



MARKET FEED
Commodity Segment
(LEVEL – 1, LEVEL – 2)

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Revision History

Name	Description	Date
Version 1.0	New Specification Issued	30 April 2018
Version 1.1	1. Addition of Settlement Price in Change in 5.7 EOD -Market information 2. Removal of Timestamp field from 5.3 ONLINE Market Update Information, 5.4 ONLINE – Spread Order Update Information, 5.5 ONLINE Open Interest Information. 3. Removal of Contract name field from 5.7 EOD Market Information. 4. Addition of Total Buy Quantity and Total Sell Quantity field in 5.3 ONLINE - Market Update Information, 5.4 ONLINE – Spread Order Update Information	27 September 2018
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Version 1.3	Removal of TimeStamp field from Level 1 and Level 2 - Spread Order Update, Market Update and Open Interest Information	18 August 2020
Version 1.4	Removal of TCP/IP formats, Login Request, Login Response.	29 October 2021
Version 1.5	1. Change in the scale and precision for price fields from (6,4) to (7,2) 2. Addition of FAQs section	03 November 2025

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Market Feed – Commodity (Level – 1 & Level - 2)

1 Introduction

NSE Data & Analytics Ltd. offers real-time data and historical data products from NSEIL to a diverse range of clients. This includes 5 real-time products and 2 historical data products:

