

TECHNICAL DOCUMENT

15 MINUTES DELAYED SNAPSHOT DATA

CAPITAL MARKET

31 JAN 2018



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CAPITAL MARKET 15 MINUTES SNAPSHOT DATA (STANDARD PRODUCT)

1. INTRODUCTION

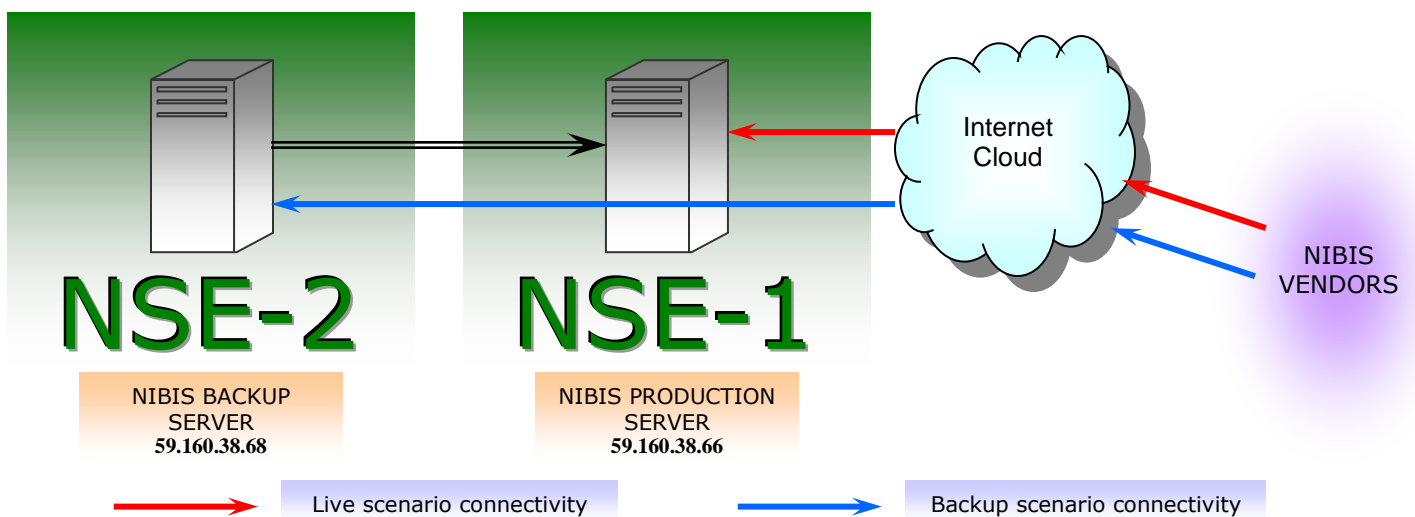
DotEx International Ltd. disseminates NSEIL's real time broadcast data to various information agencies. The NIBIS (NSEIL's Internet Based Information System) server that caters the NIBIS vendors is available through internet. All NIBIS vendors are required to connect the server through internet and use FTP protocol to download the files. The files on this server are generated with 15 minutes delay on regular 1 minute interval basis. The vendors are provided with a User ID and password that is enabled for the agreement period.

2. CONNECTION DETAILS

The vendors connect the NIBIS server through Internet using FTP protocol. The production server IP address is 203.199.75.115 while the backup server IP address id 203.199.39.136.

DotEx also provides a backup setup of delayed data service. The backup server is always in disabled mode and it is enabled only in case of any hardware / other problem in production server. The backup server is located in NSE premises at BKC while Production server is located at VSNL, Prabhadevi, Mumbai. The files are initially generated on backup server and then instantaneously replicated on Nibis Production server.

Structural Diagram



3. DATA DETAILS

The Capital Market (CM) data files are generated in binary format at a regular interval of 1 minute (15 minutes old data). These are *.mkt and *.ind files.

MARKET INFORMATION

The Market information data files are generated in /CM30/DATA/"<Month>DDYYYY" folder on the server. i.e. *.mkt and *.ind.

