UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/921,461	07/06/2020	Edward Snow WILLIS	101-0393USP2

CONFIRMATION NO. 7055

14551
Rowand LLP (BlackBerry)
390 Bay Street, Suite 1200
Toronto, ON M5H 2Y2
CANADA

POWER OF ATTORNEY NOTICE

OC000000067957478

Date Mailed: 02/07/2024

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/25/2024.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/atesfai/

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0001

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/921,461	07/06/2020	Edward Snow WILLIS	50468-US-CNT

CONFIRMATION NO. 7055

192641
Botos Churchill IP Law LLP - Malik
430 Mountain Avenue
Suite 401
New Providence, NJ 07974

POA ACCEPTANCE LETTER

OC000000067957538

Date Mailed: 02/07/2024

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/25/2024.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/atesfai/

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: MALIKIE INNOVATIONS LIMITED

Application No./Patent No.: 16921461 Filed/Issue Date: 07/06/2020

Titled: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

MALIKIE INNOVATIONS LIMITED, a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: WILLIS, EDWARD SNOW; INGLIS, DAVID ALAN; QADERI, HASHIM MOHAMMAD; HUTCHENS, SCOTT; TRAVE To: BLACKBERRY LIMITED

   The document was recorded in the United States Patent and Trademark Office at
   Reel 053134, Frame 0465, or for which a copy thereof is attached.

2. From: BLACKBERRY LIMITED To: MALIKIE INNOVATIONS LIMITED

   The document was recorded in the United States Patent and Trademark Office at
   Reel 064104, Frame 0103, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: BLACKBERRY LIMITED To: MALIKIE INNOVATIONS LIMITED

The document was recorded in the United States Patent and Trademark Office at
Reel 064271, Frame 0199, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Richard J. Botos/	2024-01-25
Signature	Date
Richard J. Botos	32,016
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	16/921,461
Filing Date	07/06/2020
First Named Inventor	Edward Snow WILLIS
Title	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
Art Unit	2196
Examiner Name	QAMRUN NAHAR
Attorney Docket Number	50468-US-CNT

SIGNATURE of Applicant or Patent Practitioner

Signature	/Richard J. Botos/	Date (Optional)	2024-01-25
Name	Richard J. Botos	Registration Number	32,016
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/80 (07-17)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

[X] Practitioners associated with Customer Number: 192641

OR

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

[X] The address associated with Customer Number: 192641

OR

[ ]

Firm or individual name	Botos Churchill IP Law, LLP	
Address	430 Mountain Ave., Suite 401	
City New Providence	State NJ	Zip 07974
Country USA		
Telephone (908) 738-1770	Email pto@bciplaw.com	

Assignee name and address: Malikie Innovations Limited
The Glass Houses GH2 92 Georges Street Lower
Dun Laoghaire, Dublin, A96 VR66

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

Signature Angela Quinlan	Date 13th June 2023
Name ANGELA QUINLAN	Telephone +353 87 9171202
Title MANAGING DIRECTOR	

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General **Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's** responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
16/921,461	**01/25/2024 07:57:28 AM Z ET**	**101-0393USP2**

Title of Invention

SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	11119756
CONFIRMATION #	7055	FILED BY	Prince Samuel
PATENT CENTER #	64079415	FILING DATE	07/06/2020
CUSTOMER #	14551	FIRST NAMED INVENTOR	Edward Snow WILLIS
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Richard Botos

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
16921461_373c.pdf	3	Assignee showing of ownership per 37 CFR 3.73	81 KB
16921461_POA.pdf	3	Power of Attorney	206 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
16921461_373c.pdf	91BA3DEA0C6F6B9ABAB5DF2B66763491E270B9B263D11BCA E55E12010831A8154561D19DB572C355C254241B4F99EA5634 508DE0B254B3A265BB63F08F179558
16921461_POA.pdf	33911BD85B22322C910E13F1AE97125D24F060BCEB4E5B24B 4FB4769AAC9F7F712138B5B353079B2BC7B3E600556EF741F

75FBBCF7A70FF9A9038E8D5D081E00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/921,461	09/14/2021	11119756	101-0393USP2	7055

14551 7590 08/25/2021

Rowand LLP (BlackBerry)
3080 Yonge Street, Suite 6060
Toronto, ONTARIO M4N 3N1
CANADA

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Edward Snow WILLIS, Ottawa, CANADA;
BlackBerry Limited, Waterloo, CANADA;
David Alan INGLIS, Stittsville, CANADA;
Hashim Mohammad QADERI, Kitchener, CANADA;
Scott HUTCHENS, Ottawa, CANADA;
Christopher Scott TRAVERS, Ottawa, CANADA;
Conrad Delbert SEAMAN, Ottawa, CANADA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0011

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

14551 7590 05/11/2021

Rowand LLP (BlackBerry)
3080 Yonge Street, Suite 6060
Toronto, ONTARIO M4N 3N1
CANADA

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

Hue-Mi Vuong	(Typed or printed name)
/Hue-Mi Vuong/	(Signature)
August 4, 2021	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/921,461	07/06/2020	Edward Snow WILLIS	101-0393USP2	7055

TITLE OF INVENTION: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/11/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
NAHAR, QAMRUN	2196	717-173000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Rowand LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: BlackBerry Limited

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Waterloo, Ontario, Canada

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ☒ Corporation or other private group entity ❑ Government

4a. Fees submitted: ☒ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Jeffrey Tracey/ Date August 4, 2021

Typed or printed name Jeff Tracey Registration No. 63,848

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0012

Electronic Patent Application Fee Transmittal

Application Number:	16921461
Filing Date:	06-Jul-2020
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Filer:	Jeffrey Michael Tracey/Hue-Mi Vuong
Attorney Docket Number:	101-0393USP2

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1200**

Electronic Acknowledgement Receipt

EFS ID:	43427564
Application Number:	16921461
International Application Number:	
Confirmation Number:	7055
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Hue-Mi Vuong
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP2
Receipt Date:	04-AUG-2021
Filing Date:	06-JUL-2020
Time Stamp:	16:34:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1200
RAM confirmation Number	E202184G36274739
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	50468-US-CNT_2021-08-04_IssueFee.pdf	141166 dac11d0026626fffd634ffeaf9f1861f08c09847	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	37984 43a94071936a883356f582decad22b4a4bbd27bc	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	179150		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

14551 7590 05/11/2021

Rowand LLP (BlackBerry)
3080 Yonge Street, Suite 6060
Toronto, ONTARIO M4N 3N1
CANADA

EXAMINER	
NAHAR, QAMRUN	
ART UNIT	PAPER NUMBER
2196	

DATE MAILED: 05/11/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/921,461	07/06/2020	Edward Snow WILLIS	101-0393USP2	7055

TITLE OF INVENTION: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/11/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0017

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

14551 7590 05/11/2021

Rowand LLP (BlackBerry)
3080 Yonge Street, Suite 6060
Toronto, ONTARIO M4N 3N1
CANADA

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/921,461	07/06/2020	Edward Snow WILLIS	101-0393USP2	7055

TITLE OF INVENTION: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/11/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
NAHAR, QAMRUN	2196	717-173000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0018

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/921,461	07/06/2020	Edward Snow WILLIS	101-0393USP2	7055

14551 7590 05/11/2021

Rowand LLP (BlackBerry)
3080 Yonge Street, Suite 6060
Toronto, ONTARIO M4N 3N1
CANADA

EXAMINER	
NAHAR, QAMRUN	

ART UNIT	PAPER NUMBER
2196	

DATE MAILED: 05/11/2021

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0019

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/921,461	Applicant(s) WILLIS et al.	
	Examiner QAMRUN NAHAR	Art Unit 2196	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the application filed on 7/6/20.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-20 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 7/6/20, 10/28/20.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/QAMRUN NAHAR/
Primary Examiner, Art Unit 2196

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0021

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

This action is in response to the application filed on 7/6/20.

Claims 1-20 are pending.

Claims 1-20 are allowed.

Terminal Disclaimer

The terminal disclaimer filed on 4/27/21 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 10,719,309 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Drawings

The drawings were received on 7/6/20. These drawings are acceptable.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, determine, by the processor based on the state information about the device for which the update is available, that the device is in a condition where the device is ready to perform the update; receive, from another device using the communications subsystem, an indication to update the device for which the update is available; and after determining that the device for which the update is available is in a condition to perform the update and receiving

the indication to update the device, send, to the device for which the update is available using the communications subsystem, an indication to begin performing the update, wherein the device for which the update is available is configured to begin updating responsive to such an indication without any direct interaction with the device for which the update is available as substantially recited in each of the independent claims.

The closest cited prior arts, Bae (US 2007/0192462) and Shim (US 2013/0311611) teach a method for updating a device. However, Bae (US 2007/0192462) and Shim (US 2013/0311611) fail to teach determine, by the processor based on the state information about the device for which the update is available, that the device is in a condition where the device is ready to perform the update; receive, from another device using the communications subsystem, an indication to update the device for which the update is available; and after determining that the device for which the update is available is in a condition to perform the update and receiving the indication to update the device, send, to the device for which the update is available using the communications subsystem, an indication to begin performing the update, wherein the device for which the update is available is configured to begin updating responsive to such an indication without any direct interaction with the device for which the update is available as substantially recited in each of the independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is **(571) 272-3730**. The examiner can normally be reached on Mondays through Fridays from 10:00 AM to 6:30 PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emerson Puente, can be reached on **(571) 272-3652**. The fax phone number for the organization where this application or processing is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Qamrun Nahar/
Primary Examiner, Art Unit 2196

Notice of References Cited	Application/Control No. 16/921,461	Applicant(s)/Patent Under Reexamination WILLIS et al.	
	Examiner QAMRUN NAHAR	Art Unit 2196	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20070192462-A1	08-2007	Bae; Young-Kyu	H04L12/2809	709/223
*	B	US-20130311611-A1	11-2013	Shim; Jonghoon	H04L67/10	709/217
*	C	US-20170300313-A1	10-2017	Gantt, JR.; Gary W.	G06F8/65	1/1
*	D	US-20160294614-A1	10-2016	Searle; Mark Douglas	G06F8/65	1/1
*	E	US-20090300595-A1	12-2009	Moran; Brian	G06F8/65	717/170
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0025

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/921,461	WILLIS et al.
	Examiner	**Art Unit**
	QAMRUN NAHAR	2196

CPC						
Symbol					**Type**	**Version**
G06F	/	8	/	65	F	2013-01-01
H04L	/	12	/	2814	I	2013-01-01
H04L	/	12	/	2825	I	2013-01-01
H04L	/	67	/	12	I	2013-01-01

CPC Combination Sets								
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/QAMRUN NAHAR/ Primary Examiner, Art Unit 2196	03 May 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20210428

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0026

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/921,461	WILLIS et al.
	Examiner	Art Unit
	QAMRUN NAHAR	2196

INTERNATIONAL CLASSIFICATION					
CLAIMED					
G06F	/	9	/	44	

NON-CLAIMED					
G06F	/	9	/	44	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS
717	173

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					
717	174					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/QAMRUN NAHAR/ Primary Examiner, Art Unit 2196	03 May 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20210428

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0027

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/921,461	WILLIS et al.
	Examiner	Art Unit
	QAMRUN NAHAR	2196

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE (Assistant Examiner)	(Date)	Total Claims Allowed: 20	
/QAMRUN NAHAR/ Primary Examiner, Art Unit 2196 (Primary Examiner)	03 May 2021 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office Part of Paper No.: 20210428

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0028

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/921,461	WILLIS et al.
	Examiner	Art Unit
	QAMRUN NAHAR	2196

CPC - Searched*		
Symbol	Date	Examiner
G06F 8/65 with text	05/03/2021	QN
H04L 12/2814, 12/2825 with text	05/03/2021	QN
H04L 67/12 with text	05/03/2021	QN

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor(s) Name Search (Palm)	04/27/2021	QN
Reviewed prosecution history and search history of parent application(s)	04/27/2021	QN
Updated East Text Search (see search history)	05/03/2021	QN
Searched G06F 8/65 with text (see search history)	05/03/2021	QN
Searched H04L 12/2814, 12/2825 with text (see search history)	05/03/2021	QN
Searched H04L 67/12 with text (see search history)	05/03/2021	QN
NPL Search (see search history)	05/03/2021	QN

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0029

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/921,461	WILLIS et al.
	Examiner	Art Unit
	QAMRUN NAHAR	2196

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	Interference Searched (text search only - see search history)	05/03/2021	QN

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0030

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/921,461	WILLIS et al.
	Examiner	**Art Unit**
	QAMRUN NAHAR	2196

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	04/28/2021								
	1	=								
	2	=								
	3	=								
	4	=								
	5	=								
	6	=								
	7	=								
	8	=								
	9	=								
	10	=								
	11	=								
	12	=								
	13	=								
	14	=								
	15	=								
	16	=								
	17	=								
	18	=								
	19	=								
	20	=								

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0031

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	16921461
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7831967	B2	2010-11-09	Won et al.	
	2	8561054	B2	2013-10-15	Smirnov et al.	
	3	8997092	B2	2015-03-31	Gentile et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090271507	A1	2009-10-29	Kodimer	
	2	20090300595	A1	2009-12-03	Moran et al.	
	3	20040083471	A1	2004-04-29	Nam et al.	

