



# US Equities/Options Web Port Controls Specification

Version 1.4.0

November 16, 2018

## Contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
1.1	Overview.....	3
1.2	Customer Web Portal .....	3
<b>2</b>	<b>Port Controls .....</b>	<b>4</b>
2.1	Selecting the Client .....	6
2.1.1	Direct.....	6
2.1.2	Service Bureau.....	6
2.1.3	Sponsored Access.....	6
2.2	Order Restriction.....	7
2.2.1	Intermarket Sweep Orders.....	7
2.2.2	Short Sales (Equities Only).....	7
2.2.3	Pre-Market Trading ( <i>Equities Only</i> ) .....	7
2.2.4	Post-Market Trading ( <i>Equities Only</i> ) .....	7
2.2.5	Block New Orders.....	7
2.3	Maximum Per-Order Limits.....	7
2.3.1	Max Quantity Per Order.....	7
2.3.2	Max Notional Value Per Order.....	7
2.4	Duplicative Order Protection.....	8
2.5	Single Order ADV Check (Equities Only, Options Certification support to be added Q1, 2019) 8	
2.6	Fat Finger Protection .....	8
2.6.1	Percentage-Based Limits .....	9
2.6.2	Dollar-Based Limits .....	9
2.6.3	Equity Price Ranges and Limits.....	9
2.6.4	Options Price Ranges and Limits.....	9
2.7	Aggregated Credit Limit Risk Management.....	10
2.7.1	Aggregate Credit Limit Warning Notifications .....	12
2.8	Easy-to-Borrow List Management ( <i>Equities Only</i> ).....	12
2.9	Restricted Symbol List Management ( <i>Equities Only</i> ) .....	12
2.10	Order Cut-offs (“Kill Switch”).....	12
2.10.1	Cancel on Disconnect.....	12
2.10.2	Market Maker Reject if Cancel on Disconnect Disabled ( <i>Options Only</i> ).....	12
2.10.3	Cancel All Open Orders .....	13
2.10.4	Cancel All Open Orders Excluding GTCs.....	13
2.10.5	Cancel All Open Orders and Block New Orders.....	13
2.11	Automation.....	13
<b>3</b>	<b>Contact Details .....</b>	<b>14</b>

## **1 Introduction**

### **1.1 Overview**

The Customer Web Portal allows customers to implement and modify a number of port-based risk management settings. The Customer Web Portal Logical Port Request tool can be used to submit requests to the Trade Desk to establish or change DROP Port Monitoring settings, while the Customer Web Portal Port Control tool allows customers to make on-the-fly changes to a number of other port-level risk attributes without the assistance of the CboeTrade Desk.

### **1.2 Customer Web Portal**

All customers have the ability to access and use the Customer Web Portal Logical Port Request tool or Port Controls tool. This includes customers that connect directly, customers that reach Cboe through a Service Bureau, and firms that act as Sponsors.

Customers who desire access to the Customer Web Portal must first obtain an account. This can be accomplished by contacting your Customer Web Portal Administrator or by sending an email to the CboeTrade Desk. After successfully logging in to your Web Portal account, users with the appropriate access will be able to click on the Logical Port Request link or Port Controls link in the menus on the left hand side of their account page.

## 2 Port Controls

Customers may directly modify various port-level risk attributes via the Port Controls tool link within the Customer Web Portal.

Bats Exchange Tools	
<b>Auction Book Viewer</b>	
<b>Clearing Editor</b>	Options: BZX EDGX
<b>Clearing Edit Deltas</b>	Options: BZX EDGX
<b>QCC Equity Trades</b>	Options: EDGX
<b>Risk Management</b>	Options: BZX EDGX
<b>Mutual Adjust/Bust</b>	Options: BZX EDGX
<b>CEE/Obvious Error Form</b>	Equities: BZX BYX EDGX EDGA Options: BZX EDGX
<b>Stats and Ranking</b>	Equities: BZX BYX EDGX EDGA Options: BZX EDGX
<b>Current Activity</b>	Equities: BZX BYX EDGX EDGA Options: BZX EDGX
<b>Port Controls</b>	←
	Equities: BZX BYX EDGX EDGA Options: BZX EDGX

From this page, users may select the Firm ID and MPID/EFID (optional) of the ports they would like to edit settings for and proceed with configuration. The image that follows contains references within parenthesis to the section number of this specification that will describe each feature available within this tool.