Real Time data products

1. Real Time Data
2. Snapshot Data
3. Corporate Data
4. Analytical Products data
5. Indicative NAV Data

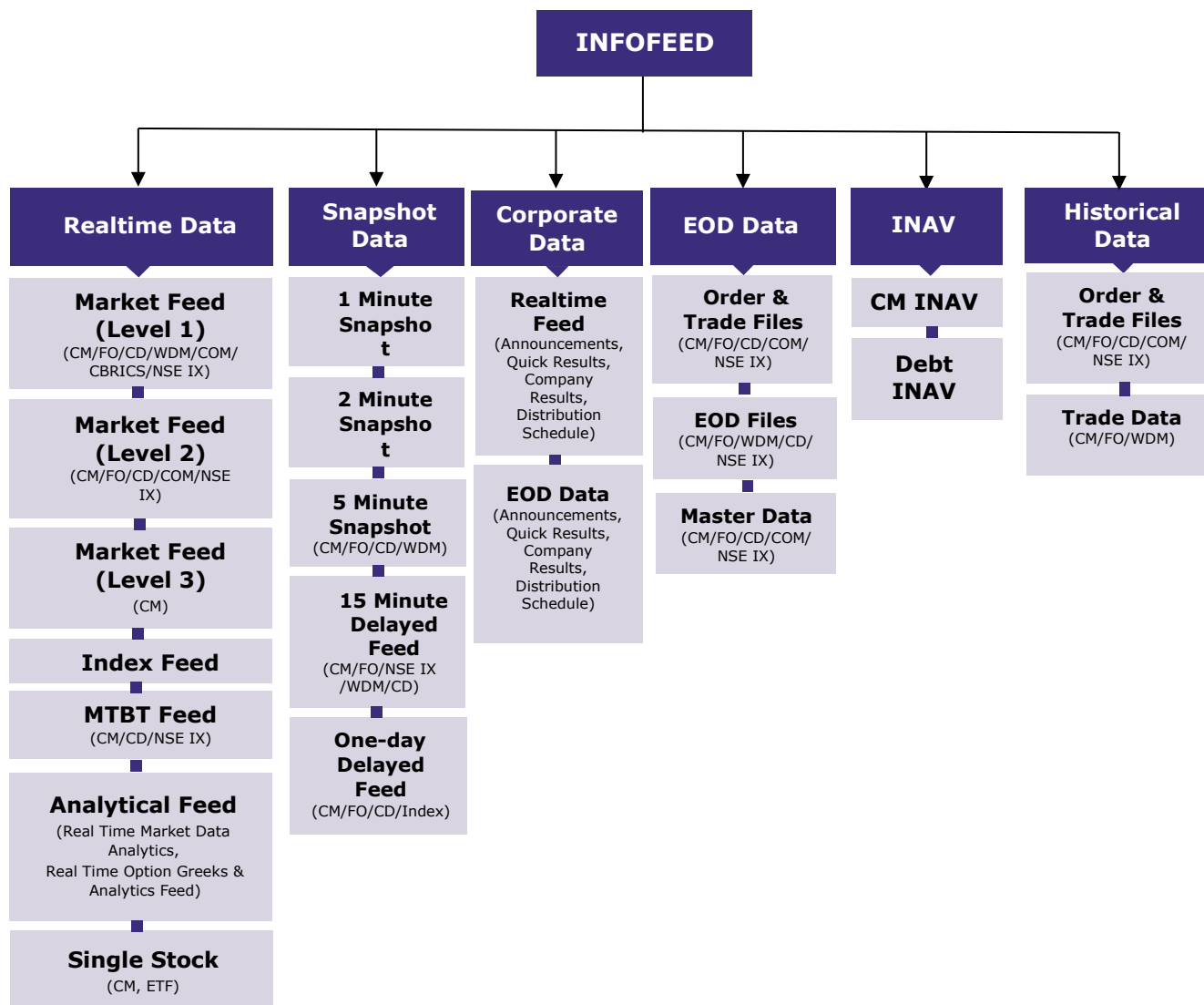
Historical data products

1. End of Day Data
2. Historical Data

The data products are provided through delivery modes mentioned below:

- **Real-time Data:** The information is transmitted as a packet broadcast, facilitating ongoing distribution through data feeds via point-to-point leased line.
- **Snapshot, End-of-Day, and Historical Data:** The data is delivered as downloadable files over the internet using the SFTP protocol.

All these data categories are integrated within the Infofeed platform, ensuring comprehensive coverage and streamlined access.



This document explains about the Commodity – Real time Market Feed (Level1 and Level 2) product. Through this product on a real-time basis all the NSE's market update information is disseminated.

The information agencies connect to the Market Feed Server through Leased Lines. These leased lines are terminated on Infofeed Router and their data specific pneumatic calls are forwarded to Infofeed server.

The feed consists of a series of sequenced and unsequenced variable length compressed messages. The compression algorithm used over here is LZ0 – Compression.

2 Packet Format

Server sends all the packets in following format typedef

```

struct
{
    CHAR        cCompOrNot
    SHORT       nDataSize;
    SHORT       iNoOfPackets;
}ST_COMP_BATCH_HEADER
typedef struct
{
    SHORT       iCode;
    SHORT       iLen;
    LONG        lSeqNo;
} ST_INFO_HEADER;
typedef struct
{
    .
    .
}ST_DATA_INFO;
typedef struct
{
    SHORT       iChecksum;
    CHAR        cEOT;
} ST_INFO_TRAILER;
typedef struct
{
    ST_INFO_HEADER stInfoHdr;
    ST_DATA_INFO stDataInfo;
    ST_INFO_TRAILER stInfoTrailer;
    .
}ST_DATA_PACKET
  
```

All the packets received from server consist of compress batch header. Compress batch header gives information about the compressed data packet or not, number of packets in the following data packet and the total size of data packet. Client needs to decompress the data packet using LZO decompression algorithm. After decompression each data packet consists of ST_INFO_HEADER, which has the iCode field to identify the type of the packet. Using iCode field, data info packets are mapped to the respective data packets.