EFS Web 2.1.17

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16921461
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

	4	20050039178	A1	2005-02-17	Marolia et al.	
	5	20070192462	A1	2007-08-16	Bae et al.	
	6	20080040713	A1	2008-02-14	Subbakrishna et al.	
	7	20080301667	A1	2008-12-04	Rao et al.	
	8	20100082559	A1	2010-04-01	Sumcad et al.	
	9	20160294614	A1	2016-10-06	Searle et al.	
	10	20170300313	A1	2017-10-19	Gantt, JR. et al.	
	11	20130311611	A1	2019-11-21	Shim et al.	
	12	20160277195	A1	2016-09-22	Maeda et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Nu	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16921461
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/QAMRUN NAHAR/	Date Considered	04/28/2021

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16921461
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2020-07-06
Name/Print	Jeffrey Tracey	Registration Number	63,848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

Bibliographic Data

Application No: 16/921,461

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /QAMRUN NAHAR/ Examiner's Signature | Initials

Title: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
07/06/2020	717	2196	101-0393USP2
RULE			

APPLICANTS

BlackBerry Limited, Waterloo, CANADA

INVENTORS

Edward Snow WILLIS, Ottawa, CANADA

David Alan INGLIS, Stittsville, CANADA

Hashim Mohammad QADERI, Kitchener, CANADA

Scott HUTCHENS, Ottawa, CANADA

Christopher Scott TRAVERS, Ottawa, CANADA

Conrad Delbert SEAMAN, Ottawa, CANADA

CONTINUING DATA

This application is a CON of 16054004 08/03/2018 PAT 10719309

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

07/15/2020

STATE OR COUNTRY

CANADA

ADDRESS

Rowand LLP (BlackBerry)
3080 Yonge Street, Suite 6060
Toronto, ON M4N 3N1
CANADA

FILING FEE RECEIVED

$1,720

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16921461
Filing Date	2020-07-06
First Named Inventor	WILLIS, Edward Snow
Art Unit	2611
Examiner Name	n/a
Attorney Docket Number	101-0393USP2

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16921461
	Filing Date	2020-07-06
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2611
	Examiner Name	n/a
	Attorney Docket Number	101-0393USP2

	1	EPO, Communication pursuant to Article 94(3) EPC relating to EP application no. 19187392.6 dated 22 Oct 2020

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/QAMRUN NAHAR/	Date Considered	04/28/2021

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0039

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16921461
	Filing Date	2020-07-06
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2611
	Examiner Name	n/a
	Attorney Docket Number	101-0393USP2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2020-10-28
Name/Print	Jeffrey Tracey	Registration Number	63848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	13	("20040083471" | "20050039178" | "20070192462" | "20080040713" | "20080301667" | "20090271507" | "20090300595" | "20100082559" | "20160294614" | "20170300313" | "7831967" | "8561054" | "8997092").PN.	US-PGPUB; USPAT	OR	OFF	2019/09/26 09:30
S3	105	(server$1 with receiv$3 with (status or update) with information with (home with appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 11:10
S4	26	((server$1 near3 receiv$3) with (status$1 or update$1) with information$1 with (home adj appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 11:11
S7	8	S4 and ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 12:47
S8	5	(updat$3 with electronic with device$1) and ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 12:50
S9	0	(updat$3 with device$1) same ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 20:00
S10	5	(updat$3 with device$1) same ((home adj appliance$1) with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 20:01
S11	0	G06F8/65.cpc. and (server$1 with receiv$3 with (status or update) with information with (home with appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 21:13

S12	48	G06F8/65.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 21:14
S13	21	"3511825"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/02/18 12:43
S14	5	(updat$3 with electronic with device$1) and ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:28
S17	58	G06F8/65.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:29
S16	6	(updat$3 with device$1) same ((home adj appliance$1) with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:29
S15	0	(updat$3 with device$1) same ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:29
S18	1,848	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:30
S20	0	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1) and (determin$3 with status with device$1 with ready with update)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:31
S19	4	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1) and (determin$3 with status with device$1 with ready)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:31
L1	1,770	(server$1 with receiv$3 with (status or update) with device$1) and (home near3 appliance$1)	US-PGPUB; USPAT; FPRS; EPO; JPO;	OR	OFF	2021/05/03 10:15

			DERWENT; IBM_TDB			
L3	53	(server$1 with receiv$3 with (status or update) with device$1) and (determin$3 with status with device$1 with ready)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:17
L2	2	(server$1 with receiv$3 with (status or update) with device$1) and (home near3 appliance$1) and (determin$3 with status with device$1 with ready)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:17
L4	98	(server$1 with receiv$3 with (status or update) with information with (home near3 appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:19
L5	7	(updat$3 with electronic with device$1) and ((home near3 appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:25
L6	67	((server$1 near3 receiv$3) with (status$1 or update$1) with information$1 with (home near3 appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:26
L7	521	((server$1 near3 receiv$3) with (status$1 or update$1) with information$1 with ((home near3 appliance$1) or (electronic near3 device$1)))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:27
L11	624	G06F8/65.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and ((home near3 appliance$1) or (electronic near3 device$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:35
L12	123	H04L12/2814.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and ((home near3 appliance$1) or (electronic near3 device$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:37
L13	76	H04L12/2825.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and ((home near3 appliance$1) or (electronic near3 device$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:38

L14	680	H04L67/12.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and ((home near3 appliance$1) or (electronic near3 device$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/05/03 10:39

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S21	0	(updat$3 with device$1) same ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT	OR	OFF	2020/03/05 12:34
S23	4	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1) and (determin$3 with status with device$1 with ready)	US-PGPUB; USPAT	OR	OFF	2020/03/05 12:35
S22	6	(updat$3 with device$1) same ((home adj appliance$1) with off)	US-PGPUB; USPAT	OR	OFF	2020/03/05 12:35
L8	53	(server$1 with receiv$3 with (status or update) with device$1) and (determin$3 with status with device$1 with ready)	US-PGPUB; USPAT	OR	OFF	2021/05/03 10:31
L9	7	(updat$3 with electronic with device$1) and ((home near3 appliance$1) with turned with off)	US-PGPUB; USPAT	OR	OFF	2021/05/03 10:32
L10	49	((server$1 near3 receiv$3) with (status$1 or update$1) with information$1 with (home near3 appliance$1))	US-PGPUB; USPAT	OR	OFF	2021/05/03 10:33

5/3/2021 10:41:22 AM
C:\Users\qnahar\Documents\EAST\Workspaces\16921461.wsp

Web Search History

date, time	web site	search string
5/3/2021 10:43:51 AM	Google Scholar	server receiving status update from home appliances

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0046

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 16/921,461	Art Unit: 2196
Applicant: BlackBerry Limited	Confirmation No.: 7055
Filing Date: July 6, 2020	Examiner: NAHAR, QAMRUN
Title: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	Customer No.: 14551

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INTERVIEW SUMMARY

Dear Commissioner:

On April 27, 2021, the Examiner contacted the Applicant's representative, Jeffrey Tracey. The Examiner indicated that the application is in condition for allowance except for a double patenting objection with respect to the parent application. The Examiner asked that a terminal disclaimer be filed. The applicant's representative indicated that the Applicant would consider the request and respond shortly.

Respectfully Submitted,

BlackBerry Limited

/Jeffrey Tracey/

Jeffrey Tracey
Agent for Applicant
Registration No. 63,848

Date: 28 April 2021

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0047

Rowand LLP
3080 Yonge Street, Suite 6060 Toronto, Ontario , Canada M4N 3N1
Telephone: (416) 479-8647
Fax: (416)363-8429
Email: mailbox@rowandlaw.com

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0048

Electronic Acknowledgement Receipt

EFS ID:	42583132
Application Number:	16921461
International Application Number:	
Confirmation Number:	7055
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Helen Vongphakdy
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP2
Receipt Date:	28-APR-2021
Filing Date:	06-JUL-2020
Time Stamp:	17:45:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant summary of interview with examiner	50468-US-CNT_2021-04-27_INT_SUMM.pdf	25672 ec2a2e461489647a8a173bcf7cc5178fcde9a5dd	no	2
Warnings:					

Information:	
Total Files Size (in bytes):	25672

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: DIST.E.FILE **Document Description: Electronic Terminal Disclaimer - Filed**	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	16921461
Filing Date	06-Jul-2020
First Named Inventor	Edward WILLIS
Attorney Docket Number	101-0393USP2
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
BlackBerry Limited	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

10719309

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

○ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.
Applicant claims the following fee status: ○ Small Entity ○ Micro Entity ◉ Regular Undiscounted I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number 63848 ○ A sole inventor ○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ○ A joint inventor; all of whom are signing this request

Signature	/Jeffrey Tracey/
Name	Jeffrey Tracey

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	16921461
Filing Date:	06-Jul-2020
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Filer:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP2

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	170	170
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**170**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16921461

Filing Date: 06-Jul-2020

Applicant/Patent under Reexamination: WILLIS

Electronic Terminal Disclaimer filed on April 27, 2021

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	42572241
Application Number:	16921461
International Application Number:	
Confirmation Number:	7055
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Customer Number:	14551
Filer:	Jeffrey Michael Tracey
Filer Authorized By:	
Attorney Docket Number:	101-0393USP2
Receipt Date:	27-APR-2021
Filing Date:	06-JUL-2020
Time Stamp:	22:51:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$170
RAM confirmation Number	E20214QM51394856
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33459 760123e2a48a80c0165fbbd8033f881380cecf0e	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30470 083d4cc9efc221bd2e4d77d74e566b6936d0c5d9	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	63929		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16921461
Filing Date	2020-07-06
First Named Inventor	WILLIS, Edward Snow
Art Unit	2611
Examiner Name	n/a
Attorney Docket Number	101-0393USP2

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16921461
	Filing Date	2020-07-06
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2611
	Examiner Name	n/a
	Attorney Docket Number	101-0393USP2

	1	EPO, Communication pursuant to Article 94(3) EPC relating to EP application no. 19187392.6 dated 22 Oct 2020	

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0059

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16921461
	Filing Date	2020-07-06
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2611
	Examiner Name	n/a
	Attorney Docket Number	101-0393USP2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2020-10-28
Name/Print	Jeffrey Tracey	Registration Number	63848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	40974027
Application Number:	16921461
International Application Number:	
Confirmation Number:	7055
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Joanna Poon
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP2
Receipt Date:	28-OCT-2020
Filing Date:	06-JUL-2020
Time Stamp:	16:14:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	50468-US-CNT_2020-10-28_IDS.pdf	1034283 1e8e694e8c69804c25742b53c73d9f5c08c5413b	no	4
Warnings:					

Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
2	Non Patent Literature	50468-EP-EPA_2020-10-22_OA1.pdf	598494 e2ad68efc7c6423b6fd06645f26ad161863b3e33	no	12
Warnings:					
Information:					
			Total Files Size (in bytes):	1632777	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/921,461	07/06/2020	Edward Snow WILLIS	101-0393USP2

CONFIRMATION NO. 7055

14551
Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ON M5H 2Y4
CANADA

PUBLICATION NOTICE



Title:SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

Publication No.US-2020-0334031-A1
Publication Date:10/22/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0064

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/921,461	07/06/2020	2611	1720	101-0393USP2	20	3

CONFIRMATION NO. 7055

FILING RECEIPT

14551
Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ON M5H 2Y4
CANADA

Date Mailed: 07/16/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Edward Snow WILLIS, Ottawa, CANADA;
David Alan INGLIS, Stittsville, CANADA;
Hashim Mohammad QADERI, Kitchener, CANADA;
Scott HUTCHENS, Ottawa, CANADA;
Christopher Scott TRAVERS, Ottawa, CANADA;
Conrad Delbert SEAMAN, Ottawa, CANADA;

Applicant(s)

BlackBerry Limited, Waterloo, CANADA;

Assignment For Published Patent Application

BlackBerry Limited, Waterloo, CANADA

Power of Attorney: The patent practitioners associated with Customer Number 14551

Domestic Priority data as claimed by applicant

This application is a CON of 16/054,004 08/03/2018 PAT 10719309

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0065

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 07/15/2020
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/921,461**
Projected Publication Date: 10/22/2020
Non-Publication Request: No
Early Publication Request: No
Title

SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

Preliminary Class

345

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0066

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0068

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/921,461

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 460 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

ROWAND LLP

INTELLECTUAL PROPERTY LAW

Jeffrey Tracey
Email: jtracey@rowandlaw.com
Direct No.: 416-479-8664

July 14, 2020

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
U.S.A.

