

ProTrac – Program Trading Real-Time Datafeed

NYSE Program Trading Execution Reports (ProTrac) is a real-time data feed that provides investors with the ability to identify program trading at the NYSE by monitoring the program share volume for each stock as it is executed. Immediately upon execution, the Symbol, Volume, and Time of each program traded execution will be disseminated as a real-time message via the ProTrac data feed as illustrated below:

Symbol	Shares Executed	Time (Milliseconds)
XYZ	50,000	10:51:01.210

Message Statistics

With introduction of NYSE Program Trading Executions, we suggest that the subscribers be able to handle the following message rates and sizes:

Program Trading Executions	Average (projected)	Maximum (projected)
Message Rate	562 MPS	1030 MPS
Message Size	92 bytes	92 bytes
Total Number of Messages in a Day	N/A	13 million
Bandwidth recommendations (Mbps)	0.39	0.72
Retransmission Bandwidth Recommendation (Mbps)	0.04	0.07

Notes:

- The maximum message rate may be sustained for a couple of minutes.
- The numbers are based on all feeds added.
- The message size corresponds to the DataFeed message size, without the TCP and IP headers.
- There is only 1 message header per packet.
- There maybe more than 1 execution per message but no greater than 20. The number of execution messages in a packet is identified by the NumBodyEntries field in the message header.

Source IPs:

Source	IP	NetMask
Primary (2MT)	198.140.59.105	FF FF FF F8
Secondary (55W)	198.140.58.105	FF FF FF F8

Multicast IPs:

Retail Executions	IP	Port
Primary Feed – Symbols A to J	233.75.215.36	8036
Primary Feed– Symbols K to Z	233.75.215.36	9036
Secondary – Symbols A to J	233.75.215.164	8164
Secondary – Symbols K to Z	233.75.215.165	9164
Primary Retransmission Request for Symbols A to J	198.140.58.88	10400
Primary Retransmission Request for Symbols K to Z	198.140.58.88	11400
Secondary Retransmission Request for Symbols A to J	198.140.59.88	10400
Secondary Retransmission Request for Symbols K to Z	198.140.59.88	11400
Primary Retransmission Feed for Symbols A to J	233.75.215.37	8037
Primary Retransmission Feed for Symbols K to Z	233.75.215.37	9037
Secondary Retransmission Feed for Symbols A to J	233.75.215.165	8165
Secondary Retransmission Feed for Symbols K to Z	233.75.215.165	9165

Retransmission Requests

The table below summarizes the Retransmission limitations for the NYSE ProTrac feed. For more information please refer to section 3.7 on page 11 in the NYSE ProTrac DataFeed Specification.

Capability	Threshold
Prevention of invalid subscribers	N/A
Limitation of Requests for a large number of packets	1000 per request
Limitation of Generic Requests	500 per day

Testing

Replay tests are generally run at night and over *different multicast groups than the production environment* so that subscribers do not need to worry about incorrect data over the production lines. The data replayed over this network is from a previous trading session—all messages, or a range of messages, for a given service in their original sequence. For more information please contact Jim Wieman at 212.383.7106

Testing days	Hours
Tuesday	8pm to 9pm
Thursday	8pm to 9pm

Message Types:

All messages are preceded by the PDP standard header format. For more information on processing please refer to section 5.6 on page 18 of the [NYSE ProTrac Customer Interface Specification](#).

PDP Header Codes

Field	Offset	Size (Bytes)	Format	Description
MsgSize	0	2	Binary Integer	This field indicates the size of the message body in bytes. The value in this field does not account for the MsgSize field size. Sequence Number Reset – '18 Bytes' Heartbeat Message – '14 Bytes' Heartbeat Response Message – '34 Bytes' Message Unavailable – '22 Bytes' Retransmission Request Message – '42 Bytes' Retransmission Response Message – '46 Bytes' Refresh Request Message – '50 bytes' Execution Report Message - '44 Bytes' Execution Report Cancellation Message - '44 Bytes' Execution Report Summary Message - '36 Bytes'
MsgType	2	2	Binary Integer	This field identifies the type of message '1' – Sequence Number Reset '2' – Heartbeat Message '5' – Message Unavailable '10' – Retransmission Response message '20' – Retransmission Request Message '22' – Refresh Request Message '24' – Heartbeat Response Message '180' – Execution Report Message '181' – Execution Report Cancellation Message '182' – Execution Report Summary Message
MsgSeqNum	4	4	Binary Integer	This field contains the message sequence number assigned by PDP for each product. It is used for gap detection. Also known as Line Sequence Number (LSN).
SendTime	8	4	Binary Integer	This field specifies the time message was created by PDP. The number represents the number of milliseconds since midnight of the same day.
ProductID	12	1	Binary Integer	'111' is the product value used in the PDP header to identify the ProTrac feed
RetransFlag	13	1	Binary Integer	A flag that indicates whether this is an original, retransmitted, or 'replayed' message. Valid values include: '1' – Original message '2' – Retransmitted message '3' – Message Replay '4' – Retransmission of a 'replayed' message '5' – Refresh Retransmission
NumBodyEntries	14	1	Binary Integer	The number of times the message body repeats in the message. For example, if the body consists of a field (named Volume) and the "NumBodyEntries" field is 2, the number of bytes in the message body will be 8
FILLER	15	1	ASCII String	This is a filler, reserved for future use

Note:

The MsgSize field is not counted in the calculation of the msg size.

