# 2009 SECURITIES INDUSTRY BUSINESS CONTINUITY TEST

## October 24, 2009

## SUMMARY OF RESULTS

**Test Lead By**

**Securities Industry and Financial Markets Association**

SIFMA®

Securities Industry and Financial Markets Association

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# Summary of Results

## Executive Summary

The 2009 test was the fourth large-scale annual industry-wide test in this format. The exercise 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 2009 test followed the format of prior industry-wide tests where firms 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 and Treasury Auctions. 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 **200 securities firms** and **45 market entities**. During the test approximately **1300 communications connections** were establish between securities firms and banks and the exchanges, markets and utilities. **Test transactions on these connections were successful 97% of the time**. These results were comparable to 2008 where 97.5% of the transactions were successful. These results underscore the ability of the securities industry to operate through adverse conditions

In parallel with the SIFMA test on October 24, the Futures Industry Association led a backup site test of the futures exchanges and clients. The Futures test included 12 futures exchanges and The Options Clearing Corporation. 96% of the participating firms tested successfully in that test.

[1] SIFMA brings together the shared interests of more than 600 securities firms, banks and asset managers locally and globally through offices in New York, Washington, D.C., and London. Its associated firm, the Asia Securities Industry and Financial Markets Association, is based in Hong Kong. SIFMA's mission is to champion policies and practices that benefit investors and issuers, expand and perfect global capital markets, and foster the development of new products and services. Fundamental to achieving this mission is earning, inspiring and upholding the public's trust in the industry and the markets. More information about SIFMA is available at http://www.sifma.org.

## Test Objectives

1. To assess the ability of securities market participants to operate through a significant emergency from their 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 2009 test included components for Equities, Options, Fixed Income, Clearing and Settlement Utilities, Market Data, Payment Systems and Treasury Auctions.

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.

For 2009, a new test component was added for Treasury Auctions.

The simulation of a delayed market opening that was included in the 2008 test was not repeated in 2009. Results for the 2008 simulation were so strong that it was decided that there was minimal value to including it in the 2009 test.

The Financial Information Forum provided coordination 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 backup sites (data center and work area recovery), simultaneously submitted scripted test transactions to markets and settlement entities and receive simulated confirmations. The test was not intended to be a simulation of any specific real event.

The NYSE/Arca test component, in addition to order entry, also included an order routing test.

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.

## Test Participants Summary

| | |
|---|---|
| Exchanges, Markets and Industry Utilities | 25 |
| Securities Firms | 200 |
| Service Bureaus | 10 |
| Market Data Vendors | 8 |
| Payment Entities | 2 |

The number of firms participating in 2009 was slightly lower than in the 2008 test when 230 firms participated. Participation of exchanges, markets and SIPS was similar to 2008.

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 1300 test interactions of which 97% were successful.

The success rate for 2009 was slightly lower than 2008 when 97.5% were successful.

The firms participating in the test account for greater than 85 percent of the normal market volume.

Notes:

A test interaction is considered to be a connection between a firm and an exchange, market, service bureau or utility.

Test interactions were considered unsuccessful if the designated test transactions could not be successfully completed during the test window of six hours. Interactions that experienced issues that were corrected during the test window were counted as successful tests.

## Successful Test Interaction by Market

| | |
|---|---|
| Equities | 93.0% |
| Options | 98.2% |
| Fixed Income | 97.8% |
| Clearing/Settlement | 100% |
| Market Data | 100% |
| Payment Systems | 95.0% |
| Service Bureaus | 94.0% |

## Types of Issues Resulting in Unsuccessful Test Interactions

- General connectivity issues (incorrect IP address settings, firewall issues, applications setup issues)
- Application issues on firms' side
- Issues with connections through third party order routing entities

## 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.
- Participants agree that it is valuable to continue to modify the scope of the test each year.
- The backup strategies installed by securities firms and market entities performed extremely well.
- Industry participants are very adept at resolving technical issues related to market performance when they occur.
- The need for firms to regularly and frequently test their backup connections to market entities is critical.
- 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.

## Futures Industry Test

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

## Inquires About the SIFMA Test

Inquires about the test may be directed to:

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# Appendix A

## PARTICIPATING MARKET ENTITIES

**Equities**
Chicago Stock Exchange
ISE DirectEdge
NASDAQ
National Stock Exchange
NYSE/Euronext

**Options**
Boston Options Exchange
Chicago Board Options Exchange
International Securities Exchange
NASDAQ OMX PHLX
NYSE/Arca
Options Clearing Corporation

**Fixed Income**
***Alternative Trading Systems***
BondDesk
DealerWeb
MarketAxess
The Municenter
TradeWeb

***Inter-Dealer Brokers***
eSpeed
ICAP
***Clearing Banks***
Bank of New York
JP Morgan Chase

**Clearing and Settlement**
DTCC
FICC
Omgeo

**Payment Systems**
CHIPS
SWIFT

**Treasury Auctions**

**SIAC CTS, CQS, OPRA**

**Service Bureaus**
Broadridge BPS
Broadridge ICI
Broadridge SIS
CRI
Fidessa
Lava Trading
ReadQ
SunGard Brass
SunGard Phase 3
Thomson Transaction Services

**Market Data**
Bloomberg
eSignal
Factset
Fidessa
FT Interactive Data
Pinksheets OTC
Telekurs
Thomson Reuters