US Equities/Options  
Web Portal Port Controls (Version 1.4.0)

Select a Client (2.1)

Select a client

Restrictions (2.2)

Allow ISO  
 Allow Short Sales  
 Allow Pre-Market  
 Allow Post-Market  
 Block New Orders

Maximum Per Order Limits (2.3)

Share Size:   
 Notional Value:

Duplicative Order Protection (2.4)

Time Threshold (seconds):   
 Order Count Threshold:   
 Action When Encountered:

Single Order ADV Check (2.5)

Percent of ADV:   
 Enable when ADV is greater than or equal to (shares):

Fat Finger Protection (2.6)

Percentage Collar for Limit Price < \$1:   
 Percentage Collar for Limit Price >= \$1 and < \$10:   
 Percentage Collar for Limit Price >= \$10 and < \$50:   
 Percentage Collar for Limit Price >= \$50 and < \$100:   
 Percentage Collar for Limit Price >= \$100 and < \$500:   
 Percentage Collar for Limit Price >= \$500:   
 Dollar-Based Collar for Limit Price < \$1:   
 Dollar-Based Collar for Limit Price >= \$1 and < \$10:   
 Dollar-Based Collar for Limit Price >= \$10 and < \$50:   
 Dollar-Based Collar for Limit Price >= \$50 and < \$100:   
 Dollar-Based Collar for Limit Price >= \$100 and < \$500:   
 Reject Market orders if NBBO is not available.:

Daily Limits (2.7)

Enable Daily Limits  
 NOTE: If enabled during active trading session, limits will not be effective until next trading session.

Gross Limits

Enable Gross Limits

	Notional Cutoff Value	Warn %
Gross Daily Limit:	<input type="text" value="no limit"/>	<input type="text"/>
Gross Market Order Limit:	<input type="text" value="no limit"/>	<input type="text"/>

Net Limits

Enable Net Limits

	Notional Cutoff Value	Warn %
Net Daily Limit:	<input type="text" value="no limit"/>	<input type="text"/>
Net Market Order Limit:	<input type="text" value="no limit"/>	<input type="text"/>

Send Email Warnings to:

Easy-to-Borrow Symbol List (2.8)

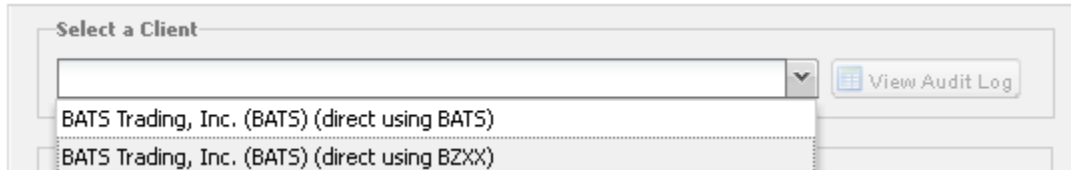
Restricted Symbol List (2.9)

Cancel Orders (2.10)