Dear Sir/Madam:

RE: UNITED STATES: Application No. 16/921,461
Assignee: BlackBerry Limited
Inventor(s): WILLIS, Edward Snow, et al.
Title: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
Our File: 101-0393USP2

Upon review of the application, it has come to our attention that the above-referenced patent application was filed with an error in regard to the inventor's mailing address. Please update the mailing address for inventors WILLIS, Edward Snow, INGLIS, David Alan, QADERI, Hashim Mohammad, HUTCHENS, Scott, TRAVERS, Christopher Scott, and SEAMAN, Conrad Delbert.

The Applicant encloses a revised Application Data Sheet (ADS) correcting the inventor's mailing address.

If any fees fall due in connection with the filing of this document, the Commissioner is authorized to charge Deposit Account No. 50-5494.

Respectfully Submitted,

BlackBerry Limited

/Jeffrey Tracey/

Jeffrey Tracey
Agent for Applicant
Registration No. 63,848



Rowand LLP
Suite 2302, 401 Bay St., PO Box 56, Toronto, Ontario, Canada M5H 2Y4

Telephone: (416) 479-8647

Fax: (416)363-8429
Email: mailbox@rowandlaw.com

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Edward	Snow	WILLIS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Ottawa	Country of Residence ⓘ	CA

Mailing Address of Inventor:

Address 1	~~1001 Farrar Road~~ c/o 2200 University Ave. East		
Address 2			
City	~~Kanata~~ Waterloo	**State/Province**	ON
Postal Code	~~K2K 0B3~~ N2K 0A7	**Country** ⓘ	CA

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	David	Alan	INGLIS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Stittsville	Country of Residence ⓘ	CA

Mailing Address of Inventor:

Address 1	~~492 Landswood Way~~ c/o 2200 University Ave. East		
Address 2			
City	~~Stittsville~~ Waterloo	**State/Province**	ON
Postal Code	~~K2S 0A5~~ N2K 0A7	**Country** ⓘ	CA

Inventor 3 Remove

Legal Name

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Prefix	Given Name	Middle Name	Family Name	Suffix
	Hashim	Mohammad	QADERI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Kitchener	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	~~2200 University Avenue East~~ c/o 2200 University Ave. East
Address 2	

City	Waterloo	State/Province	ON
Postal Code	N2K 0A7	**Country** [i]	CA

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Scott		HUTCHENS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Ottawa	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	~~1001 Farrar Road~~ c/o 2200 University Ave. East
Address 2	

City	~~Kanata~~ Waterloo	State/Province	ON
Postal Code	~~K2K 0B3~~ N2K 0A7	**Country** [i]	CA

Inventor 5 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Christopher	Scott	TRAVERS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Ottawa	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	~~868 Rob Roy Avenue~~ c/o 2200 University Ave. East
Address 2	

City	~~Ottawa~~ Waterloo	State/Province	ON
Postal Code	~~K2B 8S6~~ N2K 0A7	**Country** [i]	CA

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Inventor 6 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Conrad	Delbert	SEAMAN	

Residence Information (Select One) ◯ US Residency ◉ Non US Residency ◯ Active US Military Service

City	Ottawa	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	~~2115 Chalmers Road~~ c/o 2200 University Ave. East		
Address 2			
City	~~Ottawa~~ Waterloo	**State/Province**	ON
Postal Code	~~K1H 6K4~~ N2K 0A7	**Country** [i]	CA

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	14551		
Email Address	mailbox@rowandlaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES		
Attorney Docket Number	101-0393USP2	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	5	**Suggested Figure for Publication (if any)**	1

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	14551		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	16/054004	2018-08-03

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. [x]

Organization Name	BlackBerry Limited		
Mailing Address Information For Applicant:			
Address 1	2200 University Avenue East		
Address 2			
City	Waterloo	**State/Province**	ON
Country	CA	Postal Code	N2K 0A7
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. [x]

Organization Name	BlackBerry Limited

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	2200 University Avenue East		
Address 2			
City	Waterloo	**State/Province**	ON
Country	CA	Postal Code	N2K 0A7
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Jeffrey Tracey/			Date (YYYY-MM-DD)	~~2020-07-08~~ 2020-07-14
First Name	Jeffrey	Last Name	Tracey	Registration Number	63,848

Additional Signature may be generated within this form by selecting the Add button.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	16/921,461
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	39996782
Application Number:	16921461
International Application Number:	
Confirmation Number:	7055
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Shannon Thomas
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP2
Receipt Date:	14-JUL-2020
Filing Date:	
Time Stamp:	15:44:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	50468-US-CNT-2020-07-14_USPTO_Letter.pdf	147816 8661a17f303047f718b47fdc184536fca4370bbc	no	2
Warnings:					

Information:					
2	Application Data Sheet	50468-US-CNT-2020-07-14_ADS_Corrected.pdf	4841917 163480c1146284aa5aec7f19e7e606ef2df84c54	no	10
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
			Total Files Size (in bytes):	4989733	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	
Filing Date	
First Named Inventor	WILLIS, Edward Snow
Title	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
Art Unit	
Examiner Name	
Attorney Docket Number	101-0393USP2

SIGNATURE of Applicant or Patent Practitioner

Signature	/Jeffrey Tracey/	Date (Optional)	
Name	Jeffrey Tracey	Registration Number	63,848
Title (if Applicant is a juristic entity)	Patent Agent		
Applicant Name (if Applicant is a juristic entity)	BlackBerry Limited		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 14551

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name	Rowand Intellectual Property Law				
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

BlackBerry Limited

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	[signature]	Date (Optional)	Dec. 10, 2014
Name	Rose Hayeon		
Title	Senior Vice President, Technology		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. This information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Legal OK
Julia Pesch

