11/06/2017 504629020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4675738

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SUNDAR RAJAN RAMAN	10/11/2017
JEFF L. HOWARD	10/10/2017
PRASAD L.V.K.D. DASARI	11/04/2017
LAKSHMIKANTH S. NAGAPUDI	10/10/2017
PADMANABHAM PONNADA	10/09/2017

RECEIVING PARTY DATA

Name:	BANK OF AMERICA CORPORATION
Street Address: MAIL CODE NC 1-027-20-05	
Internal Address:	214 N. TRYON ST.
City:	CHARLOTTE
State/Country:	NORTH CAROLINA
Postal Code:	28255

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15804405

CORRESPONDENCE DATA

Fax Number: (202)824-3001

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: (312) 463-5000

bwptopat@bannerwitcoff.com, aanderson@bannerwitcoff.com Email:

BANNER & WITCOFF, LTD. **Correspondent Name:**

1100 13TH ST. NW Address Line 1:

Address Line 2: STE 1200

Address Line 4: WASHINGTON, D.C. 20005

	PAIENI	
	This document serves as an Oath/Declaration (37 CFR 1.63).	
DATE SIGNED:	11/06/2017	
SIGNATURE:	/Elizabeth A. Almeter/	
NAME OF SUBMITTER:	ELIZABETH A. ALMETER	
ATTORNEY DOCKET NUMBER:	007131.01915	

REEL: 044042 FRAME: 0019 504629020

Total Attachments: 10 source=7910 US1 Combined Declaration and Assignment as filed#page1.tif source=7910 US1 Combined Declaration and Assignment as filed#page2.tif source=7910 US1 Combined Declaration and Assignment as filed#page3.tif source=7910 US1 Combined Declaration and Assignment as filed#page4.tif source=7910 US1 Combined Declaration and Assignment as filed#page5.tif source=7910 US1 Combined Declaration and Assignment as filed#page6.tif source=7910 US1 Combined Declaration and Assignment as filed#page7.tif source=7910 US1 Combined Declaration and Assignment as filed#page8.tif source=7910 US1 Combined Declaration and Assignment as filed#page9.tif source=7910 US1 Combined Declaration and Assignment as filed#page9.tif

PATENT REEL: 044042 FRAME: 0020

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Dynamic Lineage Validation System
As the below	named inventor, I hereby declare that:
This declarations of the contraction of the contrac	Fall the assault abbunaturi a
•	United States application or PCT international application number
	dentified application was made or authorized to be made by me.
I believe that	t I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby ackri	nowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or nt of not more than five (5) years, or both.
NAME OF THE PROPERTY OF THE PR	ASSIGNMENT
was filed on the helow, hereb	Sundar Rajan Raman ("Assignor"), a citizen of India (Country), residing in Chennal, Tamil Nadu, lity, State/Province) have invented the above invention. If the following lines are blank, the above application even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor by authorize the attorneys for Bank of America to insert the filing date and application number below after they own and prior to filing the recordation. U.S. Application No. 15/804,405 filed November 6, 2017
Delaware, ar title and inte United State	BANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, erest in and to the aforesald inventions and in and to all applications and Letters Patent therefor granted in the as of America, and in any and all countries foreign thereto:
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuations thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will interest. I represent and warrant that I have full right to agree to, execute, and delive	

[Page 1 of 2]

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes. For payment application in the application file and therefore are not publicly available.

purposes are not retained in the application file and therefore a	1 € 110 € БОВПСТУ В УВПСВОГОСОВОВОВОВОВОВОВОВОВОВОВОВОВОВОВОВОВ
LEGAL NAME OF INVENTOR	
Inventor: Sundar Rajan Raman	Date: 10/11/2017
Signature: / BrundalBajc	

[Page 2 of 2]

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Dynamic Lineage Validation System
As the below	named inventor, I hereby declare that:
This declaration	kar incurred approaches of
	United States application or PCT international application number
The above-ide	entified application was made or authorized to be made by me.
I believe that	l am the original inventor or an original joint inventor of a claimed invention in the application.
l hereby ackn Imprisonmen	owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or t of not more than five (5) years, or both.
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	ASSIGNMENT
residing inare blank, the	Jeff L. Howard ("Assignor"), a citizen of <u>United States of America</u> (Country), <u>Charlotte, North Carolina</u> (City, State/Province) have invented the above invention. If the following lines above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of nt, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and umber below after they become known and prior to filing the recordation.
	U.S. Application No. 15/804,405 filed November 6, 2017
Delaware, an	NK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of d having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, rest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the of America, and in any and all countries foreign thereto:
payment for said Assignor representative countries for countries in it entitled under Letters Patentin-parts and confidential if request the Countries of interest. I require without furth nominees, ar provisional, considerations of the countries of the countrie	FORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal less, the full and exclusive right, title and interest for the territory of the United States of America and all leign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign ts own name and to claim any priority rights for such foreign applications to which such applications are international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and t granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuation-extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and or essent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will necessary and all facts known to me regarding said inventions whenever requested, and that I will execute all nonly and all facts known to me regarding said inventions whenever requested, and that I will execute all nonly and lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its ssigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