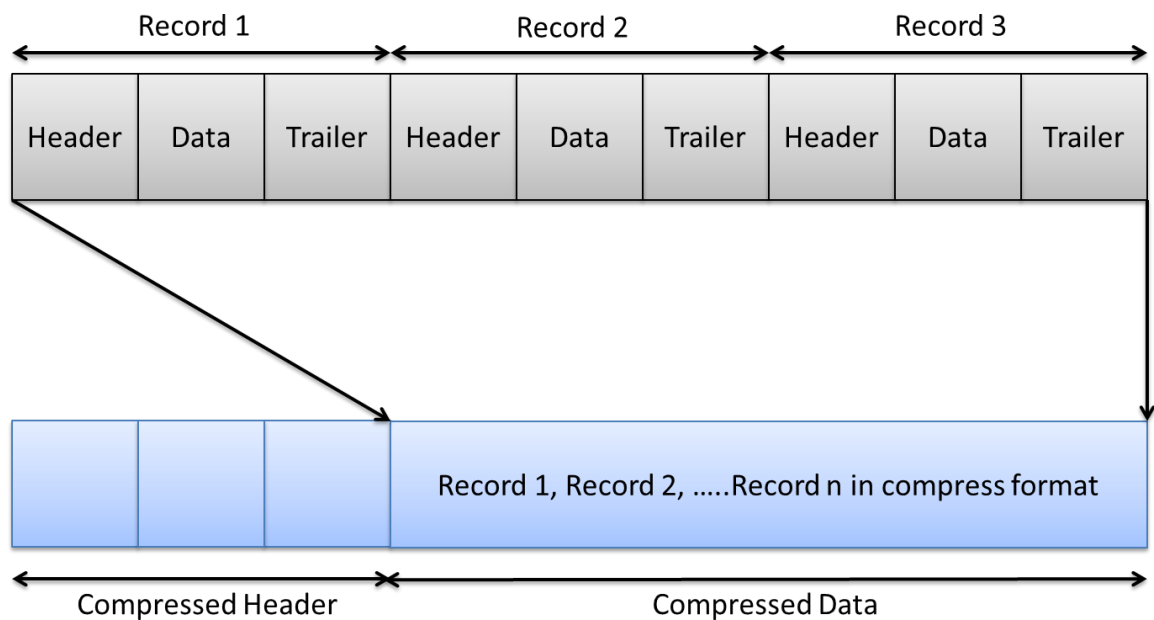
2.1 Data Types

Data types used in feed,

Data Type	Size In Bytes
CHAR	1
SHORT	2
LONG	4
DOUBLE	8

Byte order - Big Endean.

2.2 Diagrammatic Representation of Packet Format:



Compressed Header

1. Compressed/ Uncompressed = 0 then compressed/ 1 uncompressed
2. Number of packets = Number of records in compressed data
3. Data Size = Compressed data size

As the data packets are sent in compressed format there is a need to decompress them. The compression algorithm used is LZO.

3 Session Messages

3.1 Heartbeat Message (Sent by server)

Heartbeat message will be sent every 2 seconds if data is not available.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	<u>'TH'</u>	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	0(Zero) for heartbeat message
INFO DATA			
Not associated with any data			
INFO TRAILER - Checksum is not computed			

4 Sequenced Data Message (Sent by server)

Sequenced data messages will be sent by server and will contain the actual market data.

4.1 BOD – Contract Master Information

These packets are sent at the beginning of each trading day before market opens. This feed contains information about the instruments and Symbols valid in the Commodity Market for trading.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TT'	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Token Number	CHAR [10]	Character	Unique identifier for the symbols listed on NSE.
Instrument	CHAR [6]	Character	
Symbol	CHAR [10]	Character	
Expiry Date	CHAR [11]	Character	
Strike Price	CHAR [10]	Character	Precision up to 2 decimal places
Option type	CHAR [2]	Character	
Delete Flag	CHAR [1]	Character	
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.2 ONLINE - Market Status Message

This message is sent by the server, whenever the market status changes.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	<u>'TO'</u> <u>'TC'</u>	'TO' = Normal market open 'TC' = Normal market close
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Market Type	CHAR	Character	'N'-Normal
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation Checksum is not calculated sent as 0(Zero)
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.3 ONLINE – Spread Order Update Information

These packets are sent during the market hours and in the market pre-open period viz. before the actual market opens. It contains the latest order and trade information of spread contracts.

This market update is available only in level 1 feed.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TP'	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Instrument_1	CHAR [6]	Character	
Symbol_1	CHAR [10]	Character	
Expiry date_1	CHAR [11]	Character	
Strike Price_1	CHAR [10]	Character	Precision up to 2 decimal places
Option Type_1	CHAR [2]	Character	
Instrument_2	CHAR [6]	Character	
Symbol_2	CHAR [10]	Character	
Expiry date_2	CHAR [11]	Character	
Strike Price_2	CHAR [10]	Character	Precision up to 2 decimal places
Option Type_2	CHAR [2]	Character	
Best Buy-Order Price	CHAR [17]	Character	Precision up to 2 decimal places
Best Buy-Order Quantity	CHAR [12]	Character	
Best Sell-Order Price	CHAR [17]	Character	Precision up to 2 decimal places
Best Sell-Order Quantity	CHAR [12]	Character	
Last Traded Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
Total Traded Quantity	CHAR [12]	Character	

Opening Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
Day High Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
Day Low Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.4 ONLINE – Spread Order 5 Depth Update

These packets are sent during the market hours and contain the latest order and trade information of spread contracts.

