

National Stock Exchange Of India Limited

Department : MEMBER SERVICE DEPARTMENT

Download Ref No: NSE/MSD/45126

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All Members,

Market Data - Consolidated Circular

This circular is in consolidation of all the previous circulars issued on Market data broadcast.

The Exchange provides market data (price and volume related) to its trading members in the form of Market by Price (MBP) and Market by Order (MBO) for Auction market. Some related data is also provided in the form of Trade Ticker, Open Interest (OI), Open High Low (OHL), Auction Inquiry broadcast, Master Updates, Market Open/Close Status message broadcast, Trade Execution Range (TER) etc. Market data broadcast is refreshed either at fixed time interval or are event driven. The Exchange also provides tick by tick order and trade information.

Members may refer the following annexures for access details and setup required on their systems in order to receive the market data broadcast:

Sr. No.	Market Type Data	Segment	Annexure
1.	Price volume, other related data, master updates, market open/close status message broadcast, Trade Execution Range etc.	Capital Market (CM) Futures & Options (FO) Currency Derivatives (CD) Commodities Derivatives (CO) Securities Lending & Borrowing Market (SLBM)	Annexure 1
2.	Tick by Tick order and trade data via Multicast	Capital Market (CM) Futures & Options (FO) Currency Derivatives (CD) Commodities Derivatives (CO)	Annexure 2

For and on behalf of
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Annexure 1

A) Price volume (5 depth 1 second refresh), other related data, master updates, market open/close status message broadcast etc.

Stream	Security / Contracts	Multicast IP	Port	Approx. bandwidth utilization
CM (Source 1)	Active	239.50.50.12	10812	600 Kbps
CM (Source 2)		239.50.50.17	10817	600 Kbps
CD (Source 1)	Active	239.50.50.72	10872	600 Kbps
CD (Source 2)		239.50.50.77	10877	600 Kbps
FO Stream A (Source 1)	Active	239.50.50.22	10822	2.5 Mbps
FO Stream A (Source 2)		239.50.50.27	10827	2.5 Mbps
CO (Source 1)	Active	239.50.50.51	18051	80 Kbps
CO (Source 2)		239.50.50.56	10856	80 Kbps
SLBM	Active	239.50.50.61	10861	40 Kbps

B) Price volume (5 depth 1 second refresh), other related data, master updates, market open/close status message broadcast etc. on additional streams available only in FO segment

Stream	Security / Contracts *	Multicast IP	Port	Approx. bandwidth utilization
FO Stream B (Source 1)	NIFTY option contracts	239.50.51.21	15021	1.5 Mbps
		239.50.51.20	15020	
FO Stream B (Source 2)		239.50.51.121	15121	1.5 Mbps
		239.50.51.20	15020	
FO Stream C (Source 1)	NIFTY futures, BANKNIFTY futures and all other Index (futures and option) contracts	239.50.51.22	15022	1.5 Mbps
		239.50.51.20	15020	
FO Stream C (Source 2)		239.50.51.122	15122	1.5 Mbps
		239.50.51.20	15020	
FO Stream D (Source 1)	Stock futures and Options (For symbols starting from numeric 0-9 and A to G)	239.50.51.23	15023	3.5 Mbps
		239.50.51.20	15020	
FO Stream D (Source 2)		239.50.51.123	15123	3.5 Mbps
		239.50.51.20	15020	
FO Stream E (Source 1)	Stock futures and Options (For symbol starting H to M)	239.50.51.24	15024	3.5 Mbps
		239.50.51.20	15020	
FO Stream E (Source 2)		239.50.51.124	15124	3.5 Mbps
		239.50.51.20	15020	
FO Stream F (Source 1)	BANKNIFTY option contracts	239.50.51.25	15025	1.5 Mbps
		239.50.51.20	15020	
FO Stream F (Source 2)		239.50.51.125	15125	1.5 Mbps
		239.50.51.20	15020	
FO Stream G (Source 1)	Stock futures and Options (For symbol starting N to Z)	239.50.51.26	15026	3.5 Mbps
		239.50.51.20	15020	
FO Stream G (Source 2)		239.50.51.126	15126	3.5 Mbps
		239.50.51.20	15020	

* The descriptions of symbols / contracts as mentioned in the aforesaid table are indicative. Members are required to refer the Master Files for MTBT in FO segment i.e. fo_contract_stream_info.csv and fo_spd_contract_stream_info.csv for details regarding tokens broadcasted in the individual stream.

