504304275 04/04/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4350956

| SUBMISSION TYPE: | NEW ASSIGNMENT | |
|-----------------------|----------------|--|
| NATURE OF CONVEYANCE: | ASSIGNMENT | |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| MATTHEW MURPHY | 03/30/2017 |
| MARK WILLIAMS | 03/29/2017 |
| BRADLEY HOLLAND | 03/30/2017 |
| MARK A. NELSON | 04/03/2017 |
| STEVEN M. TWOMBLY | 03/29/2017 |

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: | 15477806 | |

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: (202) 824-3000

bwptopat@bannerwitcoff.com, msigur@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

| ATTORNEY DOCKET NUMBER: | 007131.01861 |
|-------------------------|--|
| NAME OF SUBMITTER: | JEFFREY H. CHANG |
| SIGNATURE: | /Jeffrey H. Chang/ |
| DATE SIGNED: | 04/04/2017 |
| | This document serves as an Oath/Declaration (37 CFR 1.63). |

PATENT REEL: 041836 FRAME: 0949

504304275

Total Attachments: 10 source=Executed Assignments#page1.tif source=Executed Assignments#page2.tif source=Executed Assignments#page3.tif source=Executed Assignments#page4.tif source=Executed Assignments#page5.tif source=Executed Assignments#page6.tif source=Executed Assignments#page7.tif source=Executed Assignments#page8.tif source=Executed Assignments#page9.tif source=Executed Assignments#page9.tif source=Executed Assignments#page10.tif

PATENT REEL: 041836 FRAME: 0950

| Title of | vention Server Associated with One or More Routing Networks in Response to Detecting | | |
|---|--|--|--|
| Invention | | | |
| As the below | Activity named inventor, I hereby declare that: | | |
| This declaration | | | |
| is directed to: | A The attached application, or | | |
| | United States application or PCT international application number | | |
| | filed on | | |
| The above-ide | The above-identified 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. | | |
| I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. | | | |
| | ASSIGNMENT | | |
| WHEREAS, I, <u>Brad Holland</u> ("Assignor"), a citizen of the <u>United States</u> (Country), residing in <u>Huntersville</u> , <u>NC</u> (City, State/Province) have invented the above invention. If the following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and application number below after they become known and prior to filing the recordation. | | | |
| | U.S. Application No. <u>15/477,806</u> , filed <u>April 3, 2017</u> | | |
| Delaware, and title and interes | NK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of 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 the said Assignor, representative countries foreit countries in its entitled under Letters Patent in-parts and exconfidential interquest the Conventions or minterest. I represent further than the comminees, any provisional, div proceedings, si | 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 is, the full and exclusive right, title and interest for the territory of the United States of America and all gen thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign 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, treatiens 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 mmissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said esulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and essent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will reconsideration, 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 non-risional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal gn all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its igns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries. | | |

Date: March 30, 2017

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 are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Brad Holland

Signature:

[Page 6 of 16]

| Title of Invention | Data Transfer, Over Session or Connection, and Between Computing Device and Server Associated with One or More Routing Networks in Response to Detecting Activity | | | |
|--|---|--|--|--|
| As the below | named inventor, I hereby declare that: | | | |
| | This declaration X The attached application, or is directed to: | | | |
| | United States application or PCT international application number filed on | | | |
| 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 tof not more than five (5) years, or both. | | | |
| | ASSIGNMENT | | | |
| State/Provinc date herewith authorize the | Mark Williams ("Assignor"), a citizen of the <u>United States</u> (Country), residing in <u>Thornton, PA</u> (City, e) have invented the above invention. If the following lines are blank, the above application was filed on even of otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby attorneys for Bank of America to insert the filing date and application number below after they become ior to filing the recordation. | | | |
| | U.S. Application No. <u>15/477,806</u> , filed <u>April 3, 2017</u> | | | |
| Delaware, and title and inter | 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 t said Assignor, representative countries for e countries in it entitled under Letters Patent in-parts and e confidential in request the Co inventions or interest. I repr without further nominees, any provisional, di proceedings, s | 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 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, necessary or useful to make, use, or sell the inventions. I hereby authorize and present and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will be reconsideration, 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 ign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its signs, and nominees, to obtain and enforce proper patent protection for said inventions in all countries. | | | |

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| LEGAL NAME OF INVENTOR | |
|-------------------------|---------|
| | 3/29/12 |
| Inventor: Mark Williams | Date: |
| Signature: Mark C. Will | P |