The *.mkt (Where "*" stands for a numeric value) files contains market statistics and order information of the securities that are being traded 15 minutes before, and generated with 1 minute interval along with their open, high, low and close price. The file contains a single record for every security that is traded during that file interval. These files are generated during normal trading period i.e. 09:55 hrs. To 15:30 hrs and during Close Session i.e. 15:50 hrs to 16:00 hrs. These files are generated in incremental count number on a trading day starting from 1.mkt.

The *.ind (Where "*" stands for a numeric number) files contains NSEIL Indices information along with its open, high, low and close index values. Each file contains data of all indices of Exchange. These files are generated at regular interval of 1 minutes with 15 minutes old data. These files are generated during normal trading period and during Close Session.

CALL AUCTION MARKET INFORMATION

Two new market types Call Auction and Reserved (for future use) are introduced in the capital market trading system.

Call Auction Market -

Multiple sessions of call auction market can be held in a trading day.

The call auction session shall consist of

1. Order collection period (Order entry, modification and cancellation is allowed)
2. Order matching period.

The computation of Indicative Opening Price (IOP) and matching logic shall be same as pre-open session for Cash Market segment. In call auction market, after matching period is over all the outstanding orders shall be cancelled.

The Call Auction Market information data files are generated in /CM30/DATA/"<Month>DDYYYY" folder on the server. i.e. *.ca1

The *.ca1 (Where "*" stands for a numeric number) files contains market statistics and order information of the securities that are being traded in the call auction market 15 minutes delayed along with their open, high, low and close price. The file contains a single record for every security that is traded during that file interval. These files are

generated during normal trading period. These files are generated in incremental count number on a trading day starting from 1.ca1.

Call auction in pre-open session (IPO & Re-listed securities)-

A new market for IPO & Re-listed securities is introduced by NSE. Reserved market type will be used to send the data packets for this market.

The business functionality for this market type is same as the Call Auction Market (i.e. Order Collection and Order Matching period).

Following is the only difference for this market.

1. The Buy back and market maker concept is also not there in this market so the 'BBMM Flag' for buy and sell side will be sent as '0'.

This Market information data files are generated in /CM30/DATA/"<Month>DDYYYY" folder on the server. i.e. *.ca2

The *.ca2 (Where "*" stands for a numeric number) files contains market statistics and order information of the securities that are being traded in the call auction market 15 minutes delayed along with their open, high, low and close price. The file contains a single record for every security that is traded during that file interval. These files are generated during normal trading. These files are generated in incremental count number on a trading day starting from 1.ca2.

SECURITY INFORMATION

The security update file is generated in /CM30/security/"<Month>DDYYYY" folder on the server. The securities.dat file is the master file that contains the updated information of all securities traded on the Exchange. The vendors need to download this file and decode it to resolve the "token number" of required security. The Token number of each security is unique

4. DATA STRUCTURE DETAILS

MARKET INFORMATION

FILE PATH - /CM30/DATA/"<MONTH>DDYYYY"
FILE NAME - *.MKT

HEADER

Transcode	Short 2 Bytes
Timestamp	Long 4 Bytes
Message Length	Short 2 Bytes

Total 8 Bytes

DATA

Security Token	Short 2 Bytes
Last Traded Price	Long 4 Bytes
Best Buy Quantity	Long 4 Bytes
Best Buy Price	Long 4 Bytes
Best Sell Quantity	Long 4 Bytes
Best Sell Price	Long 4 Bytes
Total Traded Quantity	Long 4 Bytes
Average Traded Price	Long 4 Bytes
Open Price	Long 4 Bytes
High Price	Long 4 Bytes
Low Price	Long 4 Bytes
Close Price	Long 4 Bytes
Filler	Long 4 Bytes (Blank)
	Total 50 Bytes

INDICES INFORMATION

FILE PATH - /CM30/DATA/"<MONTH>DDYYYY"