This market update is available only in level 2 feed.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TP'	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Instrument_1	CHAR [6]	Character	
Symbol_1	CHAR [10]	Character	
Expiry date_1	CHAR [11]	Character	
Strike Price_1	CHAR [10]	Character	Precision up to 2 decimal places
Option Type_1	CHAR [2]	Character	
Instrument_2	CHAR [6]	Character	
Symbol_2	CHAR [10]	Character	
Expiry date_2	CHAR [11]	Character	
Strike Price_2	CHAR [10]	Character	Precision up to 2 decimal places.
Option Type_2	CHAR [2]	Character	
5 Depth Buy order details	MARKET_DEPTH_BUY_ORDER_INFO [5]	Structure	Refer the table given below MARKET_DEPTH_BUY_ORDER_INFO[5]
5 Depth Sell order details	MARKET_DEPTH_SELL_ORDER_INFO [5]	Structure	Refer the table given below MARKET_DEPTH_SELL_ORDER_INFO[5]
Last Traded Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
Total Traded Quantity	CHAR [12]	Character	

Opening Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
Day High Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
Day Low Price Difference	CHAR [17]	Character	Precision up to 2 decimal places.
Total Buy Quantity	CHAR [12]	Character	
Total Sell Quantity	CHAR [12]	Character	
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.5 ONLINE - Touchline Market Update

These packets are sent during the market hours. It contains the latest order and trade information of contracts.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TN'	'TN' = Normal market updates
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Instrument	CHAR [6]	Character	
Symbol	CHAR [10]	Character	
Expiry Date	CHAR [11]	Character	
Strike Price	CHAR [10]	Character	Precision up to 2 decimal places
Option Type	CHAR [2]	Character	
Market Type	CHAR [1]	Character	'N' =Normal
Best Buy-Order price	CHAR [17]	Character	Precision up to 2 decimal places
Best Buy-Order Quantity	CHAR [12]	Character	No of Contracts
Best Sell-Order price	CHAR [17]	Character	Precision up to 2 decimal places
Best Sell-Order quantity	CHAR [12]	Character	No of Contracts
Last Traded Price (LTP)	CHAR [17]	Character	Price of the last trade happened on the Symbol. If no trade has happened for the day, then previous day's trade price is taken or the base price is taken. Precision up to 2 decimal places

Total Traded Quantity (TTQ)	CHAR [12]	Character	Volume traded today
Security Status	CHAR [1]	Character	'S' = Suspended ' ' = Non-suspended
Opening Price	CHAR [17]	Character	Open price of the contract for the day. Precision up to 2 decimal places
High Price	CHAR [17]	Character	High price of security for the day. Precision up to 2 decimal places
Low Price	CHAR [17]	Character	Low price of the security for the day. Precision up to 2 decimal places
Close Price	CHAR [17]	Character	Close price of the security. During the day previous day's close price is sent. After market closes current day's close price is calculated and sent through this field. Precision up to 2 decimal places
Average Trade Price	CHAR [17]	Character	Weighted average price of the security. i.e. value / quantity. Precision up to 2 decimal places
Total Turnover	CHAR [25]	Character	Contract traded value i.e. Average Trade Price * TTQ (Precision up to 2 decimal places)
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.6 ONLINE - 5 Depth Market Update

These packets are sent during the market hours. It contains the latest order and trade information of contracts.

This 5 Depth market update is available only in level 2.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	<u>'TN'</u>	'TN' = Normal market updates
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Instrument	CHAR [6]	Character	
Symbol	CHAR [10]	Character	
Expiry Date	CHAR [11]	Character	
Strike Price	CHAR [10]	Character	Precision up to 2 decimal places
Option Type	CHAR [2]	Character	
Market Type	CHAR [1]	Character	'N' =Normal
5 Depth Buy order details	MARKET_DEPTH_BUY_ORDER_INFO [5]	Structure	Refer to the table given below <u>MARKET DEPTH BUY ORDER INFO[5]</u>
5 Depth Sell order details	MARKET_DEPTH_SELL_ORDER_INFO [5]	Structure	Refer to the table given below <u>MARKET DEPTH SELL ORDER INFO[5]</u>

Last Traded Price (LTP)	CHAR [17]	Character	Price of the last trade happened on the Symbol. If no trade has happened for the day, then previous day's trade price is taken or the base price is taken. Precision up to 2 decimal places
Total Traded Quantity (TTQ)	CHAR [12]	Character	Volume traded today
Contract Status	CHAR [1]	Character	'S' = Suspended ' ' = Non-suspended
Opening Price	CHAR [17]	Character	Open price of the contract for the day. Precision up to 2 decimal places
High Price	CHAR [17]	Character	High price of the Contract for the day. Precision up to 2 decimal places
Low Price	CHAR [17]	Character	Low price of the Contract for the day. Precision up to 2 decimal places
Close Price	CHAR [17]	Character	Close price of the Contract. During the day previous day's close price is sent. After market close current day's close price is calculated and sent through this field. Precision up to 2 decimal places

