

NATIONAL STOCK EXCHANGE OF INDIA LIMITED**DEPARTMENT : FUTURES & OPTIONS**

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All Members,

Tick by Tick market data via Multicast

This is further to Exchange circular NSE/FAOP/34987 dated May 30, 2017.

The revised details of market data broadcast for Tick by Tick order and trade data via Multicast are provided in Annexure 1.

Members may kindly note the below summary of changes and their respective effective dates.

Sr.	Change	Effective date
1	Replacing 'Source 2' with New Source 2 (delayed feed)	July 01, 2017
2	Changes in recovery of tick by tick data	July 01, 2017
3	Discontinuation of Source 1	July 21, 2017
4	Discontinuation of broadcast of master files	August 05, 2017

Important Notes:

1. Market participants are advised to subscribe and migrate to 'New Source 1' at the earliest for better experience as compared to existing Source 1 and 2.
2. New Source 2 (delayed feed) shall have a lag as compared to New Source 1.
3. Further, market participants are also advised to monitor and adequately size their infrastructure and systems while subscribing to these feeds.

For and on behalf of
National Stock Exchange of India Limited

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Annexure 1

Tick by Tick order and trade data via Multicast (MTBT)

A) Master Files for MTBT

Members may kindly note that the below changes shall be effective from August 5, 2017.

Exchange provides MTBT master files for mapping information about the stream id and token number of the security/contract on specified extranet paths as well as via broadcast.

The updated master files shall continue to be available on the path given below. However, based on process review and member feedback, it has been decided to discontinue the dissemination of master information via broadcast.

Segment	Extranet path	File name
CM	/ftp/common/tbt_masters	cm_contract_stream_info.csv
FO	/faofp/faocommon/tbt_masters	fo_spd_contract_stream_info.csv fo_contract_stream_info.csv
CD	/cdsftp/cdscommon/tbt_masters	cd_contract_stream_info.csv cd_spd_contract_stream_info.csv

B) Segment wise details of IP address and port are as below:

Members are requested to make note of the following changes:-

- 1) Replacing 'Source 2' with New Source 2 (delayed feed) w.e.f July 01, 2017
- 2) Source 1 shall be discontinued w.e.f EOD of July 21, 2017

Market participants are advised to subscribe and migrate to 'New Source 1' at the earliest for better experience as compared to existing Source 1 and 2. Further, market participants are also advised to monitor and adequately size their infrastructure and systems while subscribing to these feeds.

CM								
Stream ID	Contents	New Source 1		Source 1		New Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP Address	Multicast Port	Multicast IP Address	Multicast Port	Multicast IP Address	Multicast Port	
1	As per master stream file	239.60.60.41	16641	239.60.60.21	10621	239.60.60.31	10631	3.0 Mbps
2	As per master stream file	239.60.60.42	16642	239.60.60.22	10622	239.60.60.32	10632	3.0 Mbps
3	As per master stream file	239.60.60.43	16643	239.60.60.23	10623	239.60.60.33	10633	3.0 Mbps
4	As per master stream file	239.60.60.44	16644	239.60.60.24	10624	239.60.60.34	10634	3.0 Mbps

FO								
Stream ID	Contents	New Source 1		Source 1		New Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP Address	Multicast Port	Multicast IP Address	Multicast Port	Multicast IP Address	Multicast Port	
1	Nifty options	239.70.70.41	17741	239.70.70.21	10821	239.70.70.31	10831	21.0 Mbps
2	NIFTY futures contracts and all other Index futures and option contracts (other than NIFTY and BANKNIFTY)	239.70.70.42	17742	239.70.70.22	10822	239.70.70.32	10832	4.0 Mbps
3	Stock futures and Options (For symbol starting S to Z)	239.70.70.43	17743	239.70.70.23	10823	239.70.70.33	10833	11.0 Mbps
4	Stock futures and Options (For symbol starting I to L)	239.70.70.44	17744	239.70.70.24	10824	239.70.70.34	10834	9.0 Mbps
5	BANKNIFTY futures and options	239.70.70.45	17745	239.70.70.25	10825	239.70.70.35	10835	17.0 Mbps
6	Stock futures and Options (For symbol starting A to B)	239.70.70.46	17746	239.70.70.26	10826	239.70.70.36	10836	8.0 Mbps
7	Stock futures and	239.70.70.47	17747	239.70.70.27	10827	239.70.70.37	10837	4.0 Mbps

	Options (For symbol starting C to H)							
8	Stock futures and Options (For symbol starting M to R)	239.70.70.48	17748	239.70.70.28	10828	239.70.70.38	10838	3.0 Mbps

CD								
Stream ID	Contents	New Source 1		Source 1		New Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP Address	Multicast Port	Multicast IP Address	Multicast Port	Multicast IP Address	Multicast Port	
1	All currency pairs and interest rate futures	239.80.80.41	18841	239.80.80.21	10821	239.80.80.31	10831	700 Kbps

Note: The approximate bandwidth utilization mentioned above is current utilization of each stream and will vary as per market activity. With respect to using Exchange data, Member's may kindly take note of Exchange circular NSE/MEM/26958 dated June 19, 2014. Exchange data can be used by Member's clients who are registered for trading with the member on the Exchange in any segment.

C) Tick agent

Tick Agent application is an optional utility provided by the exchange and can be installed at client end server for receiving tick data. Tick data which consists of orders and trades is received from the exchange on multicast by tick agent. The tick agent forwards the same data to client end applications on multicast.

Tick Agent also provides tick data recovery on TCP. If the client application loses tick data on multicast, it can request the tick agent for recovering the missed tick data on TCP.

Client end applications can receive multicast tick data directly without using tick agent. They can also recover missed tick data from the exchange directly on TCP.

The TICK Agent application file is available for members on extranet on the below path-

Segment	Tick Agent Setup Path on Extranet
CM	/common/TBT_Linux/TICK_AGENT_LINUX_1.0.3
	/common/TBT_Windows/TICK_AGENT_WINDOWS_1.3
FO	/faofp/faocommon/TBT_Linux/TICK_AGENT_LINUX_1.0.3
	/faofp/faocommon/TBT_Windows/TICK_AGENT_WINDOWS_1.3
CD	/cdsftp/cdscommon/TBT_Linux/TICK_AGENT_LINUX_1.0.3
	/cdsftp/cdscommon/TBT_Windows/TICK_AGENT_WINDOWS_1.3

D) Recovery of tick by tick data

Members are requested to note that the below change shall be effective from July 01, 2017.

Tick by tick data is available for recovery on TCP. At the exchange end the recovery requests are managed and serviced through a setup consisting of a load balancer server and multiple recovery servers. If the client end application misses any tick data it can recover the missed ticks by sending request on TCP to the server IP provided by the exchange (segment wise IPs and ports are provided below). The response messages will be provided on TCP. The TCP connections for recovering messages are not persistent.

A new connection has to be made for each and every recovery request. Client end applications using tick agent can recover missed tick data on TCP by sending recovery request to the tick agent. Also, the recovery requests are served from file stored in recovery server. Due to these factors, there is a lag / delay in the tick data from recovery servers, as compared to direct multicast feed.

Segment	IP Address	Port
CM	172.28.124.34	10984
FO	172.28.124.30	10990
CD	172.28.124.32	10970