovery” section of the Pillar Gateway FIX or Binary Protocol Specifications.

Pre Liquidity Indicator on Ack Messages	
UGW Gateway	<ul style="list-style-type: none"> • In the “LiquidityIndicator” field (in FIX, tag 9730), the firm can receive the following values <ul style="list-style-type: none"> ○ 1 – candidate to set internal BBO ○ 2 – working price different than display price ○ 3 – working price same as display price
Pillar Gateway	<ul style="list-style-type: none"> • Details as to whether or not an order was a candidate to set the internal BBO at its display price will be specified in <ul style="list-style-type: none"> ○ “LiquidityIndicator” tag in FIX (9730)

	<ul style="list-style-type: none"> ○ “PreLiquidityIndicator” field in Binary ○ Values are as follows: <ul style="list-style-type: none"> ▪ 1 – candidate to set internal BBO ▪ 0 – not a candidate to set internal BBO ● Details about working price relative to display price will be available in the “WorkingAwayFromDisplay” field (in FIX, tag 20006): <ul style="list-style-type: none"> ○ 1 – working price = display price ○ 2 – working price not equal to display price
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Liquidity Indicator Changes – the table below show the new codes firms will receive on executions in the “LiquidityIndicator” field (in FIX, tag 9730) in the Pillar Gateway with a comparison to the old codes in UGW Gateway.

<u>Definition</u>	<u>UGW Gateway</u>	<u>Pillar Gateway</u>
Executions Adding Liquidity (Non-Auction)		
Add Regular Limit Order	A	A
Add Sub Dollar Execution	D	AZ
Add MPL Order	M	AML
Add Non-Displayed Order	O	AND
Add Non-Displayed Sub Dollar Execution	D	ANZ
Add Non-routable Limit Order (Arca Only Order) - Working at different price than display price at time of execution	B	AB
Add Tracking Order	J	AT
Add Limit Order Setting New BBO	S	ASB
Add Retail Provider	A	ARE
Add Retail Provider RPI Order	I	ARP
Add MPL Retail Provider	I	ARM
Add MPL Subdollar	D	AMZ
Executions Removing Liquidity (Non-Auction)		
Remove Regular Limit or Market	R	R
Remove Regular Limit IOC	R	RI
Remove Sub Dollar	E	RZ
Remove Sub Dollar IOC	E	RIZ
Remove MPL Order	L	RML
Remove Sub Dollar MPL Order	E	RMZ
Remove Non-Displayed Order	R	RND
Remove Non-Displayed Sub Dollar Execution	E	RNZ
Remove Retail Taker Order (RT1, RT2)	K	RRT
Remove MPL Retail Taker	R	RRM

<u>Definition</u>	<u>UGW Gateway</u>	<u>Pillar Gateway</u>
Executions in Opening/Re-Opening Auctions		
Market Day, MOO, LOO Executions	G	O
Limit orders	O	OL
All Sub-Dollar Executions	E	OZ
Execution in Closing Auctions		
Market Day, MOC, LOC Executions	Z	C
Limit orders	O	CL
Sub Dollar All Executions	E	CZ
Executions on Routed Orders		
Routed – NYSE Execution	N	XN
Routed – NYSE MKT Execution	N	XA
Routed to NYSE Opening/Reopening Auction	C	XNO
Routed to NYSE MKT Opening/ Reopening Auction	C	XAO
Routed – Away Market Execution, Non- NYSE Group	X	X
Routed – NYSE Sub Dollar	H	XNZ
Routed – NYSE MKT Sub Dollar	H	XAZ
Routed – Away Market Sub Dollar, Non- NYSE Group	H	XZ
Primary Only to NYSE		
Primary Only Executed in Opening/Reopening	C	XNO
Primary Only Adding Liquidity	F	XNA
Primary Only Removing Liquidity	N	XN
Primary Only Routed from Primary	W	XNW
Primary Only MOC/LOC	U	XNC
945/355 Executed on Primary	N	XNT
Primary Only Sub Dollar	H	XNZ
Primary Only to NYSE MKT		
Primary Only Executed in Opening/Reopening	C	XAO
Primary Only Adding Liquidity	F	XAA
Primary Only Removing Liquidity	N	XA
Primary Only Routed from Primary	W	XAW
Primary Only MOC/LOC	Y	XAC
945/355 Executed on Primary	N	XAT
Primary Only Sub Dollar	H	XAZ
Primary Only to Away Market, Non- NYSE Group		
Primary Only Adding/Removing Liquidity	X	XDA
945/355 Executed on Primary	X	XDT
Primary Only Sub Dollar	H	XDZ
Cross Order Execution		

<u>Definition</u>	<u>UGW Gateway</u>	<u>Pillar Gateway</u>
Limit IOC Cross (Cross Execution only)	O	Z

Functionality that will not be supported in Pillar Gateway:

- Defaults for the following fields for inbound messages (both FIX and Binary):
 - Proactive if Locked
 - ExtendedExecInst

- Defaults for outbound filtering of tags in FIX:
 - Send ArcaExID
 - Send Liquidity Indicator
 - Send Bust and Correct
 - Send ExecBroker

- Sell Short No slide will not be supported for Pillar Gateway, and will be eliminated for UGW (both FIX and Binary)

Document Version History

<u>Date</u>	<u>Document Version #</u>	<u>Change Summary</u>
October 28, 2016	1.0	Initial version of the document.
December 8, 2016	1.1	Updated the following sections: <ul style="list-style-type: none"> - “FIX Protocol – Message Sequence Numbers” – for Pillar Gateway, replaced details on PossDup and PossResend with a reference to the NYSE Pillar Gateway FIX Protocol Specification, which provides the updated information. - “ClOrdID Validation” – for Pillar Gateway (FIX), updated details about uniqueness validation.
January 5, 2017	1.2	Updated the following sections: <ul style="list-style-type: none"> - “FIX Drop Copy Configuration” – added detail regarding separate gateway instances for drop copies of UGW order activity vs. Pillar Gateway order activity. - “Functionality Supported in Different Fields” – corrected tags for RET and MMID designation in Pillar Gateway.
February 23, 2017	1.3	Updated the following sections to reflect recent changes to the Pillar Binary Protocol which added support for a user defined ClOrdID on all inbound messages:

		<ul style="list-style-type: none"> - "Binary Protocol – Session Layer" - "ClOrdID Validation"
April 12, 2017	1.4	Added OATS detail to section "Firm Identifier."
January 9, 2018	1.5	Added new Liquidity Indicators – 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.