Average Trade Price	CHAR [17]	Character	Weighted average price of the Contract. i.e. value / quantity Precision up to 2 decimal places
Total Buy Quantity	CHAR [12]	Character	
Total Sell Quantity	CHAR [12]	Character	
Total Turnover	CHAR [25]	Character	Contract traded value i.e. Average Trade Price * TTQ (Precision up to 2 decimals places)
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	"\r"	Carriage Return

4.7 ONLINE - Open Interest Information

This packet is sent during the trading hours, and it indicates the Open Interest of the various contracts traded

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'II'	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Instrument	CHAR [6]	Character	
Symbol	CHAR [10]	Character	
Expiry Date	CHAR [11]	Character	
Strike Price	CHAR [10]	Character	Precision up to 2 decimal places
Option type	CHAR [2]	Character	
Open Interest	CHAR [10]	Character	
Market Type	CHAR [1]	Character	
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

MARKET_DEPTH_BUY_ORDER_INFO [5]

Field Name	Data Type	Value	Brief Description
MARKET_DEPTH_SELL_ORDER_INFO [5]			
Best Buy-Order price	CHAR [17]	Character	Best 5 buy side's outstanding orders price, quantity. Precision up to 2 decimal places.
Best Buy-Order Quantity	CHAR [12]	Character	

MARKET_DEPTH_SELL_ORDER_INFO [5]

Field Name	Data Type	Value	Brief Description
MARKET_DEPTH_SELL_ORDER_INFO [5]			
Best Sell-Order price	CHAR [17]	Character	Best 5 sell side's outstanding orders price, quantity. Precision up to 2 decimal places.
Best Sell-Order Quantity	CHAR [12]	Character	

4.8 ONLINE - Market Message Information

These packets consist of the messages broadcast during the Trading period containing information like changes in the price bands of script and market-related information.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TB'	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Message Code	CHAR [3]	Character	'NSE'
Message Length	CHAR [3]	Character	Broadcast Message Length
Message String	CHAR [240]	Character	Broadcast Message
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.9 EOD – Market Information

The end of day status of the contracts is sent through these messages. After market close, this information is disseminated to client as the "End of Day" (EOD) feed.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TS'	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER) (Variable length depending upon Message Length field of INFO DATA structure)
Sequence Number	LONG	Numeric	
INFO DATA			
Instrument	CHAR [6]	Character	Instrument Type
Symbol	CHAR [10]	Character	Security symbol

Expiry Date	CHAR [11]	Character	Expiry Date
Strike Price	CHAR [10]	Character	Strike Price (Precision up to 2 decimal places)
Option Type	CHAR [2]	Character	Option Type
Market Type	CHAR [1]	Character	'N'=Normal
Opening Price	CHAR [17]	Character	Contract open price for the day. Precision up to 2 decimal places.
Trade High Price	CHAR [17]	Character	Contract high price for the day. Precision up to 2 decimal places.
Trade Low Price	CHAR [17]	Character	Contract low price for the day. Precision up to 2 decimal places.
Closing Price	CHAR [17]	Character	Contract close price for the day. Precision up to 2 decimal places.
Last Traded Price	CHAR [17]	Character	Contract last traded price for the day. Precision up to 2 decimal places.
Previous Close Price	CHAR [17]	Character	Contract previous day's close price. Precision up to 2 decimal places.
Settlement Price	CHAR [17]	Character	Contract settlement price for the day. Precision up to 2 decimal places.
Total Traded Quantity	CHAR [12]	Character	Volume traded today for the contract
Total Traded Value	CHAR [25]	Character	Total traded value for the contract
Open Interest	CHAR [10]	Character	Contract open interest
Change in Open Interest	CHAR [10]	Character	Contract change in open interest
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.10 EOD – Contract Update Information