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 | Ser | a Transfer, Over Session or Connection, and Between Computing Device and ver Associated with One or More Routing Networks in Response to Detecting Activity |
|--|--|---|
| As the below | named inv | entor, I hereby declare that: |
| This declarati | | The attached application, or |
| | | United States application or PCT international application numberfiled on |
| The above-ide | entified ap | plication was made or authorized to be made by me. |
| I believe that | I am the o | riginal inventor or an original joint inventor of a claimed invention in the application. |
| I hereby acknown | owledge the t of not mo | nat any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or ore than five (5) years, or both. |
| | | ASSIGNMENT |
| State/Provinc date herewith authorize the | e) have inv , otherwis attorneys | ombly ("Assignor"), a citizen of the <u>United States</u> (Country), residing in <u>Saco, ME</u> (City, vented the above invention. If the following lines are blank, the above application was filed on even e, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby for Bank of America to insert the filing date and application number below after they become g the recordation. |
| | | U.S. Application No. 15/477,806 , filed April 3, 2017 |
| Delaware, and title and inter | d having its est in and | ERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of soffices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the a, 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, any provisional, di proceedings, s | he making by these persons the full ign theret sown name internation of the full internation in the full internation in the full internation in the full international international international, resign all law | WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal and exclusive right, title and interest for the territory of the United States of America and all to, and throughout the world and in space, (including the right to apply for Letters Patent in foreign and to claim any priority rights for such foreign applications to which such applications are conal conventions, treaties, or otherwise), in and to said inventions and in and to all applications and therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuations, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and er of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said thereform to said Assignee, or its successors and assigns, as assignee of the entire right, title and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will ration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or cts known to me regarding said inventions whenever requested, and that I will execute all non-eissue, reexamination, continuation and continuation-in-part applications, testify in any legal ful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its nominees, to obtain and enforce proper patent protection for said inventions in all countries. |

[Page 5 of 16]

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| purposes are not retained in the application file and therefor | ore are not publicly available. |
|--|---------------------------------|
| LEGAL NAME OF INVENTOR | |
| Inventor: Steven Twombiy Signature: Wen wombly | Date: 3/29/17— |

REEL: 041836 FRAME: 0956

| Title of Invention | Data Transfer, Over Session or Connection, and Between Computing Device and Server Associated with One or More Routing Networks in Response to Detecting Activity | | |
|---|---|--|--|
| As the below | named inventor, I hereby declare that: | | |
| This declarati | M The accounce application of | | |
| | United States application or PCT international application number | | |
| The above-id | 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 | | |
| above invent comply with | Matthew Murphy, ("Assignor"), a citizen of the <u>United States</u> , residing in <u>Charlotte, NC</u> , have invented the ion. If the following lines are blank, the above application was filed on even date herewith, otherwise, to 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of sert the filing date and application number below after they become known and prior to filing the recordation. | | |
| | U.S. Application No. <u>15/477,806</u> filed <u>April 3, 2017</u> . | | |
| Delaware, an title and inte | ANK 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 intention in entitled under Letters Patentin-parts and confidential intentions or interest. I repuit without furth nominees, ar provisional, coproceedings, | 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 res, the full and exclusive right, title and interest for the territory of the United States of America and all reign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign to sown name and to claim any priority rights for such foreign applications to which such applications are are international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and it 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 oresent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will ser consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or my and all facts known to me regarding said inventions whenever requested, and that I will execute all non-livisional, 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 ssigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries. | | |

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| purposes are not retained in the application file and therefore are not publicly available. | | |
|---|---------------|--|
| LEGAL NAME OF INVENTOR | | |
| Inventor: Matthew Murphy | Date: 3/30/17 | |
| Signature: A Mhyl) | | |

| Title of Invention | Data Transfer, Over Session or Connection, and Between Computing Device and Server Associated with One or More Routing Networks in Response to Detecting Activity |
|--|---|
| As the below | named inventor, I hereby declare that: |
| This declaration is directed to: | A THE BUBLIEU BUBLEBUOH, OF |
| | United States application or PCT international application number |
| The above-ide | entified application was made or authorized to be made by me. |
| l 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. |
| | ASSIGNMENT |
| invention. If t 37 C.F.R. §3.2 | Mark Nelson ("Assignor"), a citizen of the <u>United States</u> , residing in <u>Waxhaw, NC</u> , have invented the above he following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 1 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to g date and application number below after they become known and prior to filing the recordation. |
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| payment for the said Assignor, representative countries fore countries in its entitled under Letters Patent in-parts and exconfidential in request the Countries. I reprovisional, disproceedings, 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 ass, 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 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, continuation-stensions 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 promissioner 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 essent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will execute all non-visional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal ign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its signs, and nominees, to obtain and enforce proper patent protection for said inventions in all countries. |

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| LEGAL NAME OF INVENTOR | | |
|----------------------------------|--------------|--|
| Inventor: Mark Nelson Signature: | Date: 4/3/17 | |