

Cboe Technology Integration Customer Conference Call



September 5, 2019

❖ **Chris Isaacson, Executive Vice President, Chief Operating Officer**

- Welcome and update on timeline for C1 migration

❖ **Eric Crampton, Senior Vice President, Chief Technology Officer**

- C1 weekend testing and PAR workstations

❖ **Questions and Answers**

- Chris Isaacson
- Eric Crampton
- Anthony Montesano, Vice President, Market Structure and Functionality
- Jeromy Hiserote, Director, U.S. Options Trade Desk
- Andy Lowenthal, Global Strategy

Cautionary Statements Regarding Forward-Looking Information



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C1 technology migration planned for October 7*

- ❖ C1 migration is the culmination of three years of planning and prep work
 - CFE and C2 migrations
 - SPX to Hybrid conversion
 - New index platform
 - Introduction of new floor terminals
 - Rollout of nine feature packs across BZX, C2 and EDGX Options Exchanges
- ❖ Working with all our customers, our goal is to continue defining the markets of tomorrow through cutting-edge technology that meets your evolving needs
- ❖ Critical work to be completed over these final days, we will be working alongside you to ensure you're ready to go on day one

C1 certification and production environments available for testing

- ❖ All C1 Trading Permit Holders (TPHs), vendors and ISVs must certify to the new platform immediately
 - Contact the Cboe Trade Desk at 913-815-7001 or email tradedesk@cboe.com
- ❖ Logical order entry sessions created in new production environment
 - Based on logins in use on legacy C1 platform as of April 2
 - Port settings from legacy Cboe platform not carried over
 - Order additional logical ports or request unnecessary ports be deleted in new production environment
- ❖ Daily production trading with test symbols ongoing
 - To participate in daily and weekend testing, you must be certified to the new C1 production environment
 - **Daily certification testing:** Monday - Friday from 1:00 am - 4:15 pm CT
 - **Daily production testing:** Monday - Friday from 1:00 am - 3:15 pm CT

Six weekend tests scheduled leading up to final migration

- ❖ Thank you to the customers that participated in the first three weekend tests
- ❖ **Upcoming weekend test dates:**
 - **September 14**
 - **September 28** (DR)
 - **October 5** (the final Saturday before migration)
- ❖ All TPHs with a floor presence are required to participate in **two** weekend tests, including October 5
- ❖ TPHs must certify in the C1 certification environment before participating
- ❖ DR logical sessions available on a continual 24x7 basis
- ❖ Each remaining weekend test will include a simulated VIX settlement
- ❖ OPRA and OCC to participate in each weekend test
 - Notify the OCC one week in advance of the weekend test if you want to reconcile trades from a weekend test with the OCC

PAR 3.0 planned to launch with the C1 migration*

- ❖ PAR 3.0 will integrate Bats technology and incorporate exchange platform changes to enhance order handling and market data delivery to PAR
- ❖ Product demonstration and opportunities to interact with PAR 3.0 are available at the Reporting Desk at Post 10 on the trading floor
- ❖ New tools will replace those that are currently used to view and manage:
 - Order history
 - Clearing records
 - Printed tickets
- ❖ New tools will also replace PAR functionality
- ❖ Certification of the new floor support technology will be required
- ❖ MMTN messaging will be part of certification

Logical order entry sessions created based on logins in legacy platform and single DROP session created for each TPH

- ❖ Logical port fees for FIX, BOE and Drop ports will be assessed the full month rates for October 2019 for logical ports existing on the new trading platform
 - C1 logical port fees for ports added on or after October 8 will be pro-rated
- ❖ Legacy CMI and FIX logins in use prior to October 7 on the legacy C1 system will not be billed during the October 2019 billing cycle
- ❖ Fees will be assessed for all Order Entry and Drop logical ports automatically created in April for users on the new trading platform unless removed upon request prior to October 7
- ❖ Fees for other ports (Purge, Spin Serve and GRP) will be pro-rated beginning October 7
- ❖ TPHs will no longer be charged for bandwidth packet fees and assessed fees for additional logical ports will be based on average daily orders by month
- ❖ TPHs may subscribe to an “Implied Logical Port Fee” report for new C1 trading platform by contacting the Cboe Trade Desk prior to migration
- ❖ TPHs will be required to use the Cboe Customer Web Portal for accessing invoices

Unicast order entry and multicast market data obtained over same physical connection through latency equalized infrastructure