These packets are sent as the End of the Day feed on each trading day, and this feed contains information about the new contracts added to the Market for trading.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TA' 'TM' 'TD'	TA = Contract added TM = Contract modified TD = Contract deleted
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER)
Sequence Number	LONG	Numeric	
INFO DATA			
Instrument	CHAR [6]	Character	
Symbol	CHAR [10]	Character	
Expiry Date	CHAR [11]	Character	
Strike Price	CHAR [10]	Character	Precision up to 2 decimal places
Option Type	CHAR [2]	Character	
Contract Name	CHAR [30]	Character	
Regular Lot	CHAR [5]	Character	Contract tick size
Market Type	CHAR [1]	Character	Contract face value
Tick Size	CHAR [9]	Character	(Maximum precision upto 7 decimal places)
Maturity Date	CHAR [11]	Character	Format: DD-MON-YYYY
Last Update Date & Time	CHAR [20]	Character	Format: DD-MON-YYYY HH:MM:SS
INFO TRAILER			
Checksum	SHORT	Numeric	Refer to section checksum calculation
End Of Trailer	CHAR [1]	'\r'	Carriage Return

4.11 EOD – End of Feed Information

This end of the packet indicates that all the parts of EOD feed have been completed. Only once is this message sent through the Feed. After receiving this message clients can stop their application, i.e. no new updated information will be disseminated from the server.

Field Name	Data Type	Value	Brief Description
INFO HEADER			
Code	SHORT	'TE'	
Length	SHORT	Numeric	Size of (INFO HEADER + INFO DATA + INFO TRAILER) (Variable length depending upon Message Length field of INFO DATA structure)
Sequence Number	LONG	Numeric	
INFO DATA			
Not associated with any data			
INFO TRAILER – checksum is not computed			

5 NOTES

- Prices field will have the precision up to 2nd decimal places.

6. Steps for Decompressing the Data Packets

6.1 LZO Algorithm Details

LZO is a data compression library which is suitable for data de-/compression in real-time. This means it favors speed over compression ratio.

LZO is written in ANSI C. Both the source code and the compressed data format are designed to be portable across platforms.

LZO implements several algorithms with the following features

- Decompression is simple and **very** fast.
- Requires no memory for decompression.
- Requires 64 KB of memory for compression.
- Allows you to dial up extra compression at a speed cost in the compressor.
- The speed of decompression is not reduced.
- Includes compression levels for generating pre-compressed data which achieve a quite competitive compression ratio.
- There is also a compression level which needs only 8 KB for Compression.
- Algorithms are thread safe.
- Algorithms are lossless.
- LZO supports overlapping compression and in-place decompression.

6.2 Files required for LZO algorithm.

- Include files, source files (src) provided by LZO
- LZO.lib
- LZO library version used is 1.0.7

6.3 Decompression steps

Receive the packet in the temporary buffer i.e. array of characters.

The first field is compressed or not compressed.

The second field is the number of packets in the following data packet. The third field is data packet length.

Use the following function of LZO to Decompress.

```
r    =    lzo1z_decompress    ((lzo_byte*)cInputBuf,    ipLength,  
    (lzo_byte*)cOutputBuf, (lzo_uint*)&opLength, NULL);
```

lzo1z_decompress: Function which decompresses the data packet received

cInputBuf: Input buffer in which compressed data is received

ipLength: The length of the packet which application has received using Receive ().

cOutputBuf: The uncompressed output data which is result of decompression.

opLength: Length of uncompressed data

After decompression data will be available in Output Buffer.

Each output data packet contains the INFO HEADER, after mapping the output decompressed buffer to INFO HEADER find out the data packet and the according to it map the output buffer to respective data packet.

Algorithm:

```
ST_NIFO_HEADER *pstInfoHeader; for (i=0; i <
iNoOfPackets; i++) // iNoOfPackets received in
// compressed data
header { pstInfoHeader = (ST_NIFO_HEADER *)
cOutputBuf switch (pstInfoHeader->iCode)
{
    case CX: //Indices Information
    {
        ST_INDEX_DATA *stIndexData = (ST_INDEX_DATA *)cOutputBuf;
        .
        .
        cOutputBuf = cOutputBuf + sizeof(ST_INDEX_DATA);
        break;
    }
}
```