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LEGAL NAME OF INVENTOR
//
Inventor: Jeff L, Howard Date: 10/10/207
Signature:

Firm No.: 007131.01915

7910 US1

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Dynamic Lineage Validation System		
As the below	As the below named inventor, I hereby declare that:		
This declaration is directed to:	Late attached application, or		
	United States application or PCT international application number		
The above-ide	entified application was made or authorized to be made by me.		
I believe that	I am the original inventor or an original joint inventor of a claimed invention in the application.		
	owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or t of not more than five (5) years, or both.		
	ASSIGNMENT		
North Carolin application w assignor belo	Prasad L.V.K.D. Dasari ("Assignor"), a citizen of India (Country), residing in Charlotte, (City, State/Province) have invented the above invention. If the following lines are blank, the above as filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an w, hereby authorize the attorneys for Bank of America to insert the filing date and application number below come known and prior to filing the recordation.		
	U.S. Application No. 15/804,405 filed November 6, 2017		
Delaware, an	NK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of dhaving its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, est in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the of America, and in any and all countries foreign thereto:		
payment for the said Assignor, representative countries for countries in it entitled under Letters Paten in-parts and expension of interest. I repwithout furth nominees, an provisional, disproceedings,	FORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal es, the full and exclusive right, title and interest for the territory of the United States of America and all eign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign sown name and to claim any priority rights for such foreign applications to which such applications are r international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and t granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuations, extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and ommissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and resent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will er consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or y and all facts known to me regarding said inventions whenever requested, and that I will execute all non-ivisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its		

WARNING:

LEGAL NAME OF INVENTOR	
Inventor: Prasad L.V.K.D. Dasari	Date; 11/04/2017
Signature: 1 & C	

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Dynamic Lineage Validation System
As the below	named inventor, I hereby declare that:
This declaration is directed to:	The attached application, or
	United States application or PCT international application number filed on
The above-ide	intified application was made or authorized to be made by me.
I believe that	am the original inventor or an original joint inventor of a claimed invention in the application.
	owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or of not more than five (5) years, or both.
NOON ALL CONTRACTOR OF THE PARTY OF THE PART	ASSIGNMENT
residing in are blank, the this assignment	<u>Lakshmikanth S. Nagapudi</u> ("Assignor"), a citizen of <u>United States of America</u> (Country), <u>Waxhaw, North Carolina</u> (City, State/Province) have invented the above invention. If the following lines above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of nt, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and imber below after they become known and prior to filing the recordation.
	U.S. Application No. 15/804,405 November 6, 2017
Delaware, and title and inter	NK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of I having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, est in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the of America, and in any and all countries foreign thereto:
payment for t said Assignor, representative countries fore countries in it entitled under Letters Patent in-parts and e confidential ir request the Co inventions or interest. I represent without further nominees, and provisional, di proceedings, s	ORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal ess, the full and exclusive right, title and interest for the territory of the United States of America and all ign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign sown name and to claim any priority rights for such foreign applications to which such applications are international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuation-extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, formation, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and present and compilations, and any official whose duty it is to issue patents, to issue all Letters Patent on said resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and resent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will er consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or and all facts known to me regarding said inventions whenever requested, and that I will execute all nonvisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its

[Page 1 of 2]

WARNING:

an issued patent (see 37 CFR 1.14). Checks and credit card autho purposes are not retained in the application file and therefore a	· · ·
LEGAL NAME OF INVENTOR	
Inventor: Lakshmikanth S. Nagapudi	Date: OCT -10 - 2017
Signature: / N.S. Laushillowth	/

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

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The above-ide	entified application was made or authorized to be made by me.		
I believe that	I am the original inventor or an original joint inventor of a claimed invention in the application.		
	owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or of not more than five (5) years, or both.		
BERGERBURGER STATE OF THE STATE	ASSIGNMENT		
residing in are blank, the this assignme	Padmanabham Ponnada ("Assignor"), a citizen of United States of America (Country), Charlotte, North Carolina (City, State/Province) have invented the above invention. If the following lines above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of int, I, an assignor below, hereby authorize the attorneys for Bank of America to Insert the filing date and imber below after they become known and prior to filing the recordation.		
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payment for to said Assignor, representative countries for a countries in it entitled unde Letters Paten in-parts and a confidential in request the Conventions or interest. I repwithout furth nominees, an provisional, descriptions.	FORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, Its successors, assigns and legal es, the full and exclusive right, title and interest for the territory of the United States of America and all eight thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign is own name and to claim any priority rights for such foreign applications to which such applications are international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuations, treaties, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and dominissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and resent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will er consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or y and all facts known to me regarding said inventions whenever requested, and that I will execute all non-invisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal sign, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.		

Firm No.: 007131.01915

7910 US1

WARNING:

purposes are not retained in the application file and therefore are not publicly available.				
LEGAL NAME OF INVENTOR				
Inventor: Padmanabham Ponnada	Date:	10/9/2017		
Signature:	<u> </u>	·	tut	