



Quantum Dawn IV Fact Sheet

PURPOSE:

A large-scale cyberattack that broadly impacts the financial services sector and in turn the U.S. economy is a low probability, high impact event that the industry prepares for along with other possible crisis events. The goal of Quantum Dawn IV is to improve the readiness of individual financial institutions to coordinate as a sector and with key government partners to respond to and recover from a systemic cyber event.

Specifically, Quantum Dawn IV enabled individual financial institutions, the sector and key partners such as the U.S. Treasury, federal law enforcement, federal regulators, and the Financial Services Information Sharing and Analysis Center (FS-ISAC), to practice coordination and exercise incident response protocols, both internally and externally, to maintain smooth functioning of the financial markets when faced with a series of sector-wide cyberattacks.

Quantum Dawn IV built upon previous exercises by adding a cyber range component provided by SimSpace in addition to the DECIDE FS software developed by Norwich University Applied Research Institutes through a grant from the Department of Homeland Security.

SPECIFIC QUANTUM DAWN IV OBJECTIVES:

1. Exercise the interaction between firms, the financial sector and the public sector (e.g., government agencies, regulators, intelligence community) with a focus on coordination, information sharing or requesting assistance
2. Simulate a cyberattack at multiple financial institutions effecting the timeliness and/or accuracy of equity and fixed income futures transactions impacting the associated cash markets and the payments processes for foreign exchange
3. Allow participants to exercise their internal incident response protocols to remediate or resolve the situation and maintain internal firm stability
4. Exercise response protocols at FS-ISAC, SIFMA and U.S. Treasury so that firms can review what coordination will occur at a sector-level and at the U.S Government during a systemic cyber event

INDUSTRY CYBERSECURITY PRIORITIES:

Quantum Dawn IV is just one component of how SIFMA is working with its members on a variety of cybersecurity initiatives including:

- Promoting enhanced regulatory harmonization to encourage a more effective allocation of cyber resources;
- Promoting a robust industry-government partnership grounded in information sharing;
- Exercises and industry tests designed to improve protocols for incident preparedness, response and recovery;
- Leveraging lessons learned to refine industry best practices, including for managing insider threats, third party risk; penetration testing and data security, including secure data storage and recovery; and
- Specific protocols for coordination regarding the opening and closing of financial markets in the event of a major crisis.

EXERCISE BACKGROUND:

Quantum Dawn I & II:

In November of 2011 and July 2013 the financial services sector, in conjunction with service provider Norwich University Applied Research Institutes (NUARI), organized two market-wide cybersecurity exercises called Quantum Dawn I and Quantum Dawn II, respectively. Those events provided a forum for participants to exercise risk practices across equities trading and clearing processes and market closure protocols in response to a systemic attack on market infrastructure.

Quantum Dawn III:

Whereas Quantum Dawn II focused on exercising procedures for closing the equity markets, Quantum Dawn III, held September 2015, focused on exercising procedures to maintain market operations in the event of a systemic attack. Participants first experienced firm specific attacks, followed by rolling attacks upon equity exchanges and alternative trading systems that disrupted equity trading without forcing a close. The concluding attack centered on a failure of the overnight settlement process at a clearinghouse.

KEY FACTS:

Quantum Dawn IV took place November 7-8, 2017 and was coordinated by SIFMA, utilizing service providers NUARI (Norwich University Applied Research Institutes) and the SimSpace Corporation for the planning and execution of the exercise.

- The simulation utilized both NUARI's latest version of the DECIDE FS and SimSpace's Cyber Range software.
- Over 900 participants from over 50 financial institutions and government agencies participated in the drill.
- Participating entities included securities firms, banks, asset managers, FS-ISAC, and financial market infrastructure providers of all sizes. There was also robust engagement by regulators and government entities, including U.S. Treasury and the Federal Bureau of Investigation.
- This was a "closed loop" simulation – no real-world systems were utilized or impacted.
- This was a distributed exercise, meaning that organizations participated from their own locations to further enhance the realism of the simulation and make use of real-world communication systems like email and phone.
- Quantum Dawn IV was not a pass/fail test but rather an opportunity for participants to interact across functions internally and with partners externally and exercise their crisis response and communications plans.

RESULTS AND NEXT STEPS:

A clear takeaway from the exercise is the importance of a robust partnership between the industry and government grounded in information sharing. No single actor – not the federal government, nor any individual firm – has the resources to protect markets from cyber threats on their own. SIFMA will work with Deloitte Risk and Financial Advisory Cyber Risk Services, who served as an independent observer of the exercise, to analyze participant feedback and produce a public after-action report with key observations and recommendations for enhancing the financial services sector's ability to respond to a systemic cyber event.