Trading and clearing systems load testing plan for August 02, 2025

Infrastructure

During the joint load testing on the production infrastructure of MOEX and SPB EXCHANGE, Trading Systems will be tested, with the following maximum number of orders per market to be reached:

MOEX:

a) Securities market (ASTS system) – 400 million orders and more than 20 million deals;
b) FX market (ASTS system) – 110 million orders and more than 3 million deals;
c) Derivatives market (Spectra system) – 300 million orders and more than 7 million deals.

SPB EXCHANGE:

a) Main sector of stocks market – 100 million orders and more than 5 million deals.

The aim of this testing is to provide participants with an opportunity to check their infrastructure and software at peak transaction frequency and with increased number of orders.

Total load testing run time is 7 hours 15 minutes.

Load testing start is scheduled for 11:30 MSK.

Target order numbers for each market exceed by 1.5-2 times the maximum numbers achieved in real trading and/or should align with the market forecast for 2026.

It is planned that transaction frequency during the tests will exceed real market frequencies by 3-4 times within one-second intervals, but at the same time, the frequency will remain below the maximum system performance capacity.

The maximum performance capacity of the trading and clearing engines, as well as all the subsystems, will be measured during a short interval at the end of the tests to avoid the distortion of measurements caused by transaction queues.

In order to create a realistic environment, it is recommended that all participants connect all third-party software that is used during normal trading to the ASTS system (ASTS Bridge, FIX/FAST, TWIME, SIMBA)

It is recommended to connect all third-party software for all connectivity protocols (Plaza2/CGate, FIX/FAST, TWIME, SIMBA) to the Spectra system.

It is recommended to connect all third-party software for all connectivity protocols (binary protocol, FIX/FAST) to the SPB EXCHANGE trading system.

Details of testing procedure

Data on prices, users, passwords, and permissions in MOEX ASTS systems will correspond to the end of the trading day on July 21, 2025.

To receive realistic measurements, it is recommended to connect to the MOEX Spectra system at the main data center (DSP) connectivity points.

Services

The following MOEX services and subsystems will be up and running during the tests:

MOEX:

a) Index servers;
b) Web services;
c) Market data services FAST;
d) Transactional services FIX;

e)   Transactional services TWIME;

f)   Market data services SIMBA.

SPB EXCHANGE:

a)   Binary protocol servers;

b)   Market data services FAST;

c)   Transactional services FIX.

MOEX Requirements to the infrastructure of participants

To reach the maximum planned intensity of transactions and FAST UDP multicast market data feed, the following bandwidth requirements should be met per every channel:

- Securities market – 1 Mbit/s bandwidth per each ASTS Bridge API information request cycle and each trading terminal;
- FX market – 1 Mbit/s bandwidth per each ASTS Bridge API information request cycle and each trading terminal;
- Derivatives market – 10 Mbit/s;
- FAST UDP multicast for Securities market (feed A) – 60 Mbit/s;
- FAST UDP multicast for FX market (feed A) – 60 Mbit/s;
- FAST UDP multicast for Derivatives market aggregated book (feed A) – 5 Mbit/s;
- FAST UDP multicast for Derivatives market full orders_log (feed A) – 100 Mbit/s.

Note: only those clients who use leased lines with bandwidth higher than the sum of the requirements for every copy of services, given above, should expect their gateways to run normally at the expected peak frequencies.

Clients with smaller bandwidth will experience gateway slippage or lost FAST packets once 100% of the channel bandwidth is occupied by the replication traffic.

SPB EXCHANGE Requirements to the infrastructure of participants

- To receive minimum required set of market data – 20 Mbit bandwidth:
  - Statuses of securities;
  - Trades;
  - Aggregated order books.
- To receive a broad range of market data – 50 Mbit bandwidth:
  - Statuses of securities;
  - Trades;
  - Aggregated order books;
  - Indicative quotes;
  - Trading activity + drop-copy.

Load Testing Scenario

Participants may run their own scenarios, but it is strongly recommended to adhere to the following principles to avoid artificially reducing the Trading System's capacity:

- Withdraw at least 99% of unfilled orders to follow the current market activity profile;
- Avoid concluding too many trades. Otherwise, tests may stop when the maximum trade number is reached, even if the maximum order number is not;
- We strongly recommend participants analyze market parameters for instruments during load testing to minimize the number of transactions rejected due to non-market price ranges.

MOEX or SPB EXCHANGE teams may suspend user accounts in case if malicious activity that interferes with load testing is detected.

Load Testing Schedule

Tentative start time – 11:30 MSK, end of the test – 19:30 MSK.

The peak frequency numbers are approximate. Final numbers for orders and trades will be published in a report based on the results of the testing.

Event	Duration, minutes	Event start time	FX Market, transaction/sec	Securities Market, transaction/sec	Derivatives Market, transaction/sec	SPB Exchange, transaction/sec	FX Market, orders	Securities Market, orders	Derivatives Market, orders	SPB Exchange, orders	Start time	Notes
Start	60	0	0	0	0	0	0	0	0	0	11:30:00	Do not connect the 3rd party software until 11:30
Opening auction	10	60	200	200	200	1 000	80 000	80 000	120 000	600 000	12:30:00	
Stage 1	20	70	3 000	5000	5000	6 000	2 480 000	4 080 000	6 120 000	7 800 000	12:40:00	
Stage 2	10	90	5 000	7 500	15 000	11 000	4 480 000	7 080 000	15 120 000	14 400 000	13:00:00	
Stage 3	10	100	10 000	10 000	15 000	16 000	8 480 000	11 080 000	24 120 000	24 000 000	13:10:00	
Stage 4	10	110	15 000	20 000	15 000	21 000	14 480 000	19 080 000	33 120 000	36 600 000	13:20:00	
Intermediate Clearing on Derivatives Market	15	120	20 000	25 000	0	26 000	26 480 000	34 080 000	33 120 000	60 000 000	13:30:00	
Stage 5	240	135	5 000	28 000	20 000	31 000	74 480 000	302 880 000	321 120 000	90 000 000	13:45:00	
Evening clearing session on Derivatives Market	15	375	15 000	30000	0	1 000	83 480 000	320 880 000	321 120 000	120 000 000	17:45:00	
High load interval	45	390	15 000	45000	50000		110 480 000	401 880 000	456 120 000	120 000 000	18:00:00	
Stop test load		435	0				110 480 000	401 880 000	456 120 000	120 000 000	19:00:00	