## 2.1 Selecting the Client

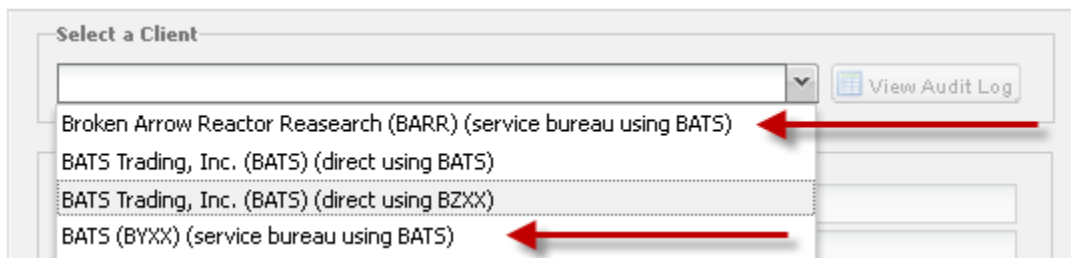
### 2.1.1 Direct

Ports that are owned by the customer and have customer-owned MPIDs allowed on these ports are considered direct connections to the Exchange. A customer can have multiple MPIDs enabled on a single port. The risk settings for each of these MPIDs must be updated separately within the Web Portal Port Controls even if these MPIDs use the same port. Note that in the example, member Bats Trading, Inc. has two MPIDs: BATS and BZXX.



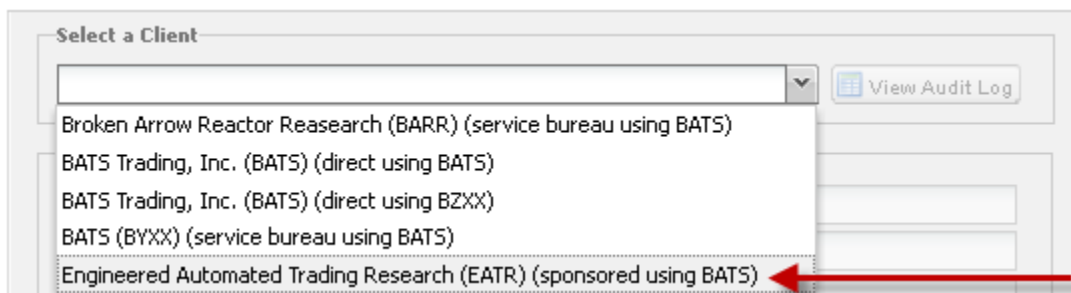
### 2.1.2 Service Bureau

In a Service Bureau relationship a customer allows its MPID or EFID to be used on the ports of a technology provider, or Service Bureau. One MPID/EFID may be allowed on several different Service Bureaus. In these cases, a separate client relationship is created for each MPID/Service Bureau combination. Note the example where the “BATS” MPID is allowed on two separate service bureaus.



### 2.1.3 Sponsored Access

A Sponsored Access relationship consists of a Sponsoring customer and a Sponsored Participant. The Sponsoring customer is the MPID owner and is the only entity in this relationship with access to the Web Portal Port Controls. The Sponsored Participant owns the ports, but has no ability to make changes to its port-level risk settings using the Web Portal Port Controls.



## **2.2 Order Restriction**

### **2.2.1 Intermarket Sweep Orders**

Customers have the ability to allow, or restrict their ability to place Intermarket Sweep Orders (ISO) which **do not** check the NBBO for a trade through before executing on the local book. The default for this setting is to Allow ISO and can be changed by un-checking the corresponding box and saving the change.

### **2.2.2 Short Sales (Equities Only)**

Customers have the ability to allow or restrict their ability to place Short Sale orders. The default for this setting is to Allow Short Sale activity and can be changed by un-checking the corresponding box and saving the change.

### **2.2.3 Pre-Market Trading (Equities Only)**

Customers have the ability to allow or restrict their access to the Cboe pre-market trading session of 8:00 – 9:30 am ET. The default for this setting is to Allow Pre-Market Trading and can be changed by un-checking the corresponding box and saving the change.

### **2.2.4 Post-Market Trading (Equities Only)**

Customers have the ability to allow or restrict their access to the Cboe post-market trading session of 16:00 – 17:30 am ET. The default for this setting is to Allow Post-Market Trading and can be changed by un-checking the corresponding box and saving the change.

