

2024 SECURITIES INDUSTRY BUSINESS CONTINUITY TEST

Saturday, October 5, 2024

SUMMARY OF RESULTS

Test Led By

Securities Industry and Financial Markets Association



2024 SECURITIES INDUSTRY BCP TEST

October 5, 2024

Summary of Results

Executive Summary

The 2024 test is part of an ongoing industry-driven backup site testing initiative that began in 2003 and is led by Securities Industry and Financial Markets Association (SIFMA)¹.

The 2024 test followed the format of prior industry-wide tests where firms test connectivity and/or submit test orders and transactions from their backup sites to the markets and industry utilities. The test involved components for Equities, Options, Fixed Income, Market Data, Treasury Auctions, Payment Systems, Service Bureaus and FX. The exercise was supported by all major exchanges, markets and industry utilities. Participation in the test was voluntary and results for specific firms, exchanges, markets and utilities are retained in strict confidence by SIFMA.

Participants in the SIFMA test included approximately **100 securities firms** and over **80 market organizations**. During the test approximately **1,100 communications connections** were established between securities firms and banks and the exchanges, markets and utilities. **Test transactions on these connections were successful approximately 98% of the time**. These results were generally comparable to prior tests and underscore the ability of the securities industry to operate through adverse conditions. Industry testing to meet the requirements of Regulation Systems Compliance and Integrity (Reg SCI) also took place on October 14, in parallel with the SIFMA industry test. This is the third year in which Reg SCI testing took place alongside the test, which allows for greater efficiency in industry testing, and will occur again in 2025.

This year's test also took place also reflected ongoing changes to working arrangements, such as the increased participation of test participants from remote locations, as has occurred since the 2020 test during the unprecedented environment following the COVID-19 pandemic. Despite these ongoing changes and the normalization of hybrid work arrangements, testing was executed successfully, highlighting the industry's strong commitment to resiliency.

In parallel with the SIFMA test on October 5, the Futures Industry Association led a backup site test of the futures exchanges and clients. Reports on the futures test results can be found at this link: <https://www.fia.org/fia/fia-disaster-recovery-exercise>

¹ The Securities Industry and Financial Markets Association ("SIFMA") brings together the shared interests of hundreds of securities firms, banks and asset managers. SIFMA's mission is to support a strong financial industry, investor opportunity, capital formation, job creation and economic growth, while building trust and confidence in the financial markets. SIFMA, with offices in New York and Washington, D.C., is the U.S. regional member of the Global Financial Markets Association ("GFMA"). For more information, visit www.sifma.org.

Test Objectives

1. To assess the ability of securities market participants to operate through a significant emergency from their primary or backup data centers and work area recovery sites and to examine the level of resiliency of the markets and the industry overall.
2. To provide firms and exchanges with an opportunity to test and evaluate their backup sites and backup communications with the markets on a single day.

Markets and Utilities Tested

The 2024 test included components for Equities, Options, Fixed Income, Market Data, Payment Systems, Treasury Auctions, and FX.

Market participants included all major exchanges, markets and industry utilities plus major service bureaus and market data vendors. See **Appendix A** for list of participating market entities. We have continued to increase the scope of participating test entities as additional participants have entered the market, and as we look to further broaden the scope of entities engaged to cover the full range infrastructure and service providers broker dealers rely upon.

Test Format

Participating firms, exchanges, industry utilities, service bureaus and payment banks, operating from either their primary or backup sites (data center and work area recovery), simultaneously connected and/or submitted scripted test transactions to markets and settlement entities and received simulated confirmations. The test was not intended to be a simulation of any specific real event.

Firms and markets were requested to test from backup locations but, in some instances, this was not technically feasible. For a connection between a firm and a market to be considered a valid test interaction, at least one of the entities had to test from a backup site. A number of exchanges and markets and some firms run multiple “hot” sites as a normal data center configuration. In a multiple hot site configuration, order traffic is routed automatically to one or more of the sites and if a site fails, traffic is automatically shifted to the operational sites. This test did not require shutdown of one of the hot sites. However, firms that do run this type of configuration were encouraged to test from their DR site as opposed to remaining in their Primary configuration.

Reg SCI

In parallel with the SIFMA industry testing on October 5, the industry carried out the fourth test program as mandated by Regulation Systems Compliance and Integrity (Reg SCI). Nearly all Reg SCI entities took part in both testing programs, offering connectivity testing to interested firms as well more involved testing requirements for those firms designated as mandated testers under the rule. In

addition, many firms who took part mandated Reg SCI testing also took part in the SIFMA industry test to test their connectivity with other exchanges, as well as for market segments not involved in Reg SCI, such as fixed income, service bureaus, and payments. Due to system constraints around Reg SCI, equity clearance and settlement entities took part in Reg SCI testing but not the SIFMA industry test.