- ❖ Market participants may access new C1 platform on October 7 using legacy C1 platform physical ports or new latency equalized C1 physical ports
- ❖ New C1 latency equalized physical port established on October 7 or later to be pro-rated
- ❖ **January 31, 2020:** terminate legacy C1 access via legacy physical ports
- ❖ All legacy and new C1 physical ports will be included on October invoice
- ❖ **November 1, 2019:** fees for 1GB and 10GB physical ports modified
- ❖ Equinix offering waiver for initial cross connect install fee and up to six months of Equinix monthly recurring charges
 - Cboe will not bill for connections prior to October
 - Contact your Equinix representative directly to obtain paperwork for waivers
- ❖ Alternate Equinix Contact: Greg Nelson, Account Director
 - Phone: 312-994-3906
 - Email: gnelson@equinix.com

Market-Makers and TPHs should work with Cboe Trade Desk to establish authorizations to appropriate tools on Cboe website

- ❖ C1 Market-Makers (MMs) work with the Trade Desk to ensure:
 - Who will be maintaining the firm's MM list
 - Credentials are established to access the MM tool
- ❖ Firm's Web Portal Account Admin can designate users using the "User Management" tools in the Customer Web Portal
- ❖ Cboe will offer a Market-Maker Coverage Report that details a firm's quoting activity in registered symbols
 - Subscribe by emailing tradedesk@cboe.com
- ❖ You are required to notify Membership Services of any changes to the list of approved traders submitted with the firm's application
- ❖ TPHs must complete class appointments using the Customer Web Portal prior to October 7

Cboe Market Structure and Functionality and Trading Floor Operations teams hosting three town hall meetings in Chicago

- ❖ Town Halls to provide additional details on C1 migration
- ❖ Floor-based broker groups, and MM firms and their compliance officers, strongly encouraged to attend
- ❖ First Town Hall held on **Wednesday, August 28**
 - Discussed management of floor permits and parking spots, MM class appointments, addendum to MM Give-Up form for business done by brokers on behalf of MM firms, and MMTNs
- ❖ **Upcoming Chicago Town Halls:**
 - **Tuesday, September 10 -- 3:30 pm CT, 4th floor auditorium**
 - **Wednesday, September 11 -- 3:30 pm CT, 4th floor auditorium**
- ❖ Plan to discuss Clearing Editor GUI, Order Lookup GUI and new Billing and Trade files, as well as answer additional questions related to the migration
- ❖ If you are in Chicago, plan on attending both sessions

Team is hard at work and remains focused on executing a seamless technical and operational integration