Note:

All messages are sequenced on a line level, so sequence numbers are independent across feed A to J and K to Z

1. Execution Report Message

- An Execution Report Message contains an execution report for a given NYSE-Listed Security.

Field Name	Offset	Size (Bytes)	Format	Description
ExecTime	16	4	Binary Integer	This field specifies the execution time. The number in this field represents the number of milliseconds since midnight of the same day.
Symbol	20	16	ASCII String	See Section 5.4 on page of the customer interface specification.
Volume	36	4	Binary Integer	Volume specifies the quantity of shares in this report.
LinkID	40	4	Binary Integer	The LinkID identifies a unique transaction in the matching and allows you to correlate execution reports to the last sale.
ExecutionType	44	2	Binary Integer	This field indicates the type of execution report provided in this message. Valid Value(s) are: '3' –Program Trading Execution

2. Execution Report Cancellation Message

- An Execution Report Cancellation message contains an execution report (also referred to as 'Bust') for a given NYSE-listed security

Field Name	Offset	Size (Bytes)	Format	Description
ExecTime	16	4	Binary Integer	This field specifies the execution time. The number in this field represents the number of milliseconds since midnight of the same day.
Symbol	20	16	ASCII String	See Section 5.4 on page of the customer interface specification
Volume	36	4	Binary Integer	Volume specifies the quantity of shares in this report.
LinkID	40	4	Binary Integer	The LinkID identifies a unique transaction in the matching and allows you to correlate execution reports to the last sale.
ExecutionType	44	2	Binary Integer	This field indicates the type of execution report provided in this message. Valid Value(s) are: '3' –Program Trading Execution

3. Execution Reports Summary Message

- An Execution Reports Summary message contains the total share volume for a given NYSE-Listed Security

Field Name	Offset	Size (Bytes)	Format	Description
Symbol	16	16	ASCII String	Any valid NYSE Symbol. Please refer to section 6.5 of the DataFeed Specification for processing details.
TotalVolume	32	4	Binary Integer	Total volume in shares
ExecutionType	36	2	Binary Integer	This field indicates the type of execution summary provided in this message. Valid Value(s) are: '4' – Index Arb Execution Summary '5' – Non-Index Arb Execution Summary

ProTrac EOD – Program Trading End-of-Day/Historical File

At approximately 8:00PM each day, a file will be made available that contains a summary of all program trading activity for each stock including a breakout for all index arbitrage program trades from that of all non-index arbitrage program trading. Shares are totaled for each symbol in separate Index Arbitrage and Non-Index Arbitrage quantities as illustrated below:

Symbol	Index Arbitrage	Non-Index Arbitrage
XYZ	250,000	475,000

- Historical files are available for trade dates from 3/5/2007 on-wards

Browsing NYSE ProTrac Files

To access the data, login to <ftp://ftp.nyse.com/ProtracEODSummary/>

Automated Retrieval of NYSE ProTrac Files

The use of scripts is a common method for automating the retrieval of FTP data. The format for locating each file is as follows:

<ftp://ftp.nyse.com/ProTracEODSummary/ProTracEODSummaryyyyy/ProTracEODSummaryyyyymm/ProTracEODSummaryyyyymmdd.zip>

Example for file dated 3/1/2006:

<ftp://ftp.nyse.com/ProTracEODSummary/ProTracEODSummary2007/ProTracEODSummary200703/ProTracEODSummary20060305.zip>

ProTrac EOD – Program Trading Replay File

At approximately 8:00PM each day, a file will be made available that contains a replay of all of the ProTrac datafeed messages distributed throughout the trading day.

- Historical files are available for trade dates from 3/5/2007 on-wards

Browsing NYSE ProTrac Files

To access the data, login to <ftp://ftp2.nyse.com/protrac/>

Automated Retrieval of NYSE ProTrac Files

The use of scripts is a common method for automating the retrieval of FTP data. The format for locating each file is as follows:

<ftp://ftp2.nyse.com/protrac/protracyyyy/protracyyyymm/protracyyyymmdd.zip>

Example for file dated 3/5/2007:

<ftp://ftp2.nyse.com/protrac/protrac2007/protrac200703/protrac20070305.zip>

ProTrac Discussion Board

<http://www.nysedata.com/nysedata/Support/DiscussionBoard/tabid/108/view/topics/forumid/8/Default.aspx>

For additional information on processing please view our NYSE ProTrac DataFeed Specification

<http://www.nysedata.com/nysedata/Default.aspx?tabid=274>

For more information any the ProTrac data feed or the ProTrac EOD please visit, <http://www.nysedata.com/infotools>

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