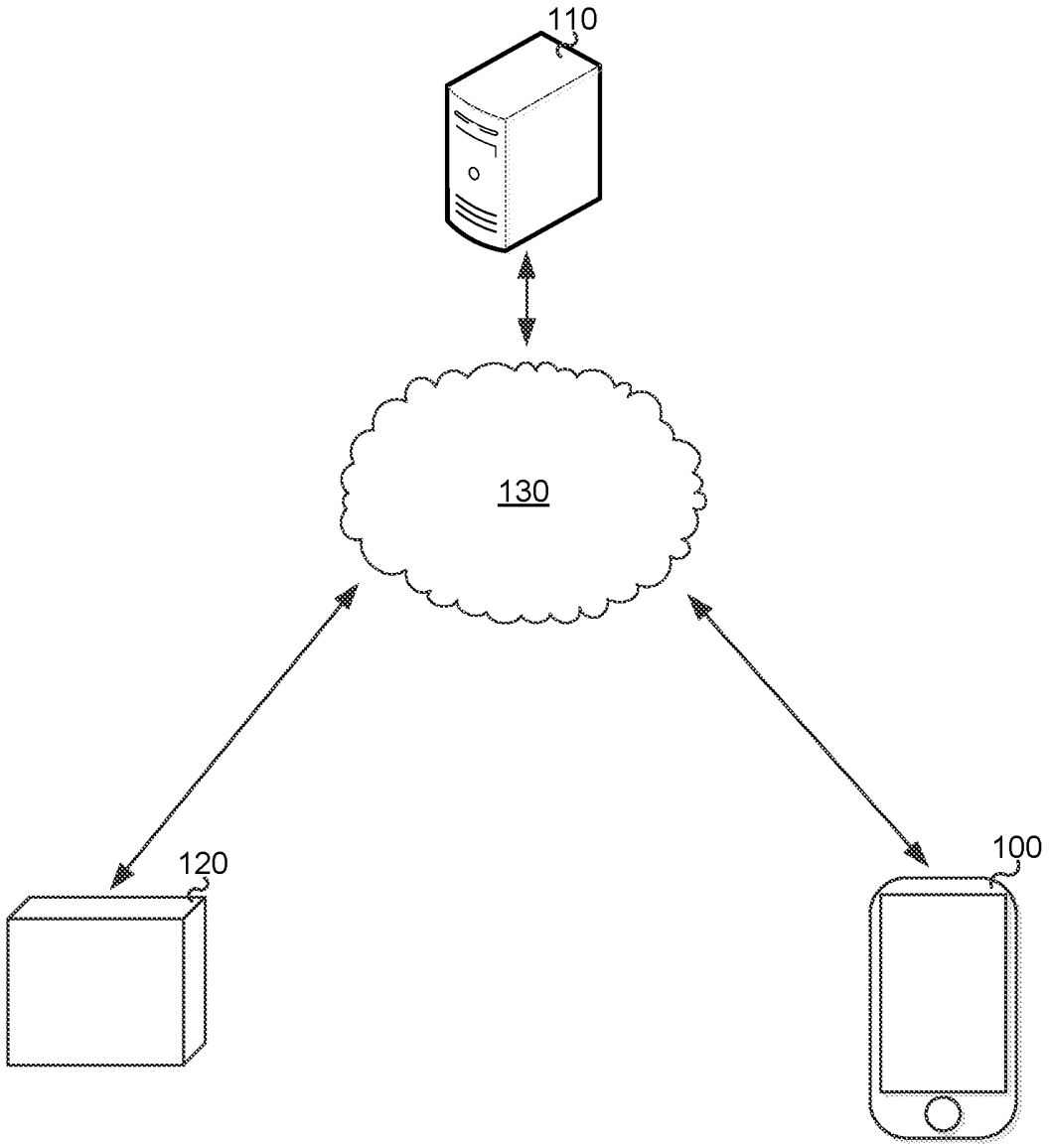


FIG. 1

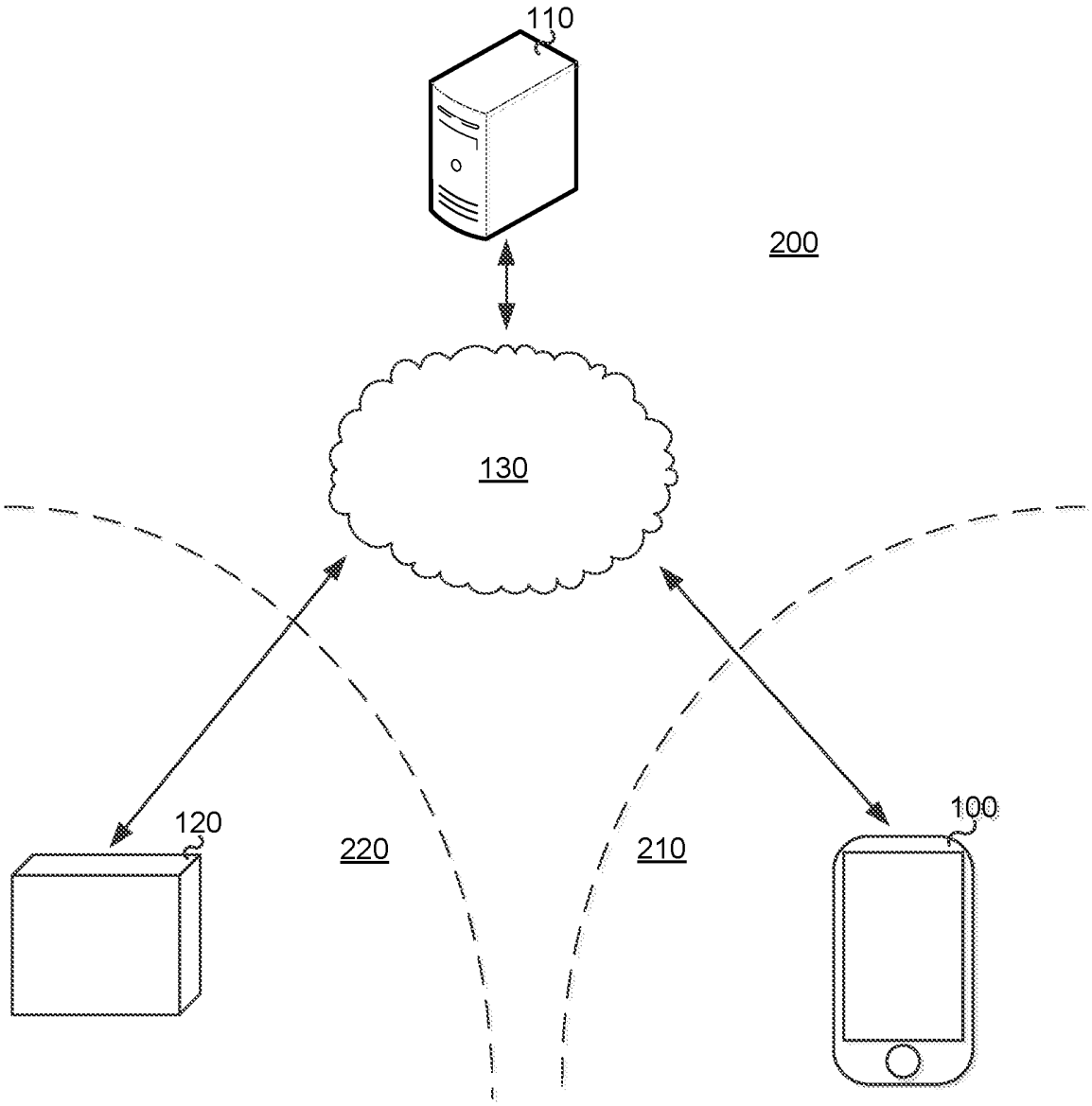


FIG. 2

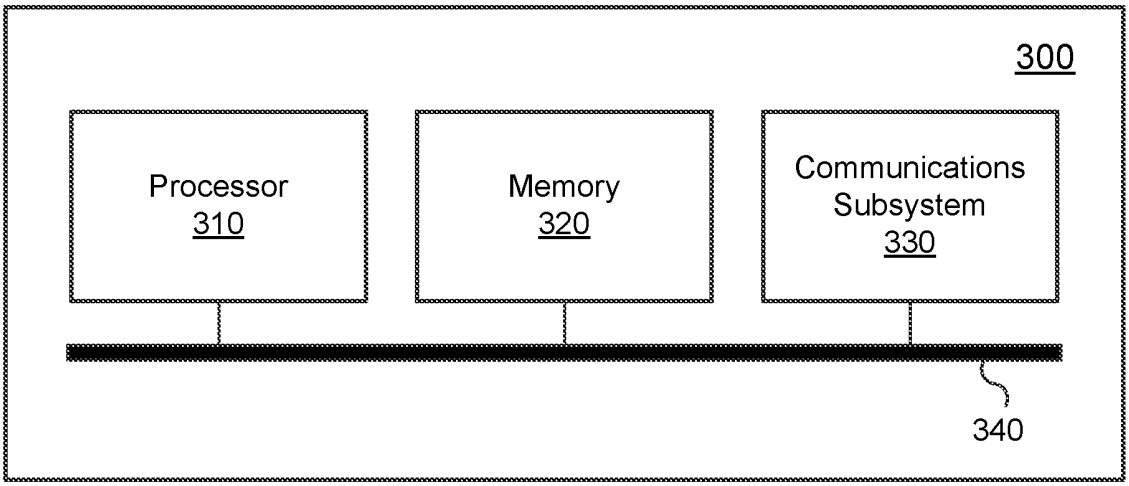

300
Processor
310
Memory
320
Communications
Subsystem
330
340

FIG. 3

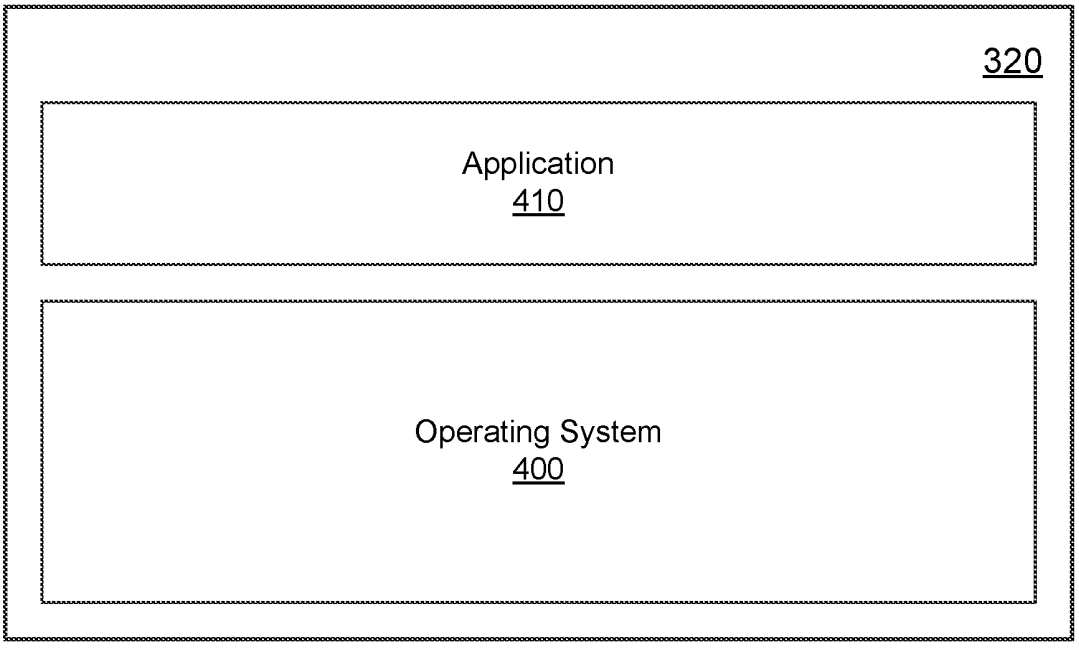

320
Application
410
Operating System
400

FIG. 4

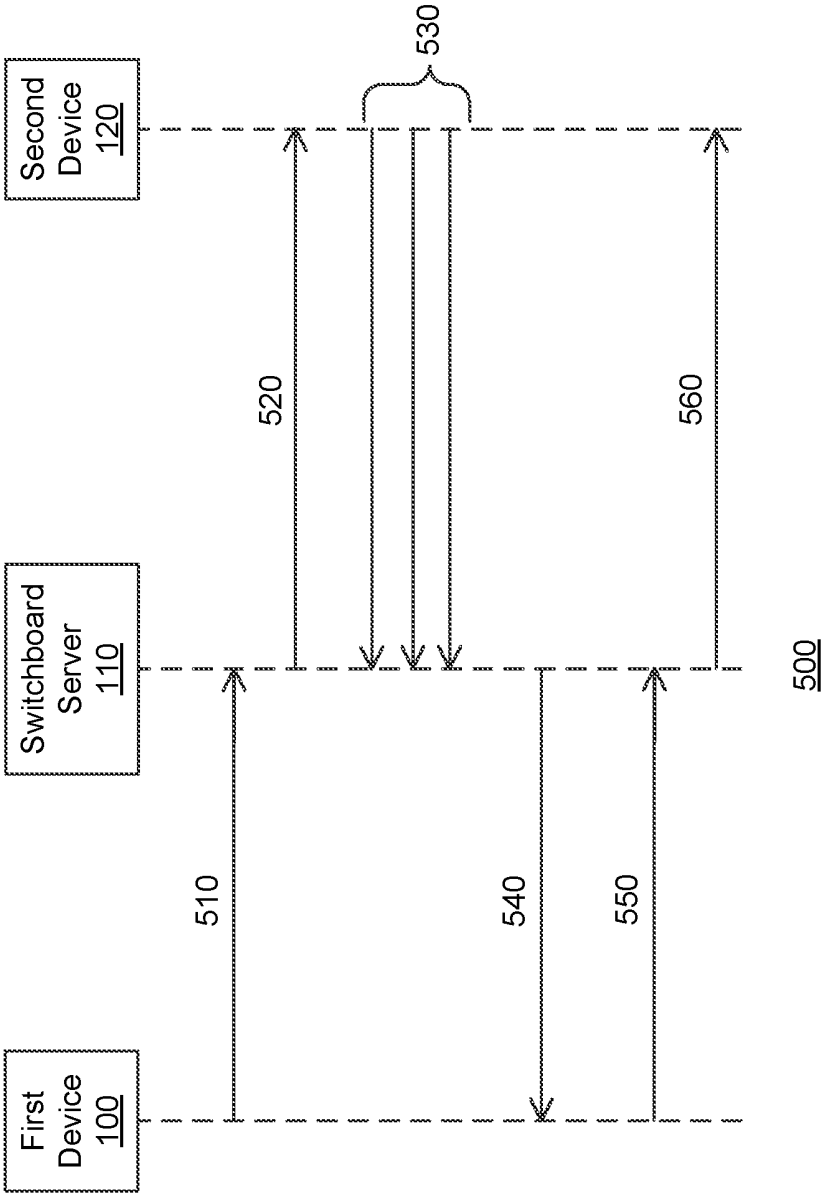

First Device 100
Switchboard Server 110
Second Device 120
510
520
530
540
550
560
500

FIG. 5

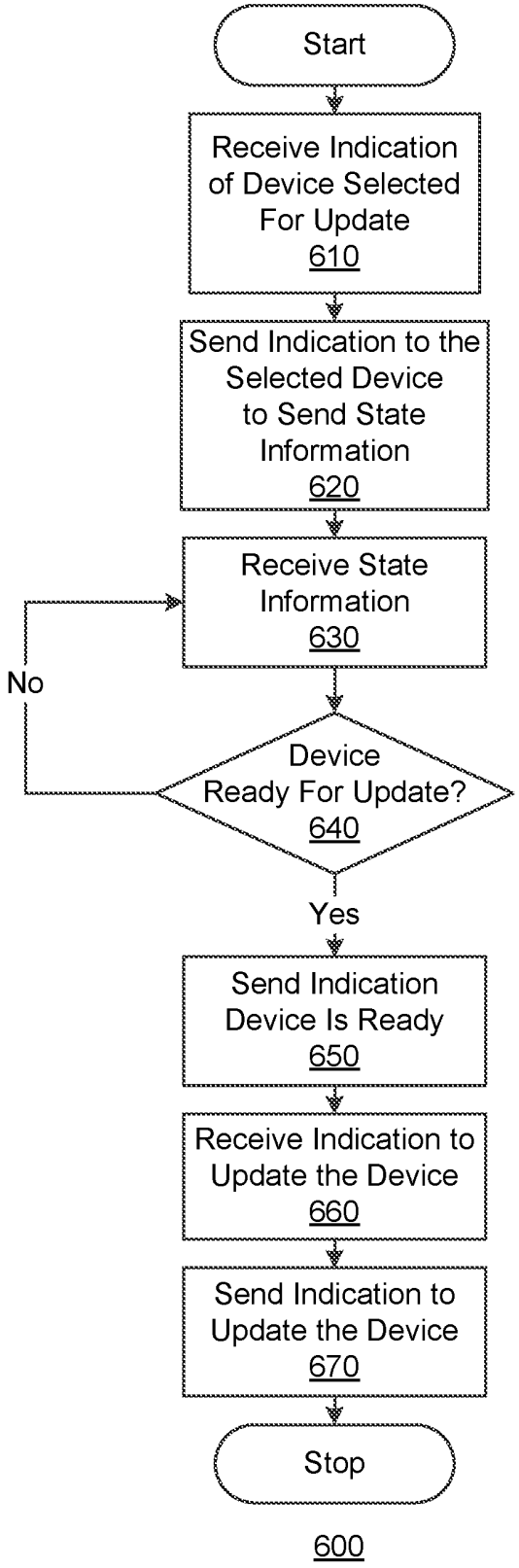

Start
Receive Indication of Device Selected For Update
610
Send Indication to the Selected Device to Send State Information
620
Receive State Information
630
No
Device Ready For Update?
640
Yes
Send Indication Device Is Ready
650
Receive Indication to Update the Device
660
Send Indication to Update the Device
670
Stop
600

FIG. 6

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004 filed on 3 August 2018.

The above-identified 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.

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.

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: Scott HUTCHENS Date (Optional) Sept 2018

Signature:

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc code: Oath
Document Description: Oath or declaration filed

PTO/AIA/02 (07-13)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

This statement is directed to:

☐ The attached application,

OR

☒ United States application or PCT international application number 16/054,004 filed on 08-03-2018.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Conrad Delbert Seaman

Residence (except for a deceased or legally incapacitated inventor):

City	State	Country
Ottawa	ON	Canada

Mailing Address (except for a deceased or legally incapacitated inventor):

2115 Chalmers Road

City	State	Zip	Country
Ottawa	ON	K1H 6K4	CA

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

☐ Legal Representative (for deceased or legally incapacitated inventor only),
☐ Assignee,
☒ Person to whom the inventor is under an obligation to assign,
☐ Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or
☐ Joint Inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/AIA02 (07-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- ☐ Inventor is deceased,
- ☐ Inventor is under legal incapacity,
- ☐ Inventor cannot be found or reached after diligent effort, or
- ■ Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- ■ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- ☐ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

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.

PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Steve Rai | Date (Optional):

Signature:

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: BlackBerry Limited

Title of Person Executing This Substitute Statement: Authorized Signing Officer

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

City Waterloo | State ON | Country Canada

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

2200 University Ave. E.

City Waterloo | State ON | Zip N2K 0A7 | Country Canada

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

Legal OK

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0094

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004 filed on 3 August 2018.

The above-identified 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.

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.

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: Hashim Mohammad QADERI Date (Optional): Oct. 5. 2018

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004 filed on 3 August 2018

The above-identified 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.

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.

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: David Alan INGLIS Date (Optional) Sept 19, 2018

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004

filed on 3 August 2018

The above-identified 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.

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.

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: Christopher Scott TRAVERS Date (Optional): Sept 16, 2018

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004

filed on 3 August 2018.

The above-identified 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.

