



## Press Statement

### Robustness of NSE's Technology Infrastructure – February 24th incident

**Mumbai, February 26, 2021:** In continuation of our earlier press statements dated February 24 and 25, 2021, further clarifications are given below:

- A. Technology is very critical in providing a stable and reliable platform for operating the market successfully and NSE has always given this dedicated focus and attention on multiple fronts as under:
1. NSE has a robust, resilient, secure and fault tolerant technology infrastructure supported by best in class equipment from vendors like Cisco, HP, Dell, Hitachi, Checkpoint, Palo Alto, Oracle etc. and aided by able technology service providers like TCS, Cognizant, Wipro etc. Further, NSE has a strong technology governance process in place wherein the technology infrastructure is reviewed on a regular basis by committees like Standing Committee on Technology which has technology experts and also multiple types of audits by various firms/institutions with specialized expertise.
  2. NSE invests heavily in its technology infrastructure on a continuous basis and over the last 3-4 years, NSE has almost tripled its annual cash spend on capital and operational expenses on technology to approximately 900 crores with a strong technology workforce of approximately 1500 plus people (employees and vendor staff).
  3. Multiple transformational projects have been completed and are ongoing to ensure that our systems continue to be robust, resilient, secure and state of the art.
  4. NSE is the largest derivatives exchange in the world by volumes and it has a demonstrated track record of handling significantly high volumes despite a challenging external environment over the last one year due to the pandemic without any impact on trading. Equity and equity derivatives segments' daily average volumes have gone up by 122% and 79% respectively in 2021 compared to 2019. Average order messages per day have gone up by about 200% during the period across all segments with a peak load of over 6.5 billion order messages in a day. Further, NSE and NSE Clearing have also implemented multiple structural changes over the last two years like interoperability in a seamless manner.
  5. NSE constantly endeavours to provide a glitch free environment. However, the complex technology architecture has significant external and vendor dependencies in terms of connectivity and hardware. It is pertinent to note that globally, in the last two years, there have been trading outages in many markets such as Australia, New Zealand, Japan, Germany and UK.
- B. With respect to the incident that occurred on February 24, 2021, NSE wishes to reiterate the following:
1. NSE has multiple telecom links with two service providers to ensure redundancy and we received communication of instability of the links from both the service providers.
  2. While there was no impact on the trading system, the instability of telecom links mentioned above resulted in an impact to the online risk management system of NSE Clearing and other systems. Critical systems such as the risk management system are configured with redundancies such that there is no single point of failure.
  3. Given that the online risk management system was unavailable, market functioning could not continue normally on NSE and hence had to be shut down. NSE informed market participants around 11:30am that trading on NSE will close at 11:40am.
  4. Post shut down of trading on NSE, we considered all the available alternatives on hand including invocation of DR to decide on the course of action that would bring up the market at the earliest with least disruption to market participants and post evaluation, a decision was



taken to bring up the systems at the primary site. NSE regularly tests its DR readiness in line with SEBI regulations wherein quarterly drills are conducted and live trading sessions from DR site are conducted twice a year.

5. NSE was continuously working on resolution of the problem and once the same was resolved, NSE made an announcement with respect to re-opening of the markets to its members at 3:17pm. This communication was done only after there was visibility and clarity on resumption of services and any prior communication would not have been appropriate.
  6. Trading shut down and re-open were done after giving due notice to the market. In order to ensure orderly opening of the market, all outstanding orders were cancelled and a pre-open session was conducted to discover re-open price and then the markets were opened. It is important to note that there was no impact on trades executed before the market shut down at 11:40am. The process followed is as per international best practices.
  7. NSE was in close contact with SEBI and keeping them updated of developments.
  8. NSE is awaiting detailed root cause analysis from our vendors regarding this incident.
- C. NSE greatly appreciates the support and guidance provided by all stakeholders including the government, SEBI, our trading members and other market intermediaries and is committed to continuing to provide a robust and stable platform for the markets to develop. We take our responsibility very seriously and strive to continuously learn and improve. We sincerely regret the occurrence of the incident on February 24, 2021.

#### **About National Stock Exchange of India Limited (NSE):**

National Stock Exchange of India Ltd. (NSE) is the world's largest derivatives exchange by trading volume as per the statistics published by Futures Industry Association (FIA) for 2019. NSE is also ranked 3rd in the world in the cash equities segment by number of trades as per the statistics published by the World Federation of Exchanges (WFE). NSE was the first exchange in India to implement electronic or screen-based trading. It began operations in 1994 and is ranked as the largest stock exchange in India in terms of total and average daily turnover for equity shares every year since 1995, based on SEBI data. NSE has a fully-integrated business model comprising exchange listings, trading services, clearing and settlement services, indices, market data feeds, technology solutions and financial education offerings. NSE also oversees compliance by trading and clearing members with the rules and regulations of the exchange. NSE is a pioneer in technology and ensures the reliability and performance of its systems through a culture of innovation and investment in technology. NSE believes that the scale and breadth of its products and services, sustained leadership positions across multiple asset classes in India and globally enable it to be highly reactive to market demands and changes and deliver innovation in both trading and non-trading businesses to provide high-quality data and services to market participants and clients.

For more information, please visit: [www.nseindia.com](http://www.nseindia.com)

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