### **2.2.5 Block New Orders**

Customers have the ability to block all new inbound order flow across all sessions by checking the corresponding box and saving the change. Customers will still be able to send cancel requests in for resting orders.

## **2.3 Maximum Per-Order Limits**

### **2.3.1 Max Quantity Per Order**

This value is the max shares (Equities) or contracts (Options) per order and is implemented consistently across all of a customer's current ports. When the specified limit is exceeded, the order is rejected. The value can be changed in real-time by entering the desired limit and saving the change. The default value for the Max Quantity Per Order is 25,000 for both Equities and Options.

### **2.3.2 Max Notional Value Per Order**

This value is the maximum notional value per order and is implemented consistently across all of a customer's ports. Note that notional value is calculated by multiplying the number of shares (contracts) by the order's limit price. When the specified limit is exceeded on an order, the order is rejected. The

value can be changed in real-time by entering the desired limit and saving the change. The default value for the Max Notional Value of an inbound order is unlimited.

## 2.4 Duplicative Order Protection

Duplicative Order Protection provides customers with the ability to prevent duplicative orders where orders clearing the same MPID that have the same Side (Buy or not), Price, Quantity and Symbol that have been entered during a configurable amount of time. Customers set the Time Threshold (seconds), Order Count Threshold, and the Action When Encountered (Reject or Disable Port). If Disable Port is selected, ALL new orders received on the port for the MPID will be rejected until a request is submitted to the Trade Desk to reset the risk control on the port for the MPID. Cancels will continue to be processed for orders accepted prior to tripping the Duplicative Order Protection check.

Example: If a customer sets the number of orders to ten (10) and the number of seconds to three (3), the system will take the defined action (reject or disable the port) when 10 or more duplicate orders have been received during a 3-second window.

Duplicative Order Protection checks are only performed at the individual session level.

## 2.5 Single Order ADV Check (Equities Only, Options Certification support to be added Q1, 2019)

The Single Order ADV Check causes orders to be rejected if they exceed a specified percent of the 20 day ADV for the stock. Integer values between 1 and 100 are permitted. If no value is entered, the check is not enabled.

Customers can additionally specify whether the Single Order ADV Check should only be applied in cases when the stock's 20 day ADV is greater than or equal to a specified number of shares. If no value is supplied, the check will be applied in all cases regardless of the stock's 20 day ADV.

## 2.6 Fat Finger Protection

Fat Finger Protection allows customers to have orders rejected if the limit price on the order is priced too aggressively through the NBBO. Customers may configure Fat Finger limits using both percentage-based limits and dollar-based limits. Different Fat Finger limits may be specified across distinct limit price ranges to allow customers flexibility in setting up Fat Finger Protection. In a scenario where both a percentage-based limit and a dollar-based limit are specified, the least restrictive value will always be applied. Does not apply to RHO orders entered prior to the open until they move to continuous trading. The Fat Finger settings will be applied to both single leg and complex orders.

When the NBBO is unavailable all orders with a limit price will use Last Sale as the reference price instead of the opposite side of the NBBO if the latter is not available. If Last Sale is also not available, the reference price will be the previous day's Official Closing Price.



US Equities/Options  
Web Portal Port Controls (Version 1.4.0)

For unpriced orders (excluding MOO and MOC), customers can specify to reject the order if the opposite side of the NBBO is not available upon order entry. This would apply to market orders, unpriced peg orders, and triggered stop orders as well.

### 2.6.1 Percentage-Based Limits

Percentage-based limit price thresholds will reject any order whose limit price is more aggressive than a set percentage away from the opposite side of the NBBO at the time of entry. The percentage may vary across the different price ranges.

### 2.6.2 Dollar-Based Limits

Dollar-based limit price thresholds will reject any order whose limit price is more than a specified price range away from the NBBO at the time of entry. The dollar value may vary across the different price ranges.

### 2.6.3 Equity Price Ranges and Limits

The following price ranges have been defined to allow Equity customers' flexibility in setting Fat Finger limits. Fat Finger protections are disabled by default in Equities and any Limits set by a customer are subject to the Fat Finger % Max values defined in the table that follows.