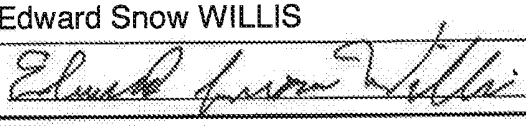
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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: Edward Snow WILLIS Date (Optional): _____

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Filer:	Jeffrey Michael Tracey/Shannon Thomas
Attorney Docket Number:	101-0393USP2

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1720**

Electronic Acknowledgement Receipt

EFS ID:	39921297
Application Number:	16921461
International Application Number:	
Confirmation Number:	7055
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Shannon Thomas
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP2
Receipt Date:	06-JUL-2020
Filing Date:	
Time Stamp:	17:04:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1720
RAM confirmation Number	E202076H05245360
Deposit Account	505494
Authorized User	Shannon Thomas
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.21 (Miscellaneous fees and charges) 37 CFR 1.20 (Post Issuance fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.16 (National application filing, search, and examination fees)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	50468-US-CNT-2020-07-06_ADS.pdf	200990 329880f86fe4b27e18744d1f43852ebf6ec36d20	no	10
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
2	Information Disclosure Statement (IDS) Form (SB08)	50468-US-CNT-2020-07-06_IDS1.pdf	85721 6eeebb60eaa4c80c7406e9102532e67ff9660ee9	no	5
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3		50468-US-CNT-2020-07-06_APP.pdf	196311 1c622a1645ebc92e0a62ae3ccd1c474e856e7422	yes	26

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Specification	1	20
	Claims	21	25
	Abstract	26	26

Warnings:					
Information:					
4	Power of Attorney	50468-US-CNT-2020-07-06_POA.pdf	767340 943c7c739f7e9b9c3a7e0c1a7576625ac880c478	no	2
Warnings:					
Information:					

5	Drawings-other than black and white line drawings	50468-US-CNT-2020-07-06_DRW.pdf	105239 5498372cbe02a60a077d724c0a07db513bdfa12f	no	5
Warnings:					
Information:					
6	Oath or Declaration filed	50468-US-CNT-2020-07-06_Declarations.pdf	2255192 6a9d9766d4431ede28c3f67400dd73db4826650d0	no	11
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	35042 bc147360af5fa0a21f695bbadc26ec5e413bbdb3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	3645835		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Edward	Snow	WILLIS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Ottawa	Country of Residence ⓘ	CA

Mailing Address of Inventor:

Address 1	1001 Farrar Road		
Address 2			
City	Kanata	**State/Province**	ON
Postal Code	K2K 0B3	**Country** ⓘ	CA

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	David	Alan	INGLIS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Stittsville	Country of Residence ⓘ	CA

Mailing Address of Inventor:

Address 1	492 Landswood Way		
Address 2			
City	Stittsville	**State/Province**	ON
Postal Code	K2S 0A5	**Country** ⓘ	CA

Inventor 3 Remove

Legal Name

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Prefix	Given Name	Middle Name	Family Name	Suffix
	Hashim	Mohammad	QADERI	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Kitchener	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	2200 University Avenue East		
Address 2			
City	Waterloo	State/Province	ON
Postal Code	N2K 0A7	Country [i]	CA

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Scott		HUTCHENS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Ottawa	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	1001 Farrar Road		
Address 2			
City	Kanata	State/Province	ON
Postal Code	K2K 0B3	Country [i]	CA

Inventor 5 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Christopher	Scott	TRAVERS	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Ottawa	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	868 Rob Roy Avenue		
Address 2			
City	Ottawa	State/Province	ON
Postal Code	K2B 8S6	Country [i]	CA

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Inventor 6 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Conrad	Delbert	SEAMAN	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Ottawa	Country of Residence ⁱ	CA

Mailing Address of Inventor:

Address 1	2115 Chalmers Road		
Address 2			
City	Ottawa	**State/Province**	ON
Postal Code	K1H 6K4	**Country** ⁱ	CA

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	14551		
Email Address	mailbox@rowandlaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES		
Attorney Docket Number	101-0393USP2	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	5	**Suggested Figure for Publication (if any)**	1

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	14551		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	16/054004	2018-08-03

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. [x]

Organization Name	BlackBerry Limited		
Mailing Address Information For Applicant:			
Address 1	2200 University Avenue East		
Address 2			
City	Waterloo	**State/Province**	ON
Country	CA	Postal Code	N2K 0A7
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	BlackBerry Limited

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	2200 University Avenue East		
Address 2			
City	Waterloo	**State/Province**	ON
Country	CA	Postal Code	N2K 0A7
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Jeffrey Tracey/			Date (YYYY-MM-DD)	2020-07-06
First Name	Jeffrey	Last Name	Tracey	Registration Number	63,848

Additional Signature may be generated within this form by selecting the Add button.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP2
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 16921461 Document Date: 07/06/2020

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via DAV or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: March 1, 2019

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7831967	B2	2010-11-09	Won et al.	
	2	8561054	B2	2013-10-15	Smirnov et al.	
	3	8997092	B2	2015-03-31	Gentile et al.	
If you wish to add additional U.S. Patent citation information please click the Add button.						
U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090271507	A1	2009-10-29	Kodimer	
	2	20090300595	A1	2009-12-03	Moran et al.	
	3	20040083471	A1	2004-04-29	Nam et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

	4	20050039178	A1	2005-02-17	Marolia et al.	
	5	20070192462	A1	2007-08-16	Bae et al.	
	6	20080040713	A1	2008-02-14	Subbakrishna et al.	
	7	20080301667	A1	2008-12-04	Rao et al.	
	8	20100082559	A1	2010-04-01	Sumcad et al.	
	9	20160294614	A1	2016-10-06	Searle et al.	
	10	20170300313	A1	2017-10-19	Gantt, JR. et al.	
	11	20130311611	A1	2019-11-21	Shim et al.	
	12	20160277195	A1	2016-09-22	Maeda et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Nu	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2020-07-06
Name/Print	Jeffrey Tracey	Registration Number	63,848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0122

SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

[0001] This is a continuation of US application number 16/054,004 filed August 3, 2018, the contents of which are incorporated herein by reference.

FIELD

[0002] This relates to updating software and, more particularly, to initiating and controlling the application of updates for Internet-of-Things devices.

BACKGROUND

[0003] Software updates can be performed for a variety of reasons including, for example, to correct issues or defects or to provide new features or functionality.

[0004] In recent years, many conventional devices such as, for example, cars, washing machines, refrigerators, and the like, have been enhanced with the addition of embedded computing devices.

[0005] Software, including firmware, included in embedded computing devices may require periodic updates. Currently such updates may be provided by bringing updated software to a device such as by way of portable media. For example, an update may be written to a USB thumb drive using a desktop or laptop computer and then the USB thumb drive may be brought to the device to perform the update. In the case of consumer devices, for example, this can be cumbersome. Moreover, as Internet-of-Things devices continue to become more common, the need to visit and operate/interact with each such device in order to periodically update it becomes increasingly cumbersome. Furthermore, in some cases to apply those updates may require the use of a specialized hardware or even, potentially, the services of a specialized technician may be required.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Reference will now be made, by way of example, to the accompanying drawings in which:

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0123

[0007] FIG. 1 illustrates a simplified schematic operation diagram illustrating an arrangement of computing devices in the operating environment of an example embodiment;

[0008] FIG. 2 illustrates another arrangement of the computing devices of FIG. 1;

[0009] FIG. 3 shows a simplified high-level block diagram of an example computing device;

[0010] FIG. 4 depicts a simplified software organization of the example computing device of FIG. 3;

[0011] FIG. 5 is a diagram illustrating communications between the computing devices of FIG. 1; and

[0012] FIG. 6 is a flow chart illustrating an example method of one of the computing devices of FIG. 1.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

[0013] Internet-of-Things (IoT) devices are devices including enhanced embedded computing devices featuring hardware and software allowing Internet connectivity. IoT devices may provide additional functionality as compared to similar non- IoT device such as, for example, similar devices including embedded computing devices. Additionally or alternatively, IoT devices may serve new or additional purposes not previously addressed by non-IoT devices.

[0014] Due to the availability of network connectivity in IoT devices, it is possible to update IoT devices online.

[0015] In one aspect, there is provided a computer system. The computer system includes a processor, a communications subsystem, and a non-transitory computer-readable storage medium. The non-transitory computer-readable storage medium stores instructions that when executed by the processor adapt the computer system to: receive, from a first device using the communications subsystem, an indication of a second device selected, at the first device, for update; send, to the second device using the communications subsystem, an indication signalling the second device to send state information about the second device; receive, from the second

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0124

device using the communications subsystem, the state information about the second device; determine, by the processor based on the state information about the second device, that the second device is ready to perform an update; send, to the first device using the communications subsystem, an indication that the second device is ready to perform an update; receive, from the first device using the communications subsystem, an indication to update the second device; and send, to the second device using the communications subsystem, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

[0016] In another aspect, there is provided a computer-implemented method. The method includes receiving, at a server from a first device, an indication of a second device selected, at the first device, for update; sending, by the server to the second device, an indication signalling the second device to send state information about the second device to the server; receiving, by the server from the second device, the state information about the second device; determining, by the server based on the received the state information about the second device, that the second device is ready to perform an update; sending, by the server to the first device, an indication that the second device is ready to perform the update; receiving, by the server from the first device, an indication to update the second device; and sending, by the server to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

[0017] In another aspect, there is provided a non-transitory computer-readable storage medium. The medium stores instructions that when executed by a processor of a computer system adapt the computer system to: receive, from a first device, an indication of a second device selected, at the first device, for update; send, to the second device, an indication signalling the second device to send state information about the second device; receive, from the second device, the state information about the second device; determine, by the processor based on the state information about the second device, that the second device is ready to perform an update; send, to the first device, an indication that the second device is ready to perform the update; receive, from the first device, an indication to update the second device; and send, to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0125

[0018] It may be that a user is only in a position to interact with the user-interface of a device (if any such UI exists) at times when they are intending to use it. For example, a user may only visit their washing machine when they have laundry to be done. In another example, a user may only get in her car if she is intending to take it for a ride. Conveniently, according to various embodiments, a user may initiate updating of a device such as, for example, an IoT device using a device remote from that device.

[0019] Additionally or alternatively, it may be that a device (such as an IoT device) is not capable of providing a rich user interface as would allow appropriate review and control of updating. For example, an IoT device may include no or only a small display screen on which information about an update can be reviewed. Additionally or alternatively, it may be that a user would prefer to be able to review such information using a more familiar device such as, for example, at a convenient time or place. Conveniently, according to various embodiments, a user may be able to remotely initiate and control updating of a device such as, for example, an IoT device.

[0020] Additionally or alternatively, update of a device may make it unusable for its usual or intended purposes for at least a portion of a period in which the update is being retrieved and applied to the device. Conveniently, according to various embodiments, a user may be able to control when updates are applied to prevent a device being unavailable at an inconvenient time due to an update. For example, a user may be able to control when an update is applied to a washing machine to avoid updating it if they have an urgent wash load. In another example, a user may be able to control an update of their vehicle to avoid updating it if they are planning to take it out to run an errand.

[0021] Other aspects and features of the present application will be understood by those of ordinary skill in the art from a review of the following description of examples in conjunction with the accompanying figures.

[0022] In the present application, the term "and/or" is intended to cover all possible combinations and sub-combinations of the listed elements, including any one of the listed elements alone, any sub-combination, or all of the elements, and without necessarily excluding additional elements.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0126

[0023] In the present application, the phrase "at least one of… or…" is intended to cover any one or more of the listed elements, including any one of the listed elements alone, any sub-combination, or all of the elements, without necessarily excluding any additional elements, and without necessarily requiring all of the elements.

[0024] FIG. 1 illustrates a simplified schematic operation diagram illustrating an arrangement of computing devices in the operating environment of an example embodiment.

[0025] As illustrated, a first device 100, a switchboard server 110, and a second device 120 are in communication via a network 130.

[0026] Each of the first device 100, the switchboard server 110, and the second device 120 may be in geographically disparate locations. Put differently, one of the first device 100, the switchboard server 110, and the second device 120 may be remote to others of the first device 100, the switchboard server 110, and the second device 120.

[0027] For example, it may be that first device is located in one part of a user's home or business, the second device 120 may be carried by a user from place to place, and the switchboard server 110 may be hosted in a data center.

[0028] The first device 100 is or includes a computing device. The first device 100 may, as illustrated, be a smartphone. However, the first device 100 may be a device of another type such as, for example, a personal computer, a laptop computer, a tablet computer, a notebook computer, a hand-held computer, a personal digital assistant, a wearable computing device (e.g., a smart watch, a wearable activity monitor, wearable smart jewelry, and glasses and other optical devices that include optical head-mounted displays), or any other type of computing device that may be configured to store data and software instructions, and execute software instructions to perform operations consistent with disclosed embodiments.

[0029] The switchboard server 110 is a server computer system adapted for providing services to various client devices including the first device 100 and the second device 120. Computer systems may include one or more computing devices. For example, a computer system may include multiple computing devices such as, for example, database servers, compute servers, and the like. The multiple computing devices may be in communication using a computer network.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0127

For example, computing devices may communicate using a local-area network (LAN). Computer systems may include multiple computing devices organized in a tiered arrangement. For example, a computer system may include middle-tier and back-end computing devices. A computer system may be a cluster formed of a plurality of interoperating computing devices.