Test Participants Summary

Exchanges, Markets and Industry Utilities (Equities, Options, FI, Clearing, FX)	60
Securities Firms (Including those testing directly with markets and through service bureaus)	~100
Service Bureaus	12
Market Data Vendors	8
Payment Organizations	3

See Appendix A for a complete list of market entities participating. The names of the participating firms will not be released.

Overall Test Results

There were approximately 1,100 test interactions in the SIFMA test components of which nearly all were successful.

The success rate for 2024 is in line with results for the past few years.

Notes: A test interaction is a successful connection between a firm and an exchange, market, service bureau or utility during the test window. Interactions that experienced issues that were corrected during the test window were counted as successful tests.

Types of Issues Resulting in Unsuccessful Test Transactions

The type of issues noted during this year's test were consistent with issues encountered in prior tests; however the organizations experiencing problems to vary from year to year. Types of problems include:

- ✓ General connectivity issues at firms
- ✓ System specific configuration issues at firms
- ✓ Issues in bringing up backup systems at a test entity

Observations and Conclusions

- This test and prior annual industry tests have consistently achieved extremely positive results that underscore the ability of the industry as a whole to operate through adverse conditions.
- One of the primary values of the annual test is the opportunity it provides for firms and markets to test their backup strategies collectively as an industry.

- The types of problems that caused a small number of failures during this test were not so significant that, during a real event, they could not be addressed fairly quickly with full resources.
- The need for firms to regularly and frequently test their backup connections to market entities is critical and in the few cases where there were issues the test provides a valuable opportunity to uncover them.
- Firms should ensure that appropriate controls are in place to manage changes to applications and hardware that may impact backup site connectivity to markets.
- Robust pretesting and ensuring that correct connectivity and test configuration information is shared across the organization is valuable for the most efficient test day experience
- There was significant value in having providers in DR vs. relying on connections to their Primary systems that are configured as Hot-Hot. We will continue this trend in 2024, while allowing firms the flexibility to test from Primary or DR depending on what is most valuable to them.
- Organizing the industry test in parallel with Reg SCI testing was valuable for test participants, and will be continued in 2025.
- Several new entities have come into service as Reg SCI entities, and joined the Reg SCI testing program; our goal is to make sure that our testing program covers the full scope of Reg SCI entities, a goal we will continue as new entities come on-line in 2024 and 2025.

Inquires About the SIFMA Test

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Futures Industry Test

For information about the Futures test led by Futures Industry Association, see

<https://www.fia.org/fia/fia-disaster-recovery-exercise>

Appendix A

PARTICIPATING MARKET ORGANIZATIONS

Equities

BIDS Trading
 Cboe BYX
 Cboe BZX
 Cboe EDGA
 Cboe EDGX
 Dealerweb ATS
 IEX
 Long Term Stock Exchange
 MEMX
 MIAX Pearl Equities
 NASDAQ
 Nasdaq BX
 Nasdaq PSX
 NYSE (CLASSIC)
 NYSE ARCA
 NYSE MKT (AMEX)
 NYSE Chicago
 Global OTC
 OTC Link ATS
 UBS ATS
 Intelligent Cross ATS
Fixed Income
 BrokerTec CME Group
 Dealerweb - IDB
 Dealerweb CLOB
 ICAP
 Tullett Prebon - IDB
 GBX Rates
 Bloomberg TOMS
 Tradeweb Direct
 GLMX LLC
 LTX Trading
 MarketAxess
 ICE TMC

TradeWeb
 Trumid
 BNY Clearing Bank
 CDCC
Options
 BOX Options Exchange
 Chicago Board Options Exchange
 Cboe BZX Options
 CBOE C2 Options
 Cboe EDGX Options
 MIAX Options
 MIAX Emerald
 MIAX Pearl
 Montreal Exchange
 Nasdaq BX Options
 Nasdaq GEMX
 Nasdaq ISE
 Nasdaq MRX
 Nasdaq Options Market
 Nasdaq PHLX
 NYSE AMEX
 NYSE/ARCA
 The Options Clearing Corporation
 CDCC
US Treasury
 Treasury Auctions
 FedTrade
Payments
 CHIPS
 Fedwire
 SWIFT
Market Data
 Bloomberg
 Devexperts / dxFeed

Factset
 Fidessa
 ICE Data Services/eSignal
 ICE Data Services/Pricing and Analytics
 LSEG (Refinitiv)
 OTC Markets Group
Equity & Fixed Income Clearing
 DTCC
Service Bureaus
 BetaNXT
 Broadridge BPO
 Broadridge BPS
 Broadridge ICI
 Fidessa
 FIS Phase 3
 FIS Valdi
 FlexTrade Systems
 Matrix Applications
FX
 BGC Forex
 Bloomberg FXGO
 LSEG (Refinitiv) FXall (FXall via FXT)
 OSTTRA Traiana
Regulatory & Trade Reporting Venues
 FINRA
 FINRA CAT
 MSRB