Limit Price Range	Fat Finger %	Fat Finger % Max Limit	Fat Finger Dollar-Based Limit
Limit Price < \$1	Disabled	500%	Disabled
≥ \$1 Limit Price but < \$10	Disabled	50%	Disabled
≥ \$10 Limit Price but < \$50	Disabled	20%	Disabled
≥ \$50 Limit Price but < \$100	Disabled	20%	Disabled
≥ \$100 Limit Price but < \$500	Disabled	20%	Disabled
Limit Price ≥ \$500	Disabled	20%	Not Valid

### 2.6.4 Options Price Ranges and Limits

The following price ranges have been defined to allow BZX Options, Cboe Options (C1), C2 Options, and EDGX Options customers flexibility in setting Fat Finger limits. BZX, C1, C2, and EDGX Options will have required, default Fat Finger Protections for both the pre-open and regular sessions. Customers can set more or less restrictive settings than the Exchange defaults defined below via the [Port Controls](#) tool. The following Exchange defaults will be applied if not specified by user:

Pre-Open		
Limit Price Range	Fat Finger % Default	Fat Finger Dollar-Based Limit Default
\$0.00 – \$1.99	No Value	\$1.00
\$2.00 – \$5.00	No Value	\$1.50
\$5.01 – \$10.00	No Value	\$2.00
\$10.01 – \$20.00	No Value	\$3.00
\$20.01 – \$50.00	No Value	\$4.00
\$50.01 – \$100.00	No Value	\$6.00

US Equities/Options  
Web Portal Port Controls (Version 1.4.0)

\$100.01 & Above	8%	Not Valid
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\*Pre-Open Fat Finger checks will not be applied to orders with a Capacity of 'M' or 'N'.

Regular Session		
Limit Price Range	Fat Finger % Default	Fat Finger Dollar-Based Limit Default
\$0.00 – \$1.99	No Value	\$0.50
\$2.00 – \$5.00	No Value	\$0.75
\$5.01 – \$10.00	No Value	\$1.00
\$10.01 – \$20.00	No Value	\$1.50
\$20.01 – \$50.00	No Value	\$2.00
\$50.01 – \$100.00	No Value	\$3.00
\$100.01 & Above	4%	Not Valid

SPX and SPXW are currently considered Exception Classes and have unique Fat Finger default values for the Pre-Open and Regular sessions (**Certification support to be added Q1, 2019**):

Exception Classes: Pre-Open		
Limit Price Range	Fat Finger % Default	Fat Finger Dollar-Based Limit Default
\$0.00 – \$1.99	No Value	\$15.00
\$2.00 – \$5.00	No Value	\$15.00
\$5.01 – \$10.00	No Value	\$15.00
\$10.01 – \$20.00	No Value	\$15.00
\$20.01 – \$50.00	No Value	\$20.00
\$50.01 – \$100.00	No Value	\$20.00
\$100.01 & Above	No Value	\$25.00

Exception Classes: Regular Session		
Limit Price Range	Fat Finger % Default	Fat Finger Dollar-Based Limit Default
\$0.00 – \$1.99	No Value	\$1.00
\$2.00 – \$5.00	No Value	\$1.50
\$5.01 – \$10.00	No Value	\$2.00
\$10.01 – \$20.00	No Value	\$3.00
\$20.01 – \$50.00	No Value	\$4.00
\$50.01 – \$100.00	No Value	\$6.00
\$100.01 & Above	16%	Not Valid

## 2.7 Aggregated Credit Limit Risk Management

The Web Portal Port Controls tool will allow for risk management based on aggregated credit limits. On a given port the following four values will be calculated and tracked:

- **Cumulative Notional Booked Bid Value (CBB)** – The sum of limit price \* size for all buy limit orders on the book.