[0030] The second device 120 includes a computing device. It may be that the second device 120 is an IoT (Internet of Things) device such, for example, a vehicle, an appliance such as, for example, a washing machine or a refrigerator, a smart device, a connected device, a building such as, for example, a home, an Enterprise of Things (EoT) devices (*i.e.*, an IoT device in an enterprise) or a node or combination thereof. Vehicles includes motor vehicles (*e.g.*, automobiles, cars, trucks, buses, motorcycles, etc.), aircraft (*e.g.*, airplanes, unmanned aerial vehicles, unmanned aircraft systems, drones, helicopters, etc.), spacecraft (*e.g.*, spaceplanes, space shuttles, space capsules, space stations, satellites, etc.), watercraft (*e.g.*, ships, boats, hovercraft, submarines, etc.), railed vehicles (*e.g.*, trains and trams, etc.), and other types of vehicles including any combinations of any of the foregoing, whether currently existing or after arising. It may be that the second device 120 is a component of another device.

[0031] As further described below, the switchboard server 110 communicates with the first device 100 and the second device 120 to facilitate initiation and control update of the second device 120 as directed by the first device 100.

[0032] FIG. 2 illustrates another example arrangement of the computing devices of FIG. 1. In some embodiments, it may be that one or both of the first device 100 and the second device 120 is not directly addressable on the network 130. For example, one or both of the first device 100 and the second device 120 may have an address in a private address space not routable from the network 130. In a particular example, where the network 130 is the Internet, it may be that the Internet Protocol (IP) address(es) assigned to one or both of the first device 100 and the second device 120 is in a private address space. For example, it may, as illustrated, be that the IP address of the switchboard server 110 is a globally addressable IP address in an IP address space 200. By contrast, the IP addresses of the first device 100 and the second device 120 may be private addresses in a private address space 210 and a private address space 220, respectively. For example, this may occur if a device is accessing the address via a router employing network

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0128

address translation (NAT) techniques. Conveniently, in such a scenario, the switchboard server 110 is reachable / addressable directly by either of the first device 100 and the second device 120. Accordingly, it may be that the first device 100 and the second device 120 communicate via the switchboard server 110, which can act as a relay. Further, as described below, techniques may be employed that take advantage of the fact that the switchboard server 110 is directly addressable in order to facilitate communication between various of the first device 100, the switchboard server 110, and the second device 120.

[0033] As noted above, each of the first device 100, the switchboard server 110, and the second device 120 is or may include a computing device. FIG. 3 is a high-level operation diagram of an example computing device 300. Example computing device 300 may be an example of one or more of the switchboard server 110, the first device 100, and the second device 120. As will be discussed in greater detail below, each of the switchboard server 110, the first device 100, and the second device 120 includes software that adapts it to perform a particular function.

[0034] The example computing device 300 includes a variety of modules. For example, as illustrated, the example computing device 300 may include a processor 310, a memory 320, and a communications subsystem 330. As illustrated, the foregoing example modules of the example computing device 300 are in communication over a bus 340.

[0035] The processor 310 is or includes a hardware processor and may, for example, be or include one or more processors using ARM, x86, MIPS, or PowerPC (TM) instruction sets. For example, the processor 310 may be or include Intel (TM) Core (TM) processors, Qualcomm (TM) Snapdragon (TM) processors, or the like.

[0036] The memory 320 may include random access memory, read-only memory, persistent storage such as, for example, flash memory, a solid-state drive or the like. Read-only memory and persistent storage are a computer-readable medium. A computer-readable medium may be organized using a file system such as may be administered by an operating system governing overall operation of the example computing device 300.

[0037] The communications subsystem 330 allows the example computing device 300 to communicate with other computing devices and/or various communications networks. For

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0129

example, the communications subsystem 330 may allow the example computing device 300 to send or receive communications signals. Communications signals may be sent or received according to one or more protocols or according to one or more standards. For example, the communications subsystem 330 may allow the example computing device 300 to communicate via a cellular data network, such as for example, according to one or more standards such as, for example, Global System for Mobile Communications (GSM), Code Division Multiple Access (CDMA), Evolution Data Optimized (EVDO), Long-term Evolution (LTE) or the like. Additionally or alternatively, the communications subsystem 330 may allow the example computing device 300 to communicate via Wi-Fi (TM), using Bluetooth (TM) or via some combination of one or more networks or protocols. All or a portion of the communications subsystem 330 may be integrated into a component of the example computing device 300. For example, the communications subsystem may be integrated into a communications chipset.

[0038] Software comprising instructions is executed by the processor 310 from a computer-readable medium. For example, software may be loaded into random-access memory from persistent storage of the memory 320. Additionally or alternatively, instructions may be executed by the processor 310 directly from read-only memory of the memory 320.

[0039] FIG. 4 depicts a simplified organization of software components stored in the memory 320 of the example computing device 300. As illustrated these software components include an operating system 400 and an application 410.

[0040] The operating system 400 comprises software and may comprise, for example, software such as, for example, Android (TM), QNX (TM), Linux (TM), Apple(TM) iOS (TM), Microsoft (TM) Windows (TM), or the like. The operating system 400 controls the overall operation of the example computing device 300 and allows the application 410 to access the processor 310, the memory 320, and the communications subsystem 330.

[0041] The application 410, comprises software that, in combination with the operating system 400, adapts the example computing device 300 to operate as a device for various purposes. For example, the application 410 may cooperate with the operating system 400 to adapt a suitable instance of the example computing device 300 to operate as the switchboard server 110, the first device 100, or the second device 120.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0130

[0042] Referring to FIG. 5, the operation of each of the switchboard server 110, the first device 100, and the second device 120 will be described.

[0043] FIG. 5 illustrates a sequence diagram 500, similar to a Unified Modelling Language (UML) sequence diagram, that shows how the first device 100, the switchboard server 110, and the second device 120 may communicate. In particular, the sequence diagram 500 depicts messages exchanged between the first device 100, the switchboard server 110, and the second device 120 in initiating and controlling update of the second device 120.

[0044] In the following description of the sequence diagram 500, discussion is made of various messages being sent and received via a computer network such as, for example, network 130. The exchanged messages may be implemented as messages. However, it may be that some or all of the illustrated messages may not correspond to messages *per se* when sent over the computer network but may instead be implemented using techniques such as for example remote procedure calls (RPC) and/or web services application program interfaces (APIs).

[0045] The sequence diagram 500 presumes that bi-directional communication is available at least between the first device 100 and the switchboard server 110 and between the second device 120 and the switchboard server 110. Note, however, as further described below, it is not required that the first device 100 and the second device 120 can communicate with one another directly.

[0046] The sequence diagram 500 further presumes that an update is available for the second device 120 and that this availability is known to at least the first device 100. The availability of such an update may has been previously detected in a variety of manners such as, for example, by periodic polling by one or more of the first device 100, the switchboard server 110, or the second device 120. For example, one or more of the first device 100, the switchboard server 110, or the second device 120 may periodically poll an update server (not shown) such as may be provided, for example, by a manufacturer of the second device 120. In another example, it may be that a notification that an update is available is received by one or more of the first device 100, the switchboard server 110, or the second device 120 such as for example from such an update server. In yet another example, it may be that updates for various devices including, for example, the second device 120 are maintained by the switchboard server 110 for distribution. The first device 100 may be provided with a notification that an update is available by another computer system

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0131

such as, for example, from the switchboard server 110, further to the other computer system learning of the availability of the update. Put differently, another machine such as, for example, the switchboard server 110, may send a notification that an update is available for the second device 120 to the first device 100.

[0047] A user of the first device 100 may select to initiate the update of the second device 120. For example, a notification of the availability of the update of the second device 120 may be provided to the user by a notification such as by way of, for example, a visual indication (*e.g.* via the Android (TM) notification tray), an email, etc.. A user may then select to perform such an update of the second device 120. Responsive to such a selection, the first device may send a message 510 indicating that the second device 120 has been selected (at the first device 100) for update to the switchboard server 110. As such, the switchboard server 110 may receive the message 510 from the first device 100. For example, where the switchboard server 110 is or includes a suitably configured instance of the example computing device 300, it may receive an indication of the second device 120 being selected, at the first device 100, for update by way of the communications subsystem 330.

[0048] Next, responsive to the message 510, the switchboard server 110 may, as illustrated, send a message 520 to the second device 120. The message 520 may signal the second device 120 to send state information about itself.

[0049] State information about the second device 120 may take a variety of forms and may be specific to the nature of the second device. For example, where the second device 120 is a refrigerator, it may indicate whether the compressor is currently running. In another example, where the second device 120 is a washer or a dryer, it may indicate whether a cycle is currently running. In yet another example, where the second device 120 is a vehicle the information may include, for example, whether the car is in motion, whether it is fueled, a battery charge level, and/or whether the engine is running.

[0050] The second device 120 may send one or more messages 530 including state information about itself to the switchboard server 110. As such, it may be that the switchboard server 110 may receive state information one or more times from the second device 120. Such state information may, for example, be received by way of the communications subsystem 330 where

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0132

the switchboard server 110 is or includes a suitably configured instance of the example computing device 300 as suggested above.

[0051] It may be that each of the one or more messages 530 is sent responsive to the message 520. For example, the second device 120 may periodically transmit state information to the switchboard server 110. Additionally or alternatively, the switchboard server 110 may periodically send one or more further requests (not shown) akin to the message 520 triggering sending of one or more of the messages 530.

[0052] The switchboard server 110 may determine, based on the received state information about the second device 120 that the second device 120 is in a state where it may be considered ready to perform an update. For example, where the switchboard server is or includes a suitably configured instance of the example computing device 300, a determination may be made by the processor 310.

[0053] For example, where the second device is a washer/dryer, determining that it is ready for update may include detecting that no cycle is currently underway.

[0054] In another example, where the second device is a refrigerator, determining that it is ready for update may include detecting that the compressor is not currently running or that a frost-free freezer is not currently performing a de-icing operation.

[0055] In another example, where the second device 120 includes a battery, determining that it is ready for update may include detecting that the battery is of a sufficient charge level or that the device has been connected to mains power. For example, connection of the second device 120 to a charger may be required to ready it for update.

[0056] In another example, determining that the second device 120 is ready for update may include a determination that the second device 120 is in a suitable location. For example, where the second device 120 is a vehicle, determining that it is ready for update may include determining that it is parked in a suitable location such as, for example, a lot, a garage, or an owned parking spot.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0133

[0057] In another example, where the second device 120 is a component of another device, determining that the second device 120 is ready to perform an update may include determining that that device is not in use. For example, where the second device 120 is a component of a vehicle, determining that the second device 120 is ready to perform an update may include determining that the vehicle is not in use.

[0058] It may, as noted above, be the case that the second device 120 is not directly addressable by the switchboard server 110. As such, it may be that the second device 120 communicates periodically with the switchboard server 110 (*i.e.*, polls) to determine whether any messages are pending for it. Accordingly, the message 520 may be sent responsive to such a poll. Additionally or alternatively, the second device 120 may maintain an open connection stream with the switchboard server 110 for use in communicating therebetween. For example, where the switchboard server 110 provides a web services API, the second device 120 may make an HTTP GET request to which the switchboard server 110 later responds when it has a message to communicate to the second device 120. For example, the message 520 may correspond to a response to a such a "hanging GET".

[0059] Responsive to the determination that the second device 120 is ready for update, the switchboard server 110 may send a message 540 to the first device 100 indicating that the second device 120 is ready to perform the update. For example, where the switchboard server 110 is or includes a suitably configured instance of the example computing device 300, it may send such an indication using the communications subsystem 330.

[0060] Further to the message 540, the first device 100 may determine that the second device 120 should begin performing the update.

[0061] For example, the first device 100 may provide a user interface responsive to the message 540 allowing a user to start the update of the second device 120. As such, the first device 100 may determine that the second device 120 should begin performing the update responsive to initiation of the update via such as user interface. Conveniently, in this way, a user may initiate update of the second device 120 without the need to visiting or, potentially, even entering into physical proximity with the second device 120. Instead, the user needs only use the first device 100. Notably, where the first device 100 is a mobile device with wireless connectivity such as, for

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0134

example, a smartphone, this may even mean that the user can initiate update of the second device 120 from practically any location of their choosing. More particularly, update of the second device 120 is initiated by way of the first device 100, no direction interaction with the second device 120 such by way of any physical interface elements (*e.g.*, buttons, keys, display mounted on the second device 120, etc.) is required to update the second device 120. In other words, as further described below, after update of the second device 120 is initiated as a consequence of an indication sent from the first device 100 to the switchboard server 110, update of the second device 120 will be performed without any direct interaction with the second device 120 (*e.g.* interaction controls provided on / by the second device 120, etc.). Put differently, the second device 120 is configured to begin performing the update responsive to a corresponding indication without any interaction requiring an operator to attend the second device 120. For example, the update will be triggered without an operator providing any input to the second device 120 by way of a control panel, button, and/or user interface, etc. thereof.