7 Checksum Calculation Algorithm

The Checksum routine followed for Info Vendor Feed is as follows:

```
// Following are the defines for checksum calculation
#define DC1      17
#define DC3      19
#define CR       13
#define LF       10
#define POLY     0x1021
// End of defines unsigned
check_sum (cData, iLength) char
*cData ; int iLength;
{ unsigned uAccum = 0;
  unsigned uData;
  unsigned char
  ucChk[2];
  int i,j;
  for (i=0;i<iLength;i++)
  { uData = *(cData+i); uData <= 8; for(j=8; j>0 ;j-
    -){ if((uData^uAccum)&0x8000)
      uAccum=(uAccum<<1)^POLY; /* SHIFT AND
      SUBTRACT POLY */ else
        uAccum<<=1;
      uData<<=1;
    }
  }

  ucChk[0] = uAccum>>8; if (ucChk[0] == DC1 || ucChk[0] == DC3 || ucChk[0]
  == CR || ucChk[0] == LF ) ucChk[0] -= 1;
  ucChk[1] = uAccum&0xFF; if (ucChk[1] == DC1 || ucChk[1] == DC3 || ucChk[1]
  == CR || ucChk[1] == LF ) ucChk[1] -= 1;
  uAccum = ucChk[1];
  uAccum = (uAccum<<8) + ucChk[0];

  return(uAccum);
}
```

8 Annexure 1

8.1 Acronyms Used

BOD	Begin Of Day Information
EOD	End Of Day Information
ONLINE	Information Sent During Market Timing
CM	Cash Market
F&O	Future & Options Market
CD	Currency Derivatives Market
WDM	Wholesale & Debt Market
COM	Commodity Market
CBRICS	Corporate Bond Reporting and Integrated Clearing System
NSE IX	NSE International Exchange
MTBT	Multicast Tick By Tick

9 FAQs

- 1) For Sequenced Data Messages, why do fields contain as short datatypes, but contain value is specified as character?

Data sent by server contains number, which is the ASCII value of the field and at client's end it needs to be converted from ASCII value into character.

- 2) How to differentiate between numeric and non-numeric values?

Numeric values are always aligned, and non-numeric values are left aligned. For instance, even though LTP has a datatype as character, it is distinguished by the alignment as numeric value is always right aligned.

- 3) How to decompress a packet and extract data from it?

Follow the steps mentioned below.

- Receive a packet from the feed and check ST_COMP_BATCH_HEADER's cCompOrNot to see if the data is compressed or not.
- if the cCompOrNot flag is '0' then the data is compressed so use LZO Decompress to extract the data. The position of data would be the difference in position between the received bytes and the ST_COMP_BATCH_HEADER size.
- if the cCompOrNot flag is not '0' then the data is not compressed so just copy the bytes after the header to get the data.
- Type cast the data above data to ST_INFO_HEADER and get iCode from it. iCode can be used to identify the type of packet.
- Based on iCode, map the data section into the required structure.
- After the data section, map the trailer ST_INFO_TRAILER to get the iChecksum i.e. checksum (Refer to section checksum calculation)

- 4) What is Level 1 and Level 2 Data?

The list of market depth is organized by price levels, and it is updated in real-time to reflect current activity where:

- Level 1 provides the best Bid and best Ask price.
- Level 2 offers up to the best 5 Bids and Asks prices.

5) What structures are available for level 1 and level 2 feeds?

Packets Sent	Code	Level 1	Level 2
<u>3.1 Heartbeat Message</u>	'TH'	✓	✓
<u>4.1 BOD – Contract Master Information</u>	'TT'	✓	✓
<u>4.2 ONLINE - Market Status Message</u>	'TO' 'TC'	✓	✓
<u>4.3 ONLINE – Spread Order Update Information – Level 1</u>	'TP'	✓	–
<u>4.4 ONLINE – Spread Order Update Information – Level 2</u>	'TP'	–	✓
<u>4.5 ONLINE - Market Update Information – Level 1</u>	'TN'	✓	–
<u>4.6 ONLINE - Market Update Information – Level 2</u>	'TN'	–	✓
<u>4.7 ONLINE - Open Interest Information</u>	'TI'	✓	✓
<u>4.8 ONLINE - Market Message Information</u>	'TB'	✓	✓
<u>4.9 EOD – Market Information</u>	'TS'	✓	✓
<u>4.10 EOD – Contract Update Information</u>	'TA' 'TM' 'TD'	✓	✓
<u>4.11 EOD – End Of Feed Information</u>	'TE'	✓	✓

6) Can we use lzo versions 2.03/2.09/2.10 for decompressing the packets received from NDAL?

Yes, lzo is backward compatible. Above versions of lzo can be used for decompressing the compressed packets disseminated from NDAL.

10 Support Information

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