US Equities/Options  
Web Portal Port Controls (Version 1.4.0)

- **Cumulative Notional Booked Offer Value (CBO)** – The sum of limit price \* size for all sell limit orders on the book.
- **Cumulative Notional Executed Bid Value (CEB)** – The sum of size \* trade price on all executed buy orders.
- **Cumulative Notional Executed Offer Value (CEO)** – The sum of size \* trade price on all executed sell orders.

A customer has the ability to configure both a Limit Order Notional Cutoff and a Market Order Notional Cutoff:

- **Limit Order Notional Cutoff** – When the risk measure exceeds this value, all orders including limit orders are rejected.
- **Market Order Notional Cutoff** – When the risk measure exceeds this value, market orders are rejected. The dollar value of Market Order Notional Cutoff must be between zero and 100% of the Limit Order Notional Cutoff. If Limit Order Notional Cutoff is defined and Market Order Notional Cutoff is 0 or undefined, all market orders will be rejected.

Defined risk measures will be applied at the port level across all ports for the selected client using a **Notional Cutoff Aggregation Method**. This method can be defined on either gross exposure **and/or** net exposure.

Gross exposure = CBB + CBO + CEB + CEO

Net exposure = ABSOLUTE VALUE of [(CEO + CBO) – (CEB+CBB)]

Please be advised that the impact of unexecuted market orders on overall exposure is not considered as the order does not have a price at time of order entry.

Example:

Assume that

- \$5M of limit buy orders have been executed
- \$2M of limit buy orders are in the market
- \$1M of market buy orders have been executed
- Several market buy orders are in the market
- \$3M of limit sell orders have been executed
- \$1M of limit sell orders are in the market
- \$2M of market sell orders have been executed
- A number of market sell orders are in the market.

In this scenario:

Gross exposure = \$2M + \$1M + (\$5M + \$1M) + (\$3M + \$2M)

= \$14M

Net exposure = ABSOLUTE VALUE of  $[((\$3M + \$2M) + \$1M) - ((\$5M + \$1M) + \$2M)]$

= \$2M

### **2.7.1 Aggregate Credit Limit Warning Notifications**

Customers are able to enter a warning percentage that when exceeded will email notifications to a list of email addresses.

## **2.8 Easy-to-Borrow List Management (*Equities Only*)**

The Easy-to-Borrow List allows for order management of short sale orders at a per security level. When no list is present and Short Sales are allowed for the customer, all securities are eligible for short sales. If a list is present and the security is not in the list, the order is rejected. Appropriately formatted symbol lists are text files with one symbol on each line and are uploaded using the Upload button under the Easy-to-Borrow Symbol List heading. The customer is also able to view the current list that is in place or clear the list entirely through this component.

## **2.9 Restricted Symbol List Management (*Equities Only*)**

Customers have the capability to allow or restrict their ability to enter a security which is restricted due to insider holding status or any other SEC mandated regulations defining its restricted status. Symbol lists are submitted via text file with one symbol per line and uploaded within the Web Portal Port Controls tool. A customer is also able to view the current list that is in place or clear the list entirely through this component.

## **2.10 Order Cut-offs (“Kill Switch”)**

The following section demonstrates the types of cut-offs which can be performed using the Web Portal Port Controls. Note, a customer can block new order flow without pulling existing orders from the market by selecting the “Block New Orders” checkbox in the **Order Restriction** section of the page.

### **2.10.1 Cancel on Disconnect**

Customers have the ability to configure their ports optionally to automatically cancel all open orders if no messages have been received from the customer for two heartbeat intervals. This is done to prevent orders from being stuck in an unknown state in the event of telecommunications failure. Options customers will have the ability configure Cancel on Disconnect to cancel all open orders or to exclude GTCs.

### **2.10.2 Market Maker Reject if Cancel on Disconnect Disabled (*Options Only*)**

Customers may optionally configure Market Maker Reject if Cancel on Disconnect is disabled. If configured, Market Maker and Away Market Maker capacity orders will be rejected if session (or firm)

level Cancel on Disconnect is not enabled. Non-Market Maker capacity orders will be unaffected with this configuration.