[0062] Furthermore, since, as noted above, providing such a user interface may allow a user to initiate an update at a time of their choosing, such a user interface can also allow a user to defer update of the second device 120 until a time the user finds convenient for update, even if the switchboard server 110 considers it ready for update at an earlier time. Allowing a user to deter update of the second device 120 until a time the user finds convenient for update may allow initiation of the update to take into account information unknown to or not considered by the switchboard server 110 such as, for example, that the user intends to use the second device 120 soon and that, therefore, update should be deferred. For example, where the second device 120 is a washer or a dryer, the user may be planning to run a load and may, therefore, want to wait to update the second device 120. In another example, where the second device 120 is a vehicle, the user may be planning to take it out for a drive and may, therefore, want to defer update.

[0063] Such a user interface may be the same user interface as was provided to allow the user to select the second device 120 for update. For example, it may be that the user is provided a list of devices available for update via the user interface. The user may then select a device for update and be provided with a visual indication of whether the device is ready for update. Then, upon receipt of the message 540 the user interface may be updated such as, for example, by making an update control such as, for example, a button available such as, for example, by adding such a

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0135

control available in the user interface or by making an existing update control active (*e.g.*, not "greyed out"). Alternatively, such an update control may be made available in advance but if a user attempts to activate it prematurely they may be provided with an appropriate error and/or other feedback.

[0064] As noted above, it may be that the first device 100 is not directly addressable by the switchboard server 110. Accordingly, it may be that techniques similar to those described above in the context of the message 520 are employed. For example, it may be that a connection to the switchboard server 110 is maintained. For example, the message 540 may correspond to a communication over a channel that was opened between the first device 100 and the switchboard server 110 to send communications corresponding to the message 510. In a particular example, the message 510 may correspond to an HTTP GET that is then left hanging until a reply (corresponding to the message 540) is sent.

[0065] Upon determining that the second device 120 should begin performing the update, the first device 100 may send a message 550 to the switchboard server 110 indicating that the second device 120 should be updated. As such, the switchboard server 110 may receive the message 550 from the first device 100. For example, where the switchboard server 110 is or includes a suitably configured instance of the example computing device 300, such an indication may be received using the communications subsystem 330.

[0066] Responsive to the message 550, the switchboard server 110 may send a message 560 to the second device 120 indicating that the second device 120 should begin performing the update.

[0067] Responsive to the message 560, the second device 120 may begin performing the update.

[0068] The second device 120 may download the update responsive to the message 560. For example, the second device 120 may download the update from an update server (not shown), either directly or through a relay. For example, the switchboard server 110 may act as a relay. In another example, it may be that the second device 120 will download the update from the switchboard server 110 responsive to the message 560. Alternatively, the second device 120 may

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0136

have previously downloaded the update. For example, it may be that the second device 120 is configured to automatically download updates such as, for example, during idle periods. It may be that the state information provided by the second device 120 (*e.g.* in the messages 530) includes a status of any such download. Further, it may be that a determination that the second device 120 is ready for update requires detecting or determining that any pending update has been downloaded.

[0069] During the update, the second device 120 may send one or more messages (not shown) indicating one or more of the initiation of the updating process, the progress of the updating process (*e.g.*, periodically),, and the completion thereof. Notably, responsive to such messages, the switchboard server 110 may send one or more messages to the first device 100 (not shown) indicating initiation of the updating process, progress of the updating progress (*e.g.*, periodically), and/or completion of the updating progress. Responsive to receiving such messages may provide a user interface indication corresponding to the message. As such, a user may monitor the status of an initiated update including to determine whether such an update has been started, how quickly it is proceeding, and whether it is completed. Conveniently, in this way, a user may determine whether the second device 120 is available for use after update thereof has been initiated without the need to visit or attend the second device 120.

[0070] In some embodiments, the first device 100 may also receive an estimate of how long the update will take to complete and/or may determine such an estimate based on received information (*e.g.*, based on progress updates). Conveniently, in this way, a user may determine (by way of the first device 100) when a second device 120 will again be available for use after update thereof has been initiated without the need to attend or visit the second device 120.

[0071] In some embodiments, user interface provided by the first device 100 may allow a user to cancel update of the second device 120 after initiation. For example, it may be that update of the second device 120 can be canceled after initiation by way of user interface provided by the first device 100 if the update of the second device 120 not yet started. Additionally or alternatively, it may be that update of the second device 120 can canceled by way of such user interface even after starting such as, for example, where the update process supports rollback of partial updates.

[0072] It may be that the update cannot be performed by the second device 120 for various reasons. For example, a failure may occur during applying the update. Additionally or alternatively,

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0137

it may be that following the second device 120 being determined to be ready to perform the update and before the receipt and handling of the message 560, the second device 120 experiences a state change such that it is no longer ready to perform the update. Accordingly, it may be that a message (not shown) indicating that the update cannot be performed or that the update has failed is sent to the switchboard server 110 responsive to the message 560 and the switchboard server 110 may, in turn, send a corresponding message to the first device 100. A corresponding notification may then be provided to a user by the first device 100. Conveniently, in this way, a user may be informed by way of the first device 100 if update of the second device 120 has failed without the need to attend or visit the second device 120.

[0073] It may be that the state information sent by the second device 120 to the switchboard server 110 includes information about whether the second device 120 considers itself to be in a state ready for update. The switchboard server 110 may then defer to the determination of the second device 120 in making its determination as to whether the second device is ready for update or, alternatively, may rely both on that state information and other state information provided by the second device 120 is combination to determine whether the second device 120 is in a condition ready for update based the state information. Conveniently, in this way, considerations ignored by the second device 120 in making its determination may be incorporated into the determination of its readiness for update by the switchboard server 110 while still leveraging the information about whether the second device 120 considers itself to be in a state ready for update. Additionally, it may be that further information is received from other sources that is factored into the determination. For example, it may be that information is received indicating that maintenance has been scheduled for power or communications systems affecting one or more of the first device 100, the switchboard server 110, and second device 120 and that, therefore, it may be necessary or desirable to defer update being as readiness for update may be impacted. Additionally or alternatively, it may be that information is received or obtained indicating that an outage such as, for example, a communications outage is underway. Such an interruption may impact readiness for update. For example, it may be that the update cannot be accessed such as, for example, where it is to be downloaded subsequent to initiation of updating.

[0074] It may be that the first device 100 is authenticated by the switchboard server 110 as being authorized to update the second device 120. Authentication information may be sent by the

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0138

first device 100 to the switchboard server 110. For example, an indication that the second device 120 has been selected for update (*e.g.* the message 510) may further indicate the authentication information. The switchboard server 110 may condition sending any indication signalling the second device 120 to send state information about the second device 120 to the switchboard server 110 (*e.g.*, the message 520) on the switchboard server 110 determining that the authentication information indicates authorization to update the second device 120. For example, the switchboard server 110 may determine based on the authentication information whether a user associated with the authentication information is authorized to update the second device 120. The switchboard server 110 may communicate with another server such as, for example, an authentication server (not shown) to confirm such authorization.

[0075] As noted above, it may be that the first device 100 may provide a user interface whereby a user could attempt to prematurely initiate an update and may receive a corresponding error or explanation. For example, the user may receive an explanation as to why the device is not available for update yet. It may, therefore, be that the switchboard server 110 may transmit one or more periodic updates to the first device 100 following selection of the second device 120 for update and prior to it becoming ready for update providing an explanation and / or allowing determination of an explanation of why the second device 120 may not be considered ready for update.

[0076] The operation of the switchboard server 110 in initiating an update of the second device 120 is described with reference to a flowchart 600 of FIG. 6. Operations 610 and onward are performed by one or more processors of a computing device, such as for example the processor 310 of a suitably configured instance of the example computing device 300, executing software such as, for example, a suitable instance of the application 410.

[0077] At the operation 610, the switchboard server 110 receives an indication of a device selected for update. For example, it may be that the first device 100 may select from amongst a variety of devices for which it may initiate an update. As such, the switchboard server 110 may receive a message indicating that a particular device to be considered the second device 120. Put differently, the switchboard server 110 may receive an indication such as, for example, the message

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0139

510 described above and/or may handle such an indication in manners consistent with the description of the handling of the message 510 above.

[0078] From the operation 610, control flow advances to an operation 620. At the operation 620, the switchboard server 110 sends an indication to the selected device—*i.e.*, the second device 120—that it should send state information to the switchboard server 110. For example, the switchboard server may send a message like the message 520 and/or consistent with the description of the sending thereof above.

[0079] From the operation 620, control flow advances to an operation 630. At the operation 630, the switchboard server 110 processes an indication of state information received from the selected device. For example, the switchboard server 110 may receive and process a message like one of the messages 530 and/or consistent with the description of the handling thereof above.

[0080] From the operation 630, control flow advances to an operation 640. At the operation 640 it is determined whether the selected device is ready for update consistent with manners for determining whether the second device 120 is ready for update as described above.

[0081] From the operation 640, if it is determined that the selected device is ready for update, control flow proceeds to an operation 650. Alternatively, if it is determined that the selected device is not ready, control flow returns to the operation 630 to receive and process further state information. For example, control flow may return to process a message like another of the messages 530.

[0082] At the operation 650, the switchboard server 110 sends an indication that the selected device is ready to the device from which the indication was received at the operation 610. For example, it may be that the switchboard server 110 sends an indication to the first device 100 such as, for example, a message as may be akin to the message 540 and/or may be generated in manners consistent with the description of the sending of the message 540 above.

[0083] From the operation 650, control flow proceeds to an operation 660. Consistent with the description above, it is the selecting device (*e.g.* the first device 100) that determines when the update of the selected device should be initiated. As described above, this may, for example, allow a user of the selecting device to identify an opportune time for update. Once a determination that

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0140

the second device should be updated is made, an indication thereof may be sent to the switchboard server 110. Such an indication may then, for example, be received such as by way of a message akin to the message 550 and/or may be processed consistent with the description of handling of the message 550 above.

[0084] From the operation 660, control flow proceeds to an operation 670. At the operation 670, the switchboard server 110 sends an indication to the device that it is to begin updating itself consistent with the description of the message 560 (FIG. 5). Such an indication may be, for example, be sent by way of a message akin to the message 560 and/or may be generated in manners consistent with the description of the sending of the message 560 above.

[0085] It may be that additional or alternative operations to those illustrated in FIG. 2 are performed by the switchboard server 110. For example, additional or alternative operations may be performed consistent one or more of the variations discussed above as regards FIG. 5.

[0086] Further, as discussed above it may be that the first device 100 and the second device 120 are not able to communicate directly via the network 130. A particular example of such a scenario is shown in FIG. 2.

[0087] Example embodiments of the present application are not limited to any particular operating system, system architecture, mobile device architecture, server architecture, or computer programming language.

[0088] The various embodiments presented above are merely examples and are in no way meant to limit the scope of this application. Variations of the innovations described herein will be apparent to persons of ordinary skill in the art, such variations being within the intended scope of the present application. In particular, features from one or more of the above-described example embodiments may be selected to create alternative example embodiments including a sub-combination of features which may not be explicitly described above. In addition, features from one or more of the above-described example embodiments may be selected and combined to create alternative example embodiments including a combination of features which may not be explicitly described above. Features suitable for such combinations and sub-combinations would be readily apparent to persons skilled in the art upon review of the present application as a whole. The subject

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0141

matter described herein and in the recited claims intends to cover and embrace all suitable changes in technology.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0142

What is claimed is:

1. A computer system comprising:

a processor;

a communications subsystem; and

a non-transitory computer-readable storage medium storing instructions that when executed by the processor adapt the computer system to:

receive, from a device for which an update is available, using the communications subsystem, state information about the device;

determine, by the processor based on the state information about the device for which the update is available, that the device is in a condition where the device is ready to perform the update;

receive, from another device using the communications subsystem, an indication to update the device for which the update is available; and

after determining that the device for which the update is available is in a condition to perform the update and receiving the indication to update the device, send, to the device for which the update is available using the communications subsystem, an indication to begin performing the update, wherein the device for which the update is available is configured to begin updating responsive to such an indication without any direct interaction with the device for which the update is available.

2. The computer system of claim 1, wherein the instructions, when executed by the processor, further adapt the computer system to:

receive, from the device for which the update is available, one or more indications as to a status of the performing of the update; and

send, to the another device, information about the performing of the update based on the one or more indications.

3. The computer system of claim 1, wherein the state information about the device for which the update is available indicates whether the device is ready to perform the update.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0143

4. The computer system of claim 1, wherein the state information about the device for which the update is available indicates whether the device for which the update is available has downloaded the update.

5. The computer system of claim 1, wherein the device for which the update is available is configured to download the update responsive to the indication to begin performing the update.

6. The computer system of claim 1, wherein the computer system communicates with each of the device for which the update is available and the another device via a network, wherein the device for which the update is available and the another device cannot communicate directly with each other via the network.

7. The computer system of claim 1, wherein the another device is configured to provide a user interface, responsive to the indication that the device for which the update is available is ready to perform the update, for initiating the update of the device for which the update is available and wherein the another device is configured to send the indication to update the device for which the update is available responsive to initiation of the update via the user interface.

