



भारतीय प्रतिभूति और विनिमय बोर्ड
Securities and Exchange Board of India

CIRCULAR

SEBI/HO/MRD/DP/CIR/P/2018/62

April 09, 2018

To

All Stock exchanges (except Commodity Derivatives Exchanges),

Dear Sir / Madam,

**Sub: Measures to strengthen Algorithmic Trading and Co-location /
Proximity Hosting framework**

SEBI, vide circular CIR/MRD/DP/09/2012 dated March 30, 2012 and circular CIR/MRD/DP/16/2013 dated May 21, 2013 put in place the broad guidelines for algorithmic trading in the securities market. Further, SEBI, vide circular CIR/MRD/DP/07/2015 dated May 13, 2015 and circular SEBI/HO/MRD/DP/CIR/P/2016/129 dated December 01, 2016 laid down guidelines to ensure fair and equitable access to the Co-location/proximity hosting facility offered by stock exchanges.

2. In order to address the concerns relating to algorithmic trading and co-location / proximity hosting facility offered by stock exchanges and to provide a level playing field between Algorithmic/ Co-located trading and manual trading, SEBI issued a discussion paper on August 5, 2016 requesting market participants to provide their views on the efficacy and need to introduce further mechanisms to address the aforementioned concerns.

3. In light of the public comments received and in consultation with Technical Advisory Committee (TAC) of SEBI and Secondary Market Advisory Committee (SMAC) of SEBI, it has been decided to introduce the following measures in connection with algorithmic trading and co-location / proximity hosting framework facility offered by stock exchanges.

Managed Co-location Service

4. In order to facilitate small and medium sized Members, who otherwise find it difficult to avail colocation facility, due to various reasons including but not limited to high cost, lack of expertise in maintenance and troubleshooting, etc. to avail co-location facility, stock exchanges shall introduce 'Managed Co-location Services'. Under this facility, space/rack in co-location facility shall be allotted to eligible vendors by the stock exchange along with provision for receiving market data for further dissemination of the same to their client members and the facility



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to place orders (algorithmic / non-algorithmic) by the client members from such facility.

5. The vendors shall provide the technical knowhow, hardware, software and other associated expertise as services to trading members and shall be responsible for upkeep and maintenance of all infrastructure in the racks provided to them.

6. Stock exchanges shall supervise and monitor such facilities on a continuous basis. While allowing such services, stock exchanges shall continue to abide by the provisions of SEBI circular CIR/MRD/DP/07/2015 dated May 13, 2015 and circular SEBI/HO/MRD/DP/CIR/P/2016/129 dated December 01, 2016, including remaining responsible and accountable for actions of vendors providing Managed Co-location Services and ensuring integrity, security and privacy of data, being handled at the facility.

7. Further, in order to have fair competition, stock exchanges are advised to ensure that multiple vendors are permitted for providing Managed Co-location Services at their co-location facility.

Measurement of Latency for Co-location and Proximity Hosting

8. Clause 3.9 of SEBI circular CIR/MRD/DP/07/2015 dated May 13, 2015, mandated stock exchanges to publish suitable quarterly reports on their websites on latencies observed at the exchange.

9. Currently, latency is measured by the Stock Exchange as the time taken to complete the round trip from the Core Router (Core Router is the place where both Colo-location orders and Non-colocation orders meet) to the matching engine and back. In order to bring in greater transparency, stock exchanges shall additionally publish minimum, maximum and mean latencies and latencies at 50th and 99th percentile.

10. Stock Exchanges shall also publish reference latency, which is the time taken for an order message to travel between a reference rack in the Colocation facility and the Core Router.

Free of Charge Tick-by-Tick Data feed (TBT Feed)

11. Tick-by-Tick (TBT) data feed offered by stock exchanges provides a detailed view of the entire order-book, which includes details relating to addition, modification and cancellation of orders and trades on a real-time basis.



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12. In order to create a more level playing field among the different types of market participants, Stock Exchanges shall provide TBT Feeds to all the trading members, free of cost, subject to trading members creating the necessary infrastructure for receiving and processing it.

13. After assessing the needs of the market participants, stock exchanges may increase the depth of snapshot of 5 best bid and ask quotes currently being provided by them.

Penalty on Order to Trade Ratio (OTR)

14. In order to ensure orderly trading in the market, vide circulars no. CIR/MRD/DP/ 09 /2012 dated March 30, 2012 and CIR/MRD/DP/ 16 /2013 dated May 21, 2013, stock exchanges were advised to put in place effective economic disincentives for high daily order-to-trade ratio (OTR) of algo orders placed by trading members. In order to encourage algo traders to place more orders closer to the last traded price (LTP), the following modification shall be carried out in the existing OTR framework:

- a. Instead of orders placed within $\pm 1\%$, orders placed within $\pm 0.75\%$ of the LTP shall be exempted from the framework for imposing penalty for high OTR.
- b. Orders placed in the cash segment and orders placed under the liquidity enhancement schemes shall also be brought under the OTR framework.

Unique Identifier for Algorithms / Tagging of Algorithms

15. Clause 6 (vi) of SEBI circular CIR/MRD/DP09/2012 dated March 30, 2012, prescribed that all algorithmic orders be tagged with a unique identifier provided by the stock exchange in order to establish audit trail.

16. In order to ensure enhanced surveillance, stock exchanges shall now allot a unique identifier to each algorithm approved by them. Stock exchanges shall ensure that every algorithm order reaching on exchange platform is tagged with the unique identifier allotted to the respective algorithm and that such unique identifier tags are part of the data set sent / shared with SEBI for surveillance purpose.

Testing Requirement for Software and Algorithms

17. SEBI, vide Circular no. CIR/MRD/DP/24/2013 dated August 19, 2013, inter alia, prescribed the testing procedure to be followed by market participants before deployment of software and algorithms. In order to further streamline and



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strengthen the process of testing of software and algorithms, stock exchanges may provide a simulated market environment for testing of software including algos. Such a facility may be made available over and beyond the current framework of mock trading prescribed by SEBI.

18. Stock exchanges shall ensure that the tagging of each order each algorithm with its unique identifier is completed by September 30, 2018, while the other provisions of the circular shall be complied with at the earliest but not later than June 30, 2018.

19. Stock Exchanges are directed to:

- a. take necessary steps to put in place systems for implementation of the circular, including necessary amendments to the relevant bye-laws, rules and regulations;
- b. bring the provisions of this circular to the notice of the stock brokers / clearing members and also disseminate the same on their website;
- c. communicate to SEBI the status of implementation of the provisions of this circular through monthly development report.

20. This circular is being issued in exercise of powers conferred under Section 11 (1) of the Securities and Exchange Board of India Act, 1992, read with Section 10 of the Securities Contracts (Regulation) Act, 1956, to protect the interests of investors in securities and to promote the development of, and to regulate the securities market.

21. This circular is available on SEBI website at www.sebi.gov.in at “Legal Framework→Circulars”.

Yours faithfully,

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