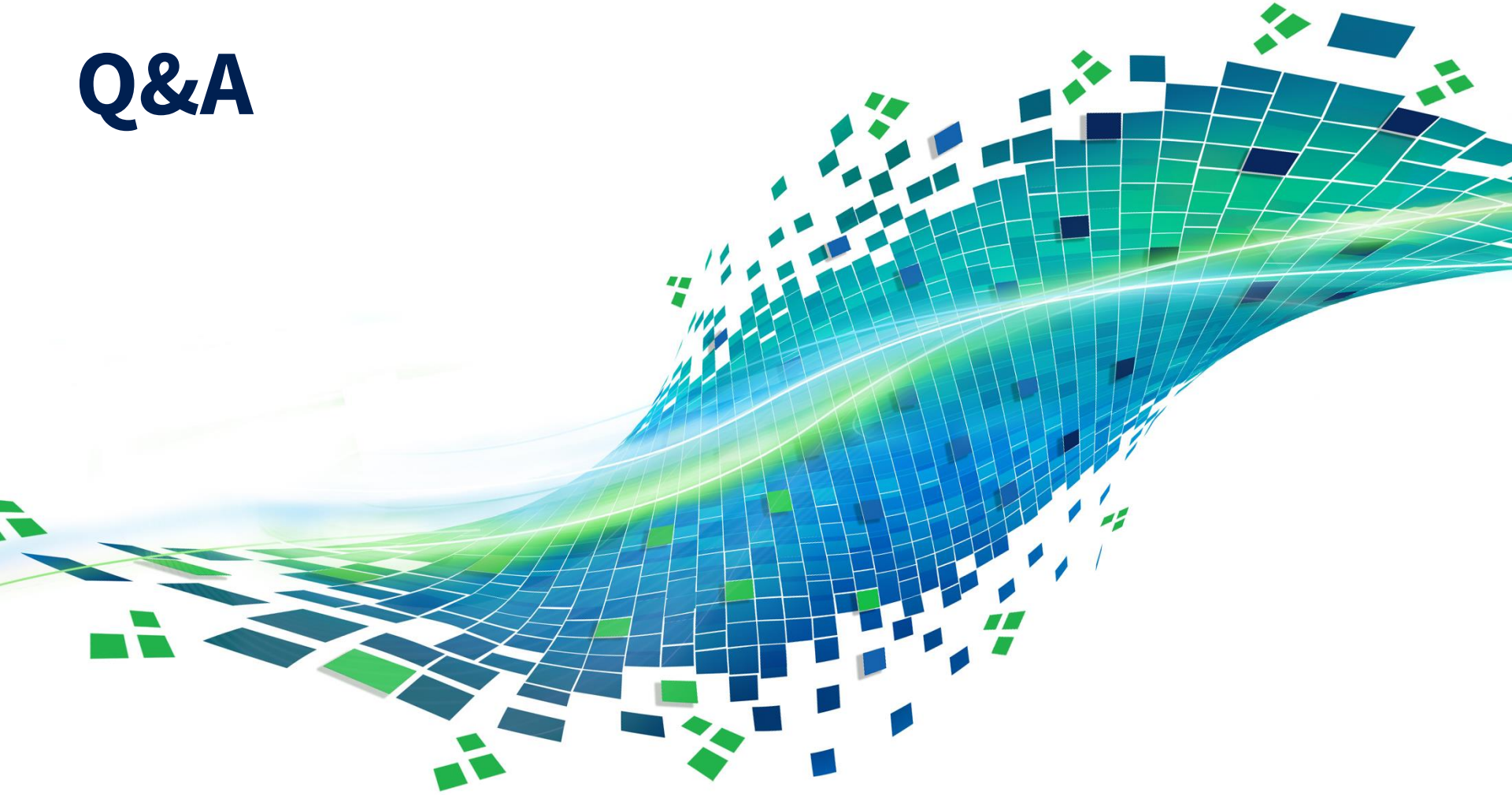
- ❖ Connect and certify to the new C1 production environment as soon as possible to participate in ongoing daily and weekend testing
 - **Daily certification testing:** Monday - Friday from 1:00 am - 4:15 pm CT
 - **Daily production testing:** Monday - Friday from 1:00 am - 3:15 pm CT
- ❖ Upcoming weekend test dates:
 - **September 14**
 - **September 28** (DR)
 - **October 5** (the final Saturday before migration)
- ❖ Work on PAR 3.0 is underway, demos available at Post 10
- ❖ Logical order entry sessions created in new production environment, customers should be reviewing existing logical ports on new platform
- ❖ Logical port fees for FIX, BOE and Drop ports will be assessed the full month rates for October 2019 for logical ports existing on the new trading platform

Summary (cont.)

- ❖ Logical port fees for ports added on or after October 8 will be pro-rated
- ❖ Fees assessed for all Order Entry and Drop logical ports automatically created in April for users on the new trading platform unless removed upon request prior to October 7
- ❖ TPHs no longer charged bandwidth packet fees
- ❖ Firms may be assessed fees for additional logical ports based upon the average daily orders entered by the firm over a given calendar month
- ❖ Contact the Cboe Trade Desk to subscribe to the “Implied Logical Port Fee” report
- ❖ TPHs that continue to use legacy C1 platform physical connections will be billed current C1 physical port fees through October 2019
 - Any new C1 latency equalized physical port established on October 7 or later will be pro-rated for the month
- ❖ New platform will allow access to both unicast order entry and multicast market data with a single physical connection through our latency equalized infrastructure

- ❖ **January 31, 2020:** Sunset legacy C1 platform physical connection access to the new C1 platform
 - Firms will be required to connect to the latency equalized network before January 31, 2020 through a new physical connection
- ❖ C1 MMs work with the Cboe Trade Desk to ensure who will maintain the firm's MM list and that they have established their credentials to access the MM tool
- ❖ TPHs must complete class appointments using the Customer Web Portal prior to October 7
- ❖ **September 10 and 11:** Town Halls in Chicago
- ❖ **October 7:** Planned migration for C1*, there will be no parallel production period
- ❖ For all information, visit: batsintegration.cboe.com/c1

Q&A





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