8. The computer system of claim 1, wherein the device for which the update is available is a component of a further device and wherein determining that the device for which the update is available is ready to perform the update comprises determining that the further device is not in use.

9. The computer system of claim 1, wherein the instructions when executed by the processor further adapt the computer system to send, to the another device using the communications subsystem, a notification that the update is available for the device for which the update is available.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0144

10. The computer system of claim 9, wherein the instructions when executed by the processor further adapt the computer system to send an indication to the device for which the update is available using the communications subsystem to notify that the update is available.

11. The computer system of claim 10 wherein the device for which the update is available is configured to download the update responsive to the indication that the update is available.

12. The computer system of claim 1, wherein the another device is a smartphone.

13. The computer system of claim 1, wherein the device for which the update is available is included in an Internet-of-Things connected device.

14. A computer-implemented method comprising:

receiving, from a device for which an update is available, state information about the device;

determining, based on the state information about the device for which the update is available, that the device is in a condition where the device is ready to perform the update;

receiving, from another device, an indication to update the device for which the update is available; and

after determining that the device for which the update is available is in a condition to perform the update and receiving the indication to update the device, send, to the device for which the update is available, an indication to begin performing the update, wherein the device for which the update is available is configured to begin updating responsive to such an indication without any direct interaction with the device for which the update is available.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0145

15. The method of claim 14, further comprising:

receiving, from the device for which the update is available, one or more indications as to a status of the performing of the update; and

sending, to the another device, information about the performing of the update based on the one or more indications.

16. The method of claim 14, wherein the state information about the device for which the update is available indicates whether the device is ready to perform the update.

17. The method of claim 14, wherein the state information about the device for which the update is available indicates whether the device for which the update is available has downloaded the update.

18. The method of claim 14, wherein the device for which the update is available is configured to download the update responsive to the indication to begin performing the update.

19. The method of claim 14, wherein the another device is configured to provide a user interface, responsive to the indication that the device for which the update is available is ready to perform the update, for initiating the update of the device for which the update is available and wherein the another device is configured to send the indication to update the device for which the update is available responsive to initiation of the update via the user interface.

20. A non-transitory computer-readable storage medium storing instructions that when executed by a processor of a computer system adapt the computer system to:

receive, from a device for which an update is available, state information about the device;

determine, based on the state information about the device for which the update is available, that the device is in a condition where the device is ready to perform the update;

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0146

receive, from another device, an indication to update the device for which the update is available; and

after determining that the device for which the update is available is in a condition to perform the update and receiving the indication to update the device, send, to the device, an indication to begin performing the update, wherein the device for which the update is available is configured to begin updating responsive to such an indication without any direct interaction with the device for which the update is available.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0147

Abstract

A computer system includes a processor, a communications subsystem, and a non-transitory computer-readable storage medium. The computer-readable medium stores instructions that when executed by the processor adapt the computer system to receive an indication of a second device selected, at a first device, for update; send an indication signalling the second device to send state information about the second device; receive state information about the second device; determine, based on the state information, that the second device is ready to perform an update; send, to the first device, an indication that the second device is ready to perform the update; receive, from the first device, an indication to update the second device; and, send a corresponding indication to the second device. The second device is configured to begin updating in response to such an indication without any direct interaction with it. Related methods and computer-readable media are also described.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0148

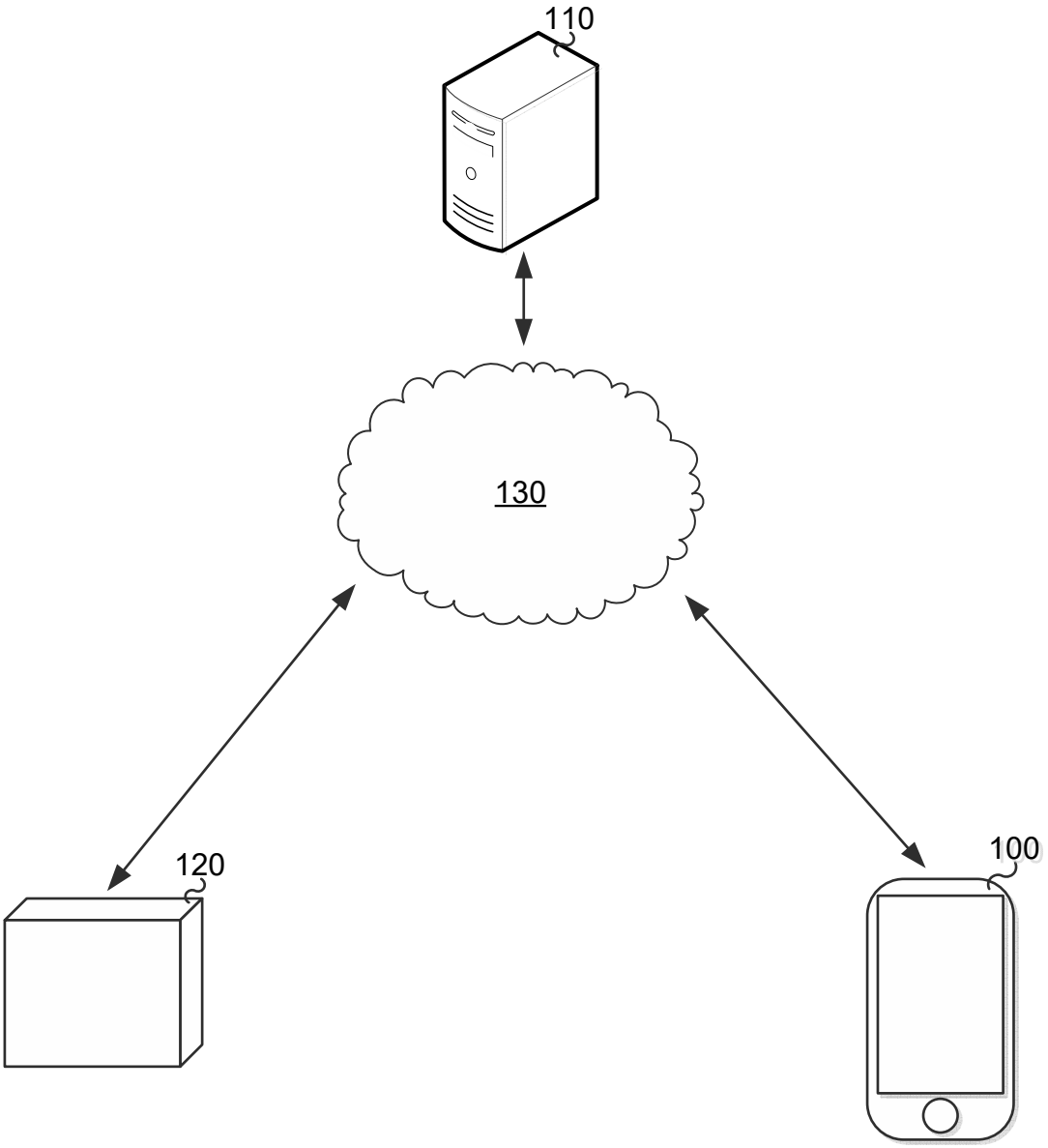


FIG. 1

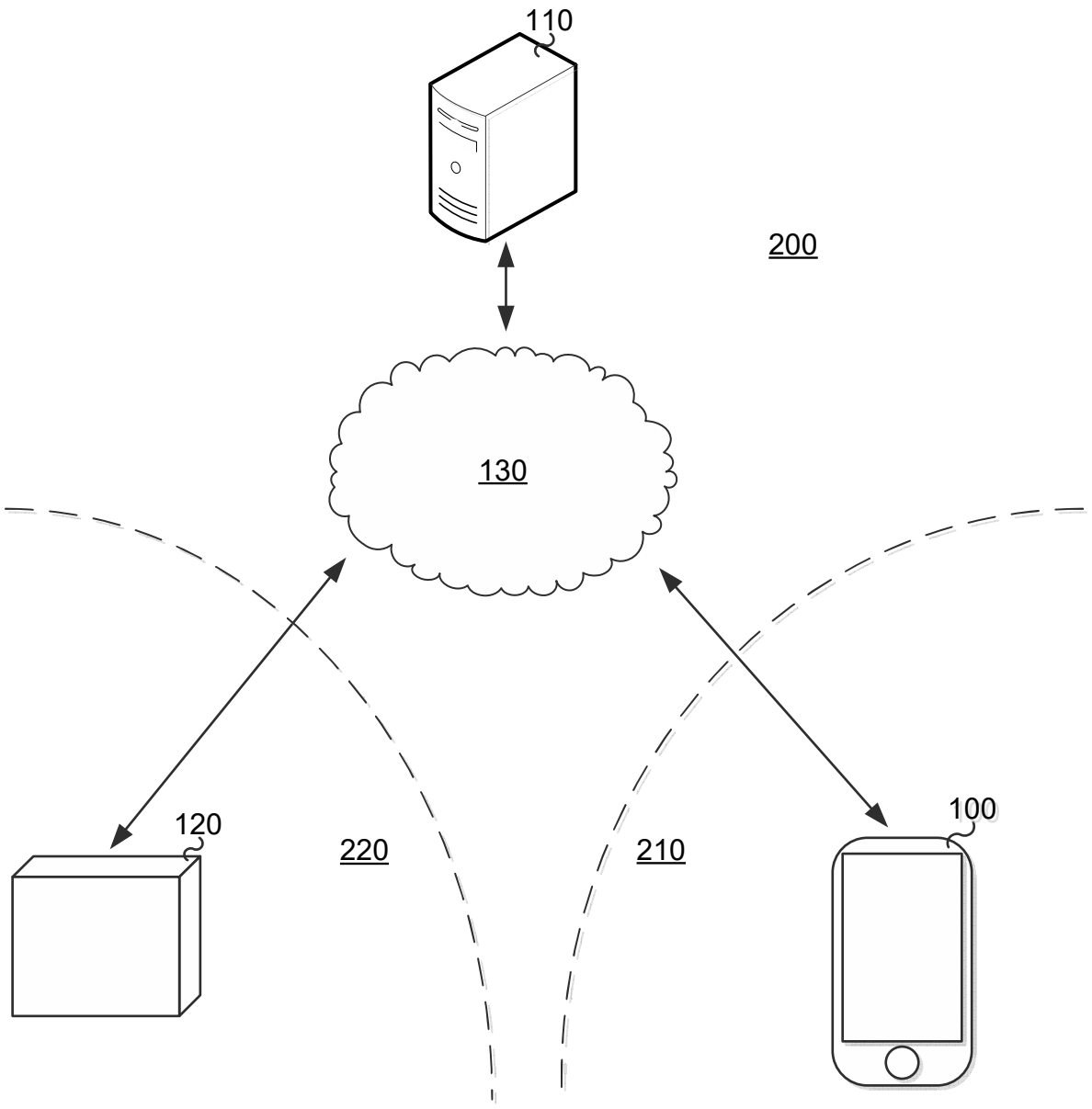


FIG. 2

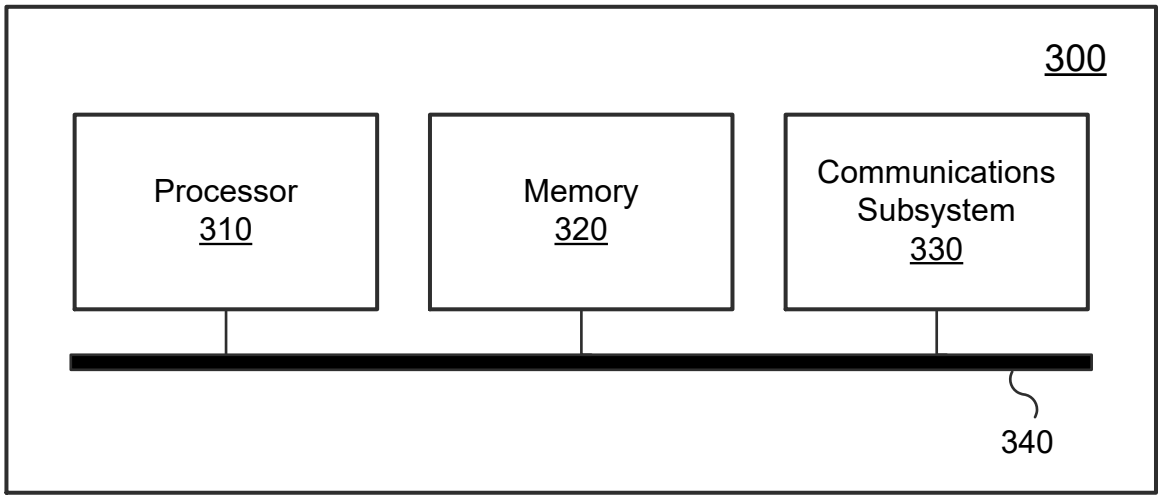

300
Processor
310
Memory
320
Communications
Subsystem
330
340

FIG. 3

