

**CONSOLIDATED AUDIT TRAIL (“CAT”)
CLOCK SYNCHRONIZATION CERTIFICATION
BY
Interactive Brokers LLC
TO
PARTICIPANTS OF THE CAT NMS PLAN**

**CLOCK SYNCHRONIZATION CERTIFICATION
BY**

Interactive Brokers LLC hereby acknowledges that it is a member of the following national securities exchange(s) and/or national securities association(s) (please select all that apply):

<input checked="" type="checkbox"/> BOX Options Exchange LLC	<input checked="" type="checkbox"/> Financial Industry Regulatory Authority, Inc.	<input checked="" type="checkbox"/> NASDAQ MRX, LLC
<input checked="" type="checkbox"/> Cboe BYX Exchange, Inc.	<input checked="" type="checkbox"/> Investors Exchange LLC	<input checked="" type="checkbox"/> NASDAQ PHLX LLC
<input checked="" type="checkbox"/> Cboe BZX Exchange, Inc.	<input checked="" type="checkbox"/> Miami International Securities Exchange LLC	<input checked="" type="checkbox"/> The NASDAQ Stock Market LLC
<input checked="" type="checkbox"/> Cboe C2 Exchange, Inc.	<input checked="" type="checkbox"/> MIAX PEARL, LLC	<input checked="" type="checkbox"/> New York Stock Exchange LLC
<input checked="" type="checkbox"/> Cboe EDGA Exchange, Inc.	<input checked="" type="checkbox"/> MIAX Emerald, LLC	<input checked="" type="checkbox"/> NYSE American LLC
<input checked="" type="checkbox"/> Cboe EDGX Exchange, Inc.	<input checked="" type="checkbox"/> NASDAQ BX, Inc.	<input checked="" type="checkbox"/> NYSE Arca, Inc.
<input checked="" type="checkbox"/> Cboe Exchange, Inc.	<input checked="" type="checkbox"/> NASDAQ GEMX, LLC	<input checked="" type="checkbox"/> NYSE National, Inc.
<input checked="" type="checkbox"/> Chicago Stock Exchange, Inc.	<input checked="" type="checkbox"/> NASDAQ ISE, LLC	<input type="checkbox"/> Other: _____

To achieve compliance with the clock synchronization requirements of the CAT compliance rule, including any interpretive or exemptive guidance applicable to such rule, of each national securities exchange and/or national securities association identified above (the “Clock Synchronization Requirement”), the undersigned, who is duly authorized to execute this certification on behalf of Interactive Brokers LLC, hereby certifies that Interactive Brokers LLC has:

(1) synchronized its Business Clocks, other than such Business Clocks used solely for Manual Order Events or used solely for the time of allocation on Allocation Reports, at a minimum to within a fifty (50) millisecond tolerance of the time maintained by the National Institute of Standards and Technology, and maintains such synchronization; and

(2) synchronized (A) its Business Clocks used solely for Manual Order Events and (B) its Business Clocks used solely for the time of allocation on Allocation Reports at a minimum to within a one second tolerance of the time maintained by the National Institute of Standards and Technology, and maintains such synchronization.

Capitalized terms are defined as set forth in the CAT compliance rule series of each national securities exchange and national securities association.

2/7/2020

EXECUTED as of the date first written above.

By: Thomas Barkanic

Name: Thomas Barkanic

Title: Manager Systems Administration

**CONSOLIDATED AUDIT TRAIL (“CAT”)
CLOCK SYNCHRONIZATION CERTIFICATION
BY
Interactive Brokers Corp
TO
PARTICIPANTS OF THE CAT NMS PLAN**

**CLOCK SYNCHRONIZATION CERTIFICATION
BY**

Interactive Brokers Corp hereby acknowledges that it is a member of the following national securities exchange(s) and/or national securities association(s) (please select all that apply):

<input type="checkbox"/> BOX Options Exchange LLC	<input type="checkbox"/> Financial Industry Regulatory Authority, Inc.	<input type="checkbox"/> NASDAQ MRX, LLC
<input type="checkbox"/> Cboe BYX Exchange, Inc.	<input type="checkbox"/> Investors Exchange LLC	<input type="checkbox"/> NASDAQ PHLX LLC
<input type="checkbox"/> Cboe BZX Exchange, Inc.	<input type="checkbox"/> Miami International Securities Exchange LLC	<input type="checkbox"/> The NASDAQ Stock Market LLC
<input checked="" type="checkbox"/> Cboe C2 Exchange, Inc.	<input type="checkbox"/> MIAX PEARL, LLC	<input type="checkbox"/> New York Stock Exchange LLC
<input type="checkbox"/> Cboe EDGA Exchange, Inc.	<input type="checkbox"/> MIAX Emerald, LLC	<input type="checkbox"/> NYSE American LLC
<input type="checkbox"/> Cboe EDGX Exchange, Inc.	<input type="checkbox"/> NASDAQ BX, Inc.	<input type="checkbox"/> NYSE Arca, Inc.
<input checked="" type="checkbox"/> Cboe Exchange, Inc.	<input type="checkbox"/> NASDAQ GEMX, LLC	<input type="checkbox"/> NYSE National, Inc.
<input type="checkbox"/> Chicago Stock Exchange, Inc.	<input type="checkbox"/> NASDAQ ISE, LLC	<input type="checkbox"/> Other: _____

To achieve compliance with the clock synchronization requirements of the CAT compliance rule, including any interpretive or exemptive guidance applicable to such rule, of each national securities exchange and/or national securities association identified above (the “Clock Synchronization Requirement”), the undersigned, who is duly authorized to execute this certification on behalf of Interactive Brokers Corp, hereby certifies that Interactive Brokers Corp has:

- (1) synchronized its Business Clocks, other than such Business Clocks used solely for Manual Order Events or used solely for the time of allocation on Allocation Reports, at a minimum to within a fifty (50) millisecond tolerance of the time maintained by the National Institute of Standards and Technology, and maintains such synchronization; and
- (2) synchronized (A) its Business Clocks used solely for Manual Order Events and (B) its Business Clocks used solely for the time of allocation on Allocation Reports at a minimum to within a one second tolerance of the time maintained by the National Institute of Standards and Technology, and maintains such synchronization.

Capitalized terms are defined as set forth in the CAT compliance rule series of each national securities exchange and national securities association.

2/7/2020

EXECUTED as of the date first written above.

By: Thomas Barkanic

Name: Thomas Barkanic

Title: Manager Systems Administration