FILE NAME - *.IND

HEADER

Transcode	Short 2 Bytes
Timestamp	Long 4 Bytes
Message Length	Short 2 Bytes

Total 8 Bytes

DATA

Index Token	Short 2 Bytes
Current Index Value	Long 4 Bytes
High Index Value	Long 4 Bytes
Low Index Value	Long 4 Bytes
Percentage Change in Index	Long 4 Bytes
Filler	Long 4 Bytes (Blank)
	Total 22 Bytes

SECURITY INFORMATION

FILE PATH - /CM30/SECURITY/"<MONTH>DDYYYY"

FILE NAME - Securities.DAT

HEADER

Transcode	Short 2 Bytes
Timestamp	Long 4 Bytes
Message Length	Short 2 Bytes

Total 8 Bytes

DATA

Token Number	Short 2 Bytes
Symbol	Char 10 Bytes
Series	Char 2 Bytes
Issued Capital	Double 8 Bytes
Warning Percent	Short 2 Bytes
Freeze Percent	Short 2 Bytes
Credit Rating	Char 12 Bytes
Issue Rate	Short 2 Bytes
Issue Start Date	Long 4 Bytes
Issue Pdate	Long 4 Bytes
Issue Maturity Date	Long 4 Bytes
Board Lot Quantity	Long 4 Bytes
Tick Size	Long 4 Bytes
Name of Company	Char 25 Bytes
Record Date	Long 4 Bytes
Expiry Date	Long 4 Bytes
No Delivery Start Date	Long 4 Bytes
No Delivery End Date	Long 4 Bytes
Book Closure Start Date	Long 4 Bytes
Book Closure End Date	Long 4 Bytes

Total 109 Bytes

CALL AUCTION MARKET INFORMATION

FILE PATH - /CM30/DATA/"<MONTH>DDYYYY"

FILE NAME - *.ca1 for Call Auction Market

***.ca2 for Reserved Market (IPO & Re-listed securities)**

HEADER

Transcode	Short 2 Bytes
Timestamp	Long 4 Bytes
Message Length	Short 2 Bytes

Total 8 Bytes

DATA

The format of the data sent is as follows:

FIELD TYPE	DATATYPE	REMARKS
Security Token	Short 2 Bytes	Security Token
Last Traded Price	Long 4 Bytes	During order collection as well as during matching, it contains LTP of the security
Best Buy Quantity	Long 4 Bytes	Best buy side limit order, price and quantity information. For BBMM flag refer point no.
Best Buy Price	Long 4 Bytes	
Buy BBMM Flag	Char 1 Byte	
Best Sell Quantity	Long 4 Bytes	Best sell side limit order, price and quantity information. For BBMM flag refer point no. 6.3
Best Sell Price	Long 4 Bytes	
Sell BBMM Flag	Char 1 Byte	
Total Traded Quantity	Long 4 Bytes	This field contains the total quantity of a security traded on the current day
Indicative Traded Quantity	Long 4 Bytes	During order collection period this field will contain Indicative Equilibrium Quantity
Average Traded Price	Long 4 Bytes	During order collection period it will always be zero. Once matching starts it will contain the Average Trade Price.
First Open Price	Long 4 Bytes	During first call auction order collection period this field will be zero. Once matching starts it will contain the First Trade Price. Once updated for all subsequent call auctions it will not change. This field may remain zero till the first trade happens
Open Price	Long 4 Bytes	This field contains the indicative opening price (IOP) of a security for order collection period session and Final Open Price of a security in matching period.

