

2014 SECURITIES INDUSTRY BUSINESS CONTINUITY TEST

Saturday, October 25, 2014

SUMMARY OF RESULTS

Test Lead By

Securities Industry and Financial Markets Association



2014 SECURITIES INDUSTRY BCP TEST

October 25, 2014

Summary of Results

Executive Summary

The 2014 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 2014 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, Clearing and Settlement Utilities, Market Data, Payment Systems, Commercial Paper and FX. Please note that while we typically have a mock Treasury Auction we didn't have one this year due to a modernization initiative to upgrade the TAAPS infrastructure by the Federal Reserve Bank of New York. This test will be held later in 2014 with the primary dealers directly via the Treasury Dept. 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 **126 securities firms** and **63 market organizations**. During the test approximately **1056 communications connections** were established between securities firms and banks and the exchanges, markets and utilities. **Test transactions on these connections were successful 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

In parallel with the SIFMA test on October 25, the Futures Industry Association led a backup site test of the futures exchanges and clients. The futures test results can be found at the link below once they are available.

<http://www.futuresindustry.org/business-continuitydisaster-recovery.asp>.

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 2014 test included components for Equities, Options, Fixed Income, Clearing and Settlement Utilities, Market Data, Payment Systems, Commercial Paper 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.

The Financial Information Forum assisted in coordinating with the services bureaus and market data vendors during the test.

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 vs. remaining in their Primary configuration.

Test Participants Summary

Exchanges, Markets and Industry Utilities (Equities, Options, FI, Clearing, FX)	32
Securities Firms (Including those testing directly with markets and through service bureaus)	126
Service Bureaus	14
Market Data Vendors	7
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 1056 test interactions in the SIFMA test components of which 98% were successful.

The success rate for 2014 is in line with results for the past few years.

Notes: A test interaction is a connection between a firm and an exchange, market, service bureau or utility. Test interactions are considered successful if a two-way communication is recorded during the test window. Interactions that experienced issues that were corrected during the test window were counted as successful tests.

Successful Test Interactions by Market

Market	Success (%)
Equities	100%
Options	98%
Fixed Income	97%
Clearing & Settlement	95%
Commercial Paper	100%
FX	100%
Payments	100%
Market Data	97%
Service Bureaus	99%
Average	98%

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 except that the organizations experiencing the problems seem to vary from year to year. Types of problems include:

- ✓ General connectivity issues at firms
- ✓ System specific configuration issues at firms

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 the 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. Some of the problems seen during the test resulted from applications changes and hardware configuration changes that were installed since the last test.
- 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 2015, while allowing firms the flexibility to test from Primary or DR depending on what is most valuable to them.

Inquires About the SIFMA Test

Inquires about the test may be directed to:

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Futures Industry Test

For information about the Futures test led by Futures Industry Association, see <http://www.futuresindustry.org/business-continuitydisaster-recovery.asp>

Appendix A

PARTICIPATING MARKET ORGANIZATIONS

Equities

BATS BZX
BATS BYZ
Chicago Stock Exchange
Direct Edge EDGA
Direct Edge EDGX
NYSE/Euronext
NYSE/AMEX
OTC Link/ATS

Options

BATS Options
Boston Options Exchange
Canadian Derivatives Clearing Corporation
Chicago Board Options Exchange
ISE
MIAX
Montreal Exchange
NYSE/ AMEX ARCA
The Options Clearing Corporation

Fixed Income

Bloomberg TOMS
BNY Mellon Clearing Bank
Dealerweb - IDB
ICAP – IDB
MarketAxess - ATS
TMC Bonds
TradeWeb - ATS
Tullett Prebon – IDB

Clearing/Settlement

DTCC

Payments

Fedwire
CHIPS
SWIFT

Market Data

Bloomberg
Factset
Fidessa
Interactive Data
OTC Markets Group
SIX Financial Information
Thomson Reuters

Service Bureaus

BondDesk
Broadridge BPO
Broadridge BPS
Broadridge ICI
Fidessa
Flex Trade
LavaFlow ECN
OTC Markets Group
ReadQ
Shadow Financial
SunGard Phase 3
SunGard Valdi
Talisys
Thomson Reuters BETA Systems

FX

Bloomberg FXGO
Bloomberg Tradebook
CLS
KCG Hotspot
FXAll