- Members can refer file "cm_index_token_mstr.txt" to identify the index tokens. This file is available on extranet under path "/common/ntneat/"

C) Trade Execution Range (TER) Broadcast:

Trade Execution Range is applicable only in FO and CD segments and Exchange provides related broadcast for NNF users as below:

Security / Contracts	Segment	Source 1		Source 2		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
Trade Execution Range (TER)	FO	239.55.55.21	55021	239.55.55.121	55121	2 Mbps
	CD	239.55.55.71	55071	239.55.55.171	55171	100 Kbps

Annexure 2

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

A) Master Files for MTBT:

Exchange provides MTBT master files for mapping information about the stream id and token number of the security/contract on specified extranet paths as mentioned below:

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
CO	/comtftp/comtcommon/tbt_masters	co_contract_stream_info.csv

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

Market participants are advised to monitor and adequately size their infrastructure and systems while subscribing to these feeds.

CM						
Stream ID	Contents	Source 1		Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
1	As per master stream file	239.60.60.41	16641	239.60.60.31	10631	8 Mbps
2	As per master stream file	239.60.60.42	16642	239.60.60.32	10632	8 Mbps
3	As per master stream file	239.60.60.43	16643	239.60.60.33	10633	8 Mbps
4	As per master stream file	239.60.60.44	16644	239.60.60.34	10634	8 Mbps

FO						
Stream ID	Contents *	Source 1		Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
1	Nifty options	239.70.70.41	17741	239.70.70.31	10831	20 Mbps
2	NIFTY futures, BANKNIFTY futures & all other Index (futures and option) contracts	239.70.70.42	17742	239.70.70.32	10832	6 Mbps
3	Stock futures and Options (For symbols starting from numeric 0-9 and A to G)	239.70.70.43	17743	239.70.70.33	10833	15 Mbps
4	Stock futures and Options (For symbol starting H to M)	239.70.70.44	17744	239.70.70.34	10834	18 Mbps
5	BANKNIFTY options contracts	239.70.70.45	17745	239.70.70.35	10835	40 Mbps
6	Stock futures and Options (For symbol starting N to Z)	239.70.70.46	17746	239.70.70.36	10836	18 Mbps

* The descriptions of symbols / contracts as mentioned in the aforesaid table are indicative. Members are required to refer the Master Files for MTBT in FO segment i.e. fo_contract_stream_info.csv and fo_spd_contract_stream_info.csv for details regarding tokens broadcasted in the individual stream.

CD						
Stream ID	Contents	Source 1		Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
1	All currency pairs and interest rate futures	239.80.80.41	18841	239.80.80.31	10831	1.5 Mbps

CO						
Stream ID	Contents	Source 1		Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
1	All Commodity Derivatives Contracts	239.90.90.41	19941	239.90.90.51	19951	60Kbps

C) Recovery of tick by tick data

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 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. The recovery requests are served from file stored in recovery server. Due to this factor, 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
CO	172.19.125.84	10960

General Notes applicable for all types of market data broadcast:

- The size of broadcast indicated above is an estimated approximation and shall change depending upon the market activity. Thus, Market participants are strongly advised to monitor and adequately size their infrastructure and systems while subscribing to these feeds.*
- 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.*
- National Stock Exchange of India Limited ("NSEIL") strongly recommends its members to build resilience and redundancy in their subscription to market data broadcast provided by NSEIL, to ensure continuity of their business operations. NSEIL has made enabling provisions for members to implement redundancies by providing two sources of data and/or data recovery mechanisms. Members shall be solely responsible for implementing and maintaining redundancy for market data broadcast subscribed from NSEIL. NSEIL shall not be held liable in any manner whatsoever including but not limited to for any disconnection, excess bandwidth utilization, related latency issues' etc. which arises out of the member's decisions on market data broadcast configurations.*