XDP TRADES FEED CLIENT SPECIFICATION

NYSE AMERICAN TRADES FEED

NYSE ARCA TRADES FEED

NYSE CHICAGO TRADES FEED

NYSE NATIONAL TRADES FEED

NYSE TRADES FEED

Version	Date
2.5d	October 25, 2019

PREFACE

DOCUMENT HISTORY

The following table provides a description of all changes to this document.

VERSION NO.	DATE	CHANGE DESCRIPTION
2.3d	10/21/14	Corrected market-specific field content for Trade Condition 3
2.3e	11/21/14	Corrected Reserved field to 8 bytes in Trade, Cancel, Correction msg types
2.3f	01/29/15	Corrected list of control messages
2.3g	05/12/2015	Corrected Product IDs for NYSE and American
2.4	01/13/2017	Removed trailing reserved fields from all message types Updated American market hours to match those of Arca
2.4a	09/25/2017	Corrected general information on page 2
2.4b	12/29/2017	**No change to the feed.** Added spec support for NYSE National.
2.5	1/10/2019	Updated for Pillar 5.0 and NYSE Tape A Pillar migration. ▪ Updated supported Trade Conditions ▪ Noted that auction prints are bundled
2.5a	1/29/2019	Updated for TRF trades in the NYSE market. ▪ Updated supported Trade Conditions ▪ New message types
2.5b	5/21/2019	Updated Trade Condition fields on Msg Type 220 - 222.
2.5c	6/14/2019	Added Chicago Trades Product ID
2.5d	10/25/2019	Additional clarifications on Trade Conditions, post Tape A migration.

REFERENCE MATERIAL

The following lists the associated documents, which either should be read in conjunction with this document or which provide other relevant information for the user:

- NYSE Symbology
- IP Addresses

CONTACT INFORMATION

Service Desk

- Telephone: +1 212 896-2830
- Email: support@nyse.com

FURTHER INFORMATION

For additional information about the product, visit the XDP Trades Feed Product Page

For updated capacity figures, visit our capacity page

CONTENTS

1. Trades Information

1.1 OVERVIEW

This real-time high performance product provides trade data for all traded securities on respective NYSE exchanges. This trade data is intended for trading applications which require a direct feed with timestamps representing matching engine event times.

- For each market, bundling policy mirrors publications to the SIP.
  - For continuous trading at NYSE, executions in transactions that involve a single aggressor and more than one sitting order are published as a single Trade message. All auction prints are bundled.
  - For continuous trading at non-NYSE markets, each 2-sided execution even in the same event results in the publication of a separate Trade message. All auction prints are bundled.
- For the NYSE market only, trades reported through the NYSE Trade Reporting Facility are published in a separate channel. See NYSE TRF Messages for more information.

1.2 MESSAGE PUBLICATION TIMES

Scheduled trading session times on normal and early-close days for all NYSE markets can be found here.

1.3 CONTROL MESSAGE TYPES USED IN THE DATA FEED

MSGTYPE	DESCRIPTION
1	Sequence Number Reset
3	Symbol Index Mapping
10	Retransmission Request Message
11	Request Response Message
12	Heartbeat Response Message
13	Symbol Index Mapping Request Message
31	Message Unavailable
32	Symbol Clear
34	Security Status Message

1) Due to its low data rate, the Trades feed does not make use of Source Time Reference messages. All message timestamps consist of a SourceTime field in seconds and a SourceTimeNS field in nanoseconds.

2) Due to the stateless nature of trades, the Trades feed does not use the Refresh Request message and the Refresh Header. For Trades, the Refresh Service only responds to Symbol Index Mapping Request messages.

2. Trade Message – Msg Type 220

A Trade message is sent when there is an execution on the order book. For more detail, see the Overview.