### **2.10.3 Cancel All Open Orders**

Customers have the ability to cancel all of their existing orders in real-time.

### **2.10.4 Cancel All Open Orders Excluding GTCs**

Options customers have the ability to cancel all of their existing orders, excluding GTCs, in real-time.

### **2.10.5 Cancel All Open Orders and Block New Orders**

Customers also have the ability to simultaneously prevent new order flow and cancel all existing orders in real-time.

## **2.11 Automation**

Automation of the Web Portal Port Controls is available through Secure Web API. Information on the implementation of the Secure Web API can be found [here](#).

### **3 Contact Details**

If you have any questions or would like to begin using the Web Portal Port Controls, please contact your account manager or any of the teams below:

**Sales**

[sales@cboe.com](mailto:sales@cboe.com)

Phone: 212.378.8560

**Cboe Trade Desk**

[tradedesk@cboe.com](mailto:tradedesk@cboe.com)

Phone: 913.815.7001

## Revision History

Document Version	Date	Description
1.0.0	10/12/12	Initial version.
1.0.1	11/13/13	Add "Kill Switch" reference to existing Order Cut-off section.
1.0.2	01/30/14	Defined maximum value of 20% to Fat Finger Protection.
1.0.3	02/06/15	Updated Fat Finger Protection to include dollar-based limits and multiple price range support.
1.0.4	02/20/15	Added Duplicative Order Check section. Available effective 2/20/15.
1.1.0	04/14/15	Added Drop Port Monitoring section.
1.1.1	08/06/15	Added Single Order ADV Check section.
1.2.0	02/19/16	Bats branding/logo changes.
1.2.1	04/25/16	Clarified when Fat Finger Protection is applied
1.2.2	05/05/16	Added Warning Percentage Features for Aggregated Credit Limit Risk Management
1.2.3	05/23/16	Updated Fat Finger Protection behavior to use least restrictive value when both Percentage-Based and Dollar-Based Collars are specified. Also updated maximum allowable Percentage-Based Collar for limit prices less than \$1 to 500%. Available effective 05/27/16 for EDGX Options Only.
1.2.4	05/24/16	Updated Fat Finger Protection behavior to use least restrictive value when both Percentage-Based and Dollar-Based Collars are specified. Also updated maximum allowable Percentage-Based Collar for limit prices less than \$1 to 500%. Available effective 06/10/16 on all Bats Exchanges.
1.2.5	06/07/16	Updated Fat Finger Price Ranges and Limits section to include support for Options Members to opt-in to Exchange defined defaults. Available effective 06/17/16.
1.2.6	12/06/16	Update Cancel on Disconnect and Market Maker Reject if Cancel on Disconnect disabled.

US Equities/Options  
Web Portal Port Controls (Version 1.4.0)

1.3.0	09/01/17	Added Fat Finger defaults and ranges for C2 in support of its transition to the Bats technology trading platform. Removed DROP Port Monitoring Section.
1.3.1	09/15/17	Updated Fat Finger defaults for Pre-Open and Regular Session for C2.
1.3.2	10/17/17	Cboe branding/logo changes.
1.3.3	11/7/17	Updated Fat Finger defaults effective in BZX Options and EDGX Options effective in Feature Pack 2 on 12/8/17.
1.3.4	12/06/17	Updated effective date of Feature Pack 2 to 12/15/17.
1.3.5	02/02/18	Updated Equities Fat Finger Protection to detail how Fat Finger limits are handled when the NBBO is not available (effective 2/16/18).
1.3.6	03/22/18	Added clarification that Pre-Open Fat Finger Checks will not apply to order with a capacity of 'M' or 'N'. Removed C2 Only references from GTC port coltrols.
1.4.0	11/16/2018	Added support for Cboe Options Exchange.