High Price	Long 4 Bytes	During order collection period it will always be zero. Once matching starts it will be updated.
Low Price	Long 4 Bytes	During order collection period it will always be zero. Once matching starts it will be updated.
Close Price	Long 4 Bytes	This field contains the closing price of a security.
Filler	Long 4 Bytes	Blank

Total 60 Bytes

5. FILE TRANSCODE LIST

DETAILS	TRANSCODE NUMBER
MARKET OPEN INFORMATION	1
MARKET CLOSE INFORMATION	2
MARKET PRE-OPEN INFORMATION	3
MARKET STATISTICS INFORMATION	5
NEW SECURITY INFORMATION	7
CALL AUCTION MARKET INFORMATION	9

6. INDEX TOKEN NUMBERS LIST

The Indices generated during the trading cycle are identified by Index names. The feed shall not bear these names. Instead, a unique Index token shall identify each index. The vendors need to decode the index files by providing following combinations of the Index Token number and Index Name.

Index Name	Index Token Number
Nifty 50	0
Nifty IT	1
Nifty Next 50	2
Nifty50 USD	3
Nifty Bank	4
Nifty MID100 Free	5
Nifty 500	6
Nifty 100	7
Nifty Midcap 50	8
Nifty Realty	9
Nifty Infra	10
INDIA VIX	11
Nifty Energy	12
Nifty FMCG	13
Nifty MNC	14
Nifty Pharma	15
Nifty PSE	16
Nifty PSU Bank	17
Nifty Serv Sector	18
Nifty SML100 Free	19
Nifty 200	20
Nifty Auto	21
Nifty Media	22
Nifty Metal	23
Nifty Div Opps 50	24
Nifty Commodities	25
Nifty Consumption	26
Nifty Fin Service	27

Nifty50 Div Point	28
Nifty100 Liq 15	29
Nifty CPSE	30
Nifty GrowSect 15	31
Nifty50 TR 2x Lev	32
Nifty50 PR 2x Lev	33
Nifty50 TR 1x Inv	34
Nifty50 PR 1x Inv	35
Nifty50 Value 20	36
Nifty Quality 30	37
Nifty Mid Liq 15	38
Nifty Pvt Bank	39
Nifty GS 8 13Yr	40
Nifty GS 10Yr	41
Nifty GS 10Yr Cln	42
Nifty GS 4 8Yr	43
Nifty GS 11 15Yr	44
Nifty GS 15YrPlus	45
Nifty GS Compsite	46
NIFTY50 EQL Wgt	47
NIFTY100 EQL Wgt	48
NIFTY100 LowVol30	49
NIFTY Alpha 50	50

7. DATA FIELD DETAILS

SECURITY TOKEN NUMBER

The Security Token numbers uniquely identify each security listed on the National Stock Exchange of India Ltd. The token number, Symbol and Series identify a single and unique security. The vendor will be provided with a binary file i.e. securities.dat giving the combinations of all securities traded on the Exchange. Any further additions, modifications and deletions will be updated in securities.dat file as part of the feed in /CM30/Security folder.

TIME STAMP

The time stamp is the number of seconds elapsed from midnight Jan 1, 1970.

8. CONTACT INFO

Name	Email	Contact Number
DOTEX Business	dotex@nse.co.in	91-22-26598385
Technical Support	infofeed_support@nse.co.in.	-

9. **NOTE**

9.1 All prices are in Paisa

All price fields are multiplied by 100 and this implies that the prices received by the vendors have to be divided by 100.

For India VIX index, the index value is of four decimal precision. Hence, the values received by the vendors for the India VIX index have to be divided by 10000.

9.2 Call Auction Market and Reserved Market:

Two new market types have been added in Capital Market segment. The first market has been added to support Call Auctions and the other market type has been added for future use. It has been termed as reserved market.

Market Maker & Buy Back Flag (MMBB Flag):-

For the probable values of BBMM flag refer the table given below

1. **Sell BBMM Flag:** Buy Back or Market Maker order at that price point.
2. **Buy BBMM Flag:** Buy Back or Market Maker order at that price point.

Buy_Back_Order Exists	Market_Maker_Order Exists	Sell BBMM Flag/ Buy BBMM Flag
No	No	'0'
Yes	No	'1'
No	Yes	'2'
Yes	Yes	'3'

E.g. If Buy Back and Market Maker orders exist at particular price point then the above fields will contain '3'.