See the XDP Common Client Specification for details on Symbol Index Mapping messages.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 36 bytes
Msg Type	2	2	Binary	The type of message: 220 – Trade Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset from the Source Time
SymbolIndex	12	4	Binary	The ID of the symbol in the Symbol Index message
SymbolSeqNum	16	4	Binary	The symbol sequence number.
TradeID	20	4	Binary	Unique identifier for this trade.
Price	24	4	Binary	The price of the Trade. Use the Price scale from the Symbol Index Mapping message.
Volume	28	4	Binary	The volume of the trade in shares.
TradeCond1	32	1	ASCII	Settlement related conditions. Valid values: • @ – Regular Sale (Arca, American, National, Chicago and NYSE) • C – Cash (Chicago Only) • N – Next Day Trade (Chicago Only) • ‘ ’ – (space) Regular Sale (TRF only) • R – Seller (TRF only)
TradeCond2	33	1	ASCII	The reason for Trade Through Exemptions. Valid values: • ‘ ’ – N/A (0x20) • F – Intermarket Sweep Order • O – Market Center Opening Trade • 4 – Derivatively priced (TRF only) • 5 - Reopening Trade • 6 – Market Center Closing Trade • 7 – Qualified Contingent Trade (TRF only) • 9 - Corrected Consolidated Close
TradeCond3	34	1	ASCII	Extended hours/sequencing related conditions. Valid values: • ‘ ’ – (space, or 0x20) N/A • T – Extended Hours Trade

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
				• U – Extended Hours Sold (Out of Sequence) • Z – Sold
TradeCond4	35	1	ASCII	SRO Required Detail. Valid values: • ‘ ‘ – (space, or 0x20) N/A • I – Odd Lot Trade • M – Official Closing Price • Q – Official Open Price • V – Contingent Trade • P – Prior Reference Price (TRF only) • W – Weighted Average Price (TRF only)

3. Trade Cancel Message – Msg Type 221

In the event that an earlier trade has been reported in error, a Trade Cancel message is sent.

Customers who are building a record of today's trades should remove the cancelled trade from their records and adjust any statistics accordingly.

See the XDP Common Client Specification for details on Symbol Index Mapping messages.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 24 bytes
Msg Type	2	2	Binary	The type of message: • 221 – Trade Cancel Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset from the Source Time
SymbolIndex	12	4	Binary	The ID of the symbol in the Symbol Index Mapping message. This field is unique for products within each respective market and cannot be used to cross reference a security between markets.
SymbolSeqNum	16	4	Binary	The symbol sequence number.
OriginalTradeID	20	4	Binary	The original TradeID of the Trade being canceled.

4. Trade Correction Message – Msg Type 222

In the event that an earlier trade has been reported with one or multiple fields in error, a Trade Correction message is sent.

Customers who are building a record of today's trades should correct the specified trade in their records and adjust any statistics accordingly.

See the XDP Common Client Specification for details on Symbol Index Mapping messages.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 40 bytes
Msg Type	2	2	Binary	The type of message: ▪ 222 – Trade Correction Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset from the Source Time
SymbolIndex	12	4	Binary	The ID of the symbol in the Symbol Index Mapping message. This field is unique for products within each respective market and cannot be used to cross reference a security between markets.
SymbolSeqNum	16	4	Binary	The symbol sequence number.
OriginalTradeID	20	4	Binary	The original TradeID of the Trade message being corrected.
TradeID	24	4	Binary	The TradeID of the corrected Trade message.
Price	28	4	Binary	The corrected price of the Trade. Use the Price scale from the Symbol Index Mapping message.
Volume	32	4	Binary	The corrected volume of the trade in shares.
TradeCond1	32	1	ASCII	Settlement related conditions. Valid values: • @ – Regular Sale (Arca, American, National, Chicago and NYSE) • C – Cash (Chicago Only) • N – Next Day Trade (Chicago Only) • ' ' – (space) Regular Sale (TRF only) • R – Seller (TRF only)
TradeCond2	33	1	ASCII	The reason for Trade Through Exemptions. Valid values: • ' ' – N/A (0x20) • F – Intermarket Sweep Order

