

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT7022309

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DAVID BIXBY	01/11/2016
FREDERICK STURM	01/12/2016
EDMUND CAREY	01/08/2016
STEN ANDERSON	01/11/2016
VIVEK KONDAVEETI	01/11/2016
THOMAS LORD	01/12/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	CHICAGO MERCANTILE EXCHANGE INC.
<b>Street Address:</b>	20 SOUTH WACKER DRIVE
<b>City:</b>	CHICAGO
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60606
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17525299
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	3122910860
<b>Email:</b>	docket-us@lsk-iplaw.com
<b>Correspondent Name:</b>	LEMPIA SUMMERFIELD KATZ LLC
<b>Address Line 1:</b>	20 SOUTH CLARK STREET
<b>Address Line 2:</b>	SUITE 600
<b>Address Line 4:</b>	CHICAGO, ILLINOIS 60603
<b>ATTORNEY DOCKET NUMBER:</b>	004672-15016C-US
<b>NAME OF SUBMITTER:</b>	JAMES L. KATZ
<b>SIGNATURE:</b>	/James L. Katz/
<b>DATE SIGNED:</b>	11/12/2021

**Total Attachments: 11**

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ASSIGNMENT

WHEREAS, David Bixby, Frederick Sturm, Edmund Carey, Sten Anderson, Vivek Kondaveeti, and Thomas Lord, and, hereinafter called the "Assignors", have made the invention described in the United States patent application entitled SYSTEMS AND METHODS FOR ITERATIVE OPTIMIZATION OF RELATED OBJECTS, executed by Assignors on the same date as, or on a date prior to, this Assignment;

WHEREAS, CHICAGO MERCANTILE EXCHANGE INC., a corporation organized and existing under the laws of the State of Illinois, having a place of business at 20 South Wacker Drive, Chicago, IL 60606, hereinafter called the "Assignee", desires to acquire the entire right, title and interest in and to the invention and the patent application identified above, and all patents which may be obtained for said invention, as set forth below;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other valuable and legally sufficient consideration, the receipt of which by the Assignors from the Assignee is hereby acknowledged, the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer to the Assignee, the entire right, title and interest for the United States in and to the invention and the patent application identified above, and any patents that may issue for said invention in the United States; together with the entire right, title and interest in and to said invention and all patent applications and patents issuing therefrom in all countries foreign to the United States, including the full right to claim for any such application all benefits and priority rights under any applicable convention; together with the entire right, title and interest in and to all continuations, divisions, renewals and extensions of any of the patent applications and patents defined above; together with the right to recover all damages, including, but not limited to, a reasonable royalty, by reason of past, present, or future infringement or any other violation of patent or patent application rights; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for all such patents.

The Assignors hereby covenant and agree, for both the Assignors and the Assignors' legal representatives, that the Assignors will assist the Assignee in the prosecution of the patent application identified above; in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; in vesting in the Assignee like exclusive title in and to all such other patent applications and patents; and in the prosecution of any interference which may arise involving said invention, or any such patent application or patent; and that the Assignor will execute and deliver to the Assignee any and all additional papers which may be requested by the Assignee to carry out the terms of this Assignment.

The Commissioner of Patents and Trademarks is hereby authorized and requested to issue patents to the Assignee in accordance with the terms of this Assignment.

IN TESTIMONY WHEREOF, the Assignors have executed this agreement.

DATED:

JANUARY 11, 2016

  
\_\_\_\_\_  
David Bixby


DATED:

\_\_\_\_\_

\_\_\_\_\_  
Frederick Sturm

DATED:

JANUARY 8, 2016

  
\_\_\_\_\_  
Edmund Carey

DATED:

Jan 11, 2016

  
\_\_\_\_\_  
Sten Anderson

DATED:

Jan 11<sup>th</sup>, 2016

  
\_\_\_\_\_  
Vivek Kondaveeti

DATED:

Jan 12<sup>th</sup> 2016

  
\_\_\_\_\_  
Thomas Lord

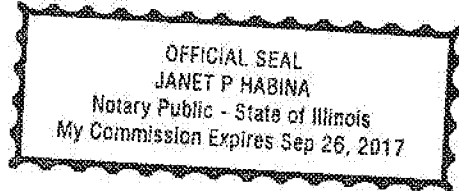
STATE OF ILLINOIS )  
COUNTY OF COOK ) ss.

I, JANET P HABINA, a Notary Public in and for the County and State aforesaid, do hereby certify that David Bixby, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this 11th day of JANUARY, 2016.

Janet P Habina  
Notary Public

My Commission Expires: 9/20/17



STATE OF )  
COUNTY OF ) ss.

I, \_\_\_\_\_, a Notary Public in and for the County and State aforesaid, do hereby certify that Frederick Sturm, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

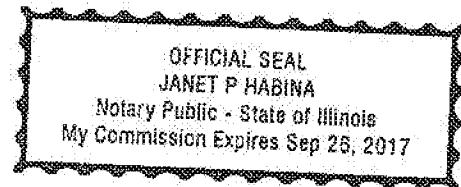
STATE OF ILLINOIS )  
COUNTY OF COOK ) ss.

I, JANET P HABINA, a Notary Public in and for the County and State aforesaid, do hereby certify that Edmund Carey, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this 8th day of JANUARY, 2016.

Janet P Habina  
Notary Public

My Commission Expires: 9/26/17



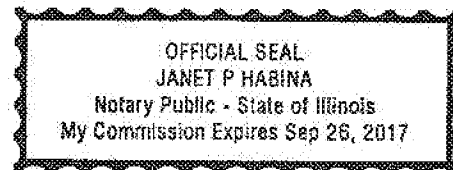
STATE OF ILLINOIS )  
COUNTY OF COOK ) ss.

I, JANET P HABINA, a Notary Public in and for the County and State aforesaid, do hereby certify that Sten Anderson, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this 14th day of JANUARY, 2016.

Janet P Habina  
Notary Public

My Commission Expires: 9/26/17



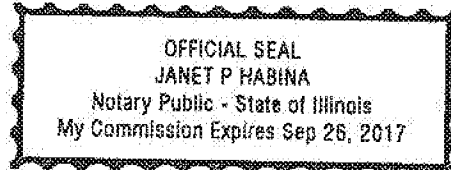
STATE OF ILLINOIS )  
COUNTY OF COOK ) ss.

I, JANET P. HABINA, a Notary Public in and for the County and State aforesaid, do hereby certify that Vivek Kondaveeti, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

11th IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this day of JANUARY, 2016.

Janet P. Habina  
Notary Public

My Commission Expires: 9/26/2017



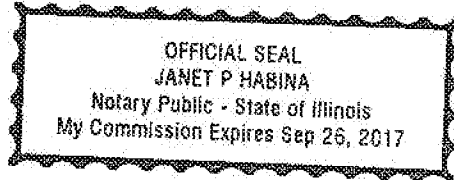
STATE OF ILLINOIS )  
COUNTY OF COOK ) ss.

I, JANET P. HABINA, a Notary Public in and for the County and State aforesaid, do hereby certify that Thomas Lord, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

12th IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this day of JANUARY, 2016.

Janet P. Habina  
Notary Public

My Commission Expires: 9/26/2017



ASSIGNMENT

WHEREAS, David Bixby, Frederick Sturm, Edmund Carey, Sten Anderson, Vivek Kondaveeti, and Thomas Lord, and, hereinafter called the "Assignors", have made the invention described in the United States patent application entitled SYSTEMS AND METHODS FOR ITERATIVE OPTIMIZATION OF RELATED OBJECTS, executed by Assignors on the same date as, or on a date prior to, this Assignment;

WHEREAS, CHICAGO MERCANTILE EXCHANGE INC., a corporation organized and existing under the laws of the State of Illinois, having a place of business at 20 South Wacker Drive, Chicago, IL 60606, hereinafter called the "Assignee", desires to acquire the entire right, title and interest in and to the invention and the patent application identified above, and all patents which may be obtained for said invention, as set forth below;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other valuable and legally sufficient consideration, the receipt of which by the Assignors from the Assignee is hereby acknowledged, the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer to the Assignee, the entire right, title and interest for the United States in and to the invention and the patent application identified above, and any patents that may issue for said invention in the United States; together with the entire right, title and interest in and to said invention and all patent applications and patents issuing therefrom in all countries foreign to the United States, including the full right to claim for any such application all benefits and priority rights under any applicable convention; together with the entire right, title and interest in and to all continuations, divisions, renewals and extensions of any of the patent applications and patents defined above; together with the right to recover all damages, including, but not limited to, a reasonable royalty, by reason of past, present, or future infringement or any other violation of patent or patent application rights; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for all such patents.



The Assignors hereby covenant and agree, for both the Assignors and the Assignors' legal representatives, that the Assignors will assist the Assignee in the prosecution of the patent application identified above; in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; in vesting in the Assignee like exclusive title in and to all such other patent applications and patents; and in the prosecution of any interference which may arise involving said invention, or any such patent application or patent; and that the Assignor will execute and deliver to the Assignee any and all additional papers which may be requested by the Assignee to carry out the terms of this Assignment.

The Commissioner of Patents and Trademarks is hereby authorized and requested to issue patents to the Assignee in accordance with the terms of this Assignment.

IN TESTIMONY WHEREOF, the Assignors have executed this agreement.

DATED: \_\_\_\_\_

David Bixby

DATED: 17 January 2016

Frederick Sturm

DATED: \_\_\_\_\_

Edmund Carey

DATED: \_\_\_\_\_

Sten Anderson

DATED: \_\_\_\_\_

Vivek Kondaveeti

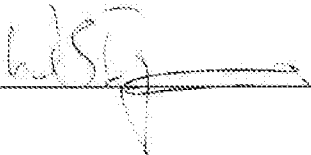
DATED: \_\_\_\_\_

Thomas Lord

Witnesses to signature of Frederick Sturm

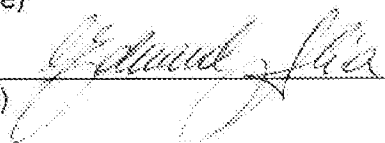
Witness #1:

WILLIAM JAMES WORM  
\_\_\_\_\_  
(print name)

  
\_\_\_\_\_  
(signature)

Witness #2:

EDUARD ALIA  
\_\_\_\_\_  
(print name)

  
\_\_\_\_\_  
(signature)

STATE OF )  
 ) ss.  
COUNTY OF )

I, \_\_\_\_\_, a Notary Public in and for the County and State aforesaid, do hereby certify that David Bixby, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

STATE OF )  
 ) ss.  
COUNTY OF )

I, \_\_\_\_\_, a Notary Public in and for the County and State aforesaid, do hereby certify that Frederick Sturm, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

STATE OF )  
 ) ss.  
COUNTY OF )

I, \_\_\_\_\_, a Notary Public in and for the County and State aforesaid, do hereby certify that Edmund Carey, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

STATE OF )  
 ) ss.  
COUNTY OF )

I, \_\_\_\_\_, a Notary Public in and for the County and State aforesaid, do hereby certify that Sten Anderson, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

STATE OF )  
 ) ss.  
COUNTY OF )

I, \_\_\_\_\_, a Notary Public in and for the County and State aforesaid, do hereby certify that Vivek Kondaveeti, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

STATE OF )  
 ) ss.  
COUNTY OF )

I, \_\_\_\_\_, a Notary Public in and for the County and State aforesaid, do hereby certify that Thomas Lord, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (s)he signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_