507486238 09/12/2022

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7533128

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ATSUSHI MARUYAMA	01/24/2020
BOUDEWIJN DUINSTRA	01/24/2020
CHRISTIAN A. M. SCHLEGEL	01/20/2020
DANIEL R. DE ALMEIDA	01/24/2020
FERNANDO V. CEREZETTI	01/22/2020
GABRIEL E. S. MEDINA	01/24/2020
GHAIS ISSA	01/20/2020
IDDO YEKUTIELI	01/20/2020
JEROME M. DREAN	01/20/2020
MARCUS KEPPELER	01/23/2020
RAFIK MRABET	01/24/2020
STEPHEN R. POUNDS	01/23/2020
WEN JIANG	01/24/2020
YANYAN HU	01/27/2020
YUNKE YANG	01/20/2020

RECEIVING PARTY DATA

Name:	INTERCONTINENTAL EXCHANGE HOLDINGS, INC.
Street Address:	5660 NEW NORTHSIDE DRIVE, 3RD FLOOR
City:	ATLANTA
State/Country:	GEORGIA
Postal Code:	30328

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17942729

CORRESPONDENCE DATA

Fax Number: (215)656-3385

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.

Phone: 215-656-3385

PATENT REEL: 061410 FRAME: 0900

507486238

Email: pto.phil@us.dlapiper.com

IP GROUP OF DLA PIPER LLP (US) **Correspondent Name:**

Address Line 1: ONE LIBERTY PLACE

Address Line 2: 1650 MARKET ST, SUITE 5000

Address Line 4: PHILADELPHIA, UNITED STATES 19103

ATTORNEY DOCKET NUMBER: ICE-13-1156-6C-DIV1

NAME OF SUBMITTER: **NANCY NUNEZ**

SIGNATURE: /NN/

DATE SIGNED: 09/12/2022

Total Attachments: 22

source=CombinedDECAssignment#page1.tif

source=CombinedDECAssignment#page2.tif

source=CombinedDECAssignment#page3.tif

source=CombinedDECAssignment#page4.tif

source=CombinedDECAssignment#page5.tif

source=CombinedDECAssignment#page6.tif

source=CombinedDECAssignment#page7.tif

source=CombinedDECAssignment#page8.tif

source=CombinedDECAssignment#page9.tif

source=CombinedDECAssignment#page10.tif

source=CombinedDECAssignment#page11.tif

source=CombinedDECAssignment#page12.tif

source=CombinedDECAssignment#page13.tif

source=CombinedDECAssignment#page14.tif

source=CombinedDECAssignment#page15.tif

source=CombinedDECAssignment#page16.tif

source=CombinedDECAssignment#page17.tif

source=CombinedDECAssignment#page18.tif

source=CombinedDECAssignment#page19.tif

source=CombinedDECAssignment#page20.tif

source=CombinedDECAssignment#page21.tif

source=CombinedDECAssignment#page22.tif

PATENT

REEL: 061410 FRAME: 0901

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

EXECUTED on the o	dates set forth below. Date Date	Boudewijn Duinstra	1/24/20 Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date	· .	

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Tan 20, 7020 Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date		

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Alméida	O1/24/2020 Date//
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date		

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

EXECUTED on the dates set forth below.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
1-11	22/01/2020		
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
	**		
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
D.Cl. M. L.	_ D-1-	Ctanhan D. Davinda	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
,		•	
Yunke Yang	Date		
• • • • • • • • • • • • • • • • • • • •			

2

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

EXECUTED on the dates set forth below.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	24/01/2026 Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date		

2

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Idde Yekutieli	
Jerome M. Drean		Marcus Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	1/20/2020 Date		

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
		17. GW	23.01.2020
Jerome M. Drean	Date	Marcus/Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date		

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	24 Jan 2020 Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date	e de la companya de l	

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	01/23/2020 Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date		

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	Date 01/24/2020	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	Date
Yunke Yang	Date		

WHEREAS, we

Atsushi Maruyama	of	London, UK
Boudewijn Duinstra	of	Woerden, The Netherlands
Christian A. M. Schlegel	of	Marietta, GA
Daniel R. de Almeida	of	Dunwoody, GA
Fernando V. Cerezetti	of	Orpington, UK
Gabriel E. S. Medina	of	London, UK
Ghais Issa	of	Atlanta, GA
Iddo Yekutieli	of	Atlanta, GA
Jerome M. Drean	of	Atlanta, GA
Marcus Keppeler	of	London, UK
Rafik Mrabet	of	London, UK
Stephen R. Pounds	of	Roswell, GA
Wen Jiang	of	Marietta, GA
Yanyan Hu	of	London, UK
Yunke Yang	of	Atlanta, GA

(hereinafter referred to as "the undersigned"), have made an invention entitled SYSTEMS AND METHODS FOR DETERMINING AN INITIAL MARGIN identified in US Application No. 16/775,970, (DLA Piper is authorized to insert the US Serial No. when known),

the above-identified application was made or authorized to be made by the persons executing this Declaration;

we believe that we are the original joint inventors of a claimed invention in the application;

we hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

WHEREAS, Intercontinental Exchange Holdings, Inc., with offices at 5660 New Northside Drive NW, 3rd Floor, Atlanta, GA 30328 (hereinafter referred to as "assignee"), is desirous of acquiring the entire right, title and interest in said invention, said US application and all letters patent issuing for said invention,

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and of other good and valuable consideration, receipt of which is hereby acknowledged, the undersigned, intending to be legally bound, does hereby sell, assign and transfer to the assignee the entire right, title and interest, for the United States of America, its territories and possessions, and for all foreign countries, in said invention, including said US application, all divisions and continuations

EAST\171678771.1

It is agreed that the undersigned shall be legally bound, upon request of the assignee, or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the undersigned has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the assignee, and to execute all instruments proper to carry out the intent of this instrument. If the undersigned includes more than one individual, these obligations shall apply to all of the undersigned both individually and collectively.

The rights and property herein conveyed by the undersigned are free and clear of any encumbrance.

EXECUTED on the dates set forth below.

Atsushi Maruyama	Date	Boudewijn Duinstra	Date
Christian A. M. Schlegel	Date	Daniel R. de Almeida	Date
Fernando V. Cerezetti	Date	Gabriel E. S. Medina	Date
Ghais Issa	Date	Iddo Yekutieli	Date
Jerome M. Drean	Date	Marcus Keppeler	Date
Rafik Mrabet	Date	Stephen R. Pounds	Date
Wen Jiang	Date	Yanyan Hu	_ <u>27/01/2020</u> Date
Yunke Yang	Date		

2

EAST\171678771.1