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
				• O – Market Center Opening Trade • 4 – Derivatively priced (TRF only) • 5 - Reopening Trade • 6 – Market Center Closing Trade • 7 – Qualified Contingent Trade (TRF only) • 9 - Corrected Consolidated Close
TradeCond3	34	1	ASCII	Extended hours/sequencing related conditions. Valid values: • ‘ ’ – (space, or 0x20) N/A • T – Extended Hours Trade • U – Extended Hours Sold (Out of Sequence) • Z – Sold
TradeCond4	35	1	ASCII	SRO Required Detail. Valid values: • ‘ ’ – (space, or 0x20) N/A • I – Odd Lot Trade • M – Official Closing Price • Q – Official Open Price • V – Contingent Trade • P – Prior Reference Price (TRF only) • W – Weighted Average Price (TRF only)

5. Stock Summary Message – Msg Type 223

The stock summary message is sent every 1 minute on a separate channel from the main trades feed. The message will be sent out every 1 minute regardless of whether a change to a particular value occurred or not. In the event there is no volume on the stock, the trade summary message will not be disseminated.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 36 bytes
Msg Type	2	2	Binary	The type of message: ▪ 223 – Stock Summary Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset from the Source Time
SymbolIndex	12	4	Binary	The ID of the symbol in the Symbol Index message. This field is unique for products within each respective market and cannot be used to cross reference a security between markets.
HighPrice	16	4	Binary	The High price of the stock for the day. Use the Price scale from the symbol mapping index.
LowPrice	20	4	Binary	The Low price of the stock for the day. Use the Price scale from the symbol mapping index.
Open	24	4	Binary	The Opening price of the stock for the day. Use the Price scale from the symbol mapping index.
Close	28	4	Binary	The Closing price of the stock for the day. Use the Price scale from the symbol mapping index.
TotalVolume	32	4	Binary	The cumulative volume for the stock throughout the day.

6. NYSE TRF Messages

The output messages of the NYSE Trade Reporting Facility are published by the NYSE Trades feed in their own dedicated channel. This arrangement allows NYSE Trades feed clients who are not interested in NYSE TRF information to easily ignore it.

- The TRF channel reports off-exchange trading in the same set of securities that the main NYSE Trades channel does. For this reason, the TRF channel publishes the same set of Symbol Index Mapping messages as the Trades channel does, except that for the TRF channel, the Market ID field is populated with 255 (NYSE TRF) instead of 1 (NYSE Equities).
- The TRF channel does not publish Security Status messages.
- NYSE TRF data is not included in the calculation of NYSE Stock Summary data.

6.1 TRF-SPECIFIC MESSAGING

The basic TRF messages (TRF Trade, TRF Trade Cancel, and TRF Trade Correction) are identical to the corresponding Trades messages, except for their differing type codes, as shown below.

The Prior Day TRF messages (TRF Prior Day Trade and TRF Prior Day Trade Cancel) have unique message structures which are defined below.

6.2 TRF TRADE MESSAGE - MSG TYPE 215

Except for the value of the Msg Type field (215), the structure of the TRF Trade Message is identical to that of the Trade Message, Msg Type 220.

6.3 TRF TRADE CANCEL MESSAGE - MSG TYPE 216

Except for the value of the Msg Type field (216), the structure of the TRF Trade Cancel Message is identical to that of the Trade Cancel Message, Msg Type 221.

6.4 TRF TRADE CORRECTION MESSAGE - MSG TYPE 217

Except for the value of the Msg Type field (217), the structure of the TRF Trade Correction Message is identical to that of the Trade Correction Message, Msg Type 222.

6.5 TRF PRIOR DAY TRADE MESSAGE - MSG TYPE 218

If a TRF participant firm fails to report a trade on the day in which it occurs, the firm may report the trade on a subsequent day by publishing a Prior Day Trade message.

The TRF Prior Day Trade Message structure is the same as the Trade Message, but with the addition of a two-field date/time stamp at the end.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 44 bytes
Msg Type	2	2	Binary	The type of message: 218 – TRF Prior Day Trade Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset from the Source Time
SymbolIndex	12	4	Binary	The ID of the symbol in the Symbol Index message
SymbolSeqNum	16	4	Binary	The symbol sequence number.
TradeID	20	4	Binary	Unique identifier for this trade.
Price	24	4	Binary	The price of the Trade. Use the Price scale from the Symbol Index Mapping message.
Volume	28	4	Binary	The volume of the trade in shares.
TradeCond1	32	1	ASCII	Settlement related conditions. Valid values: • @ – Regular Sale • ‘ ‘ – (space) Regular Sale
TradeCond2	33	1	ASCII	The reason for Trade Through Exemptions. Valid values: • ‘ ’ – N/A (0x20) • F – Intermarket Sweep Order • O – Market Center Opening Trade • 4 – Derivatively priced (TRF only) • 5 - Reopening Trade • 6 – Market Center Closing Trade • 7 – Qualified Contingent Trade (TRF only) • 9 - Corrected Consolidated Close
TradeCond3	34	1	ASCII	Extended hours/sequencing related conditions. Valid values: • ‘ ’ – (space, or 0x20) N/A • T – Extended Hours Trade • U – Extended Hours Sold (Out of Sequence)

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
				• Z – Sold
TradeCond4	35	1	ASCII	SRO Required Detail. Valid values: • ‘ ‘ – (space, or 0x20) N/A • I – Odd Lot Trade • M – Official Closing Price • Q – Official Open Price • V – Contingent Trade • P – Prior Reference Price (TRF only) • W – Weighted Average Price (TRF only)
PriorDayTime	36	4	Binary	The date and time when this Trade occurred at the participant firm, in seconds since Jan 1, 1970 00:00:00 UTC.
PriorDayTimeNS	40	4	Binary	The nanosecond offset from the Prior Day Time

6.6 TRF PRIOR DAY TRADE CANCEL MESSAGE - MSG TYPE 219

If a TRF participant firm discovers that it has reported a trade with an inaccurate price or volume on a previous day, the firm may correct the trade on a subsequent day by publishing a Prior Day Trade Cancel message, followed by a Prior Day Trade.

The TRF Prior Day Trade Cancel Message structure is the same as the Trade Cancel Message, but with the addition of a two-field date/time stamp at the end.

FIELD NAME	OFFSET	SIZE (BYTES)	FORMAT	DESCRIPTION
Msg Size	0	2	Binary	Size of the message: 40 bytes
Msg Type	2	2	Binary	The type of message: 219 – TRF Prior Day Trade Cancel Message
SourceTime	4	4	Binary	The time when this msg was generated in the order book, in seconds since Jan 1, 1970 00:00:00 UTC.
SourceTimeNS	8	4	Binary	The nanosecond offset from the Source Time
SymbolIndex	12	4	Binary	The ID of the symbol in the Symbol Index message
SymbolSeqNum	16	4	Binary	The symbol sequence number.
TradeID	20	4	Binary	Unique identifier for this trade.
Price	24	4	Binary	The price of the Trade being cancelled. Use the Price Scale from the Symbol Index Mapping message.
Volume	28	4	Binary	The volume of the Trade being cancelled.
PriorDayTime	32	4	Binary	The date and time when original Trade being cancelled occurred at the participant firm, in seconds since Jan 1, 1970 00:00:00 UTC.
PriorDayTimeNS	36	4	Binary	The nanosecond offset from the Prior Day Time

7. Product ID

EXCHANGE	PRODUCT ID	DESCRIPTION
NYSE	4	NYSE Trades
NYSE American	53	NYSE American Trades
NYSE National	103	NYSE National Trades
NYSE Arca	153	NYSE Arca Trades
NYSE Chicago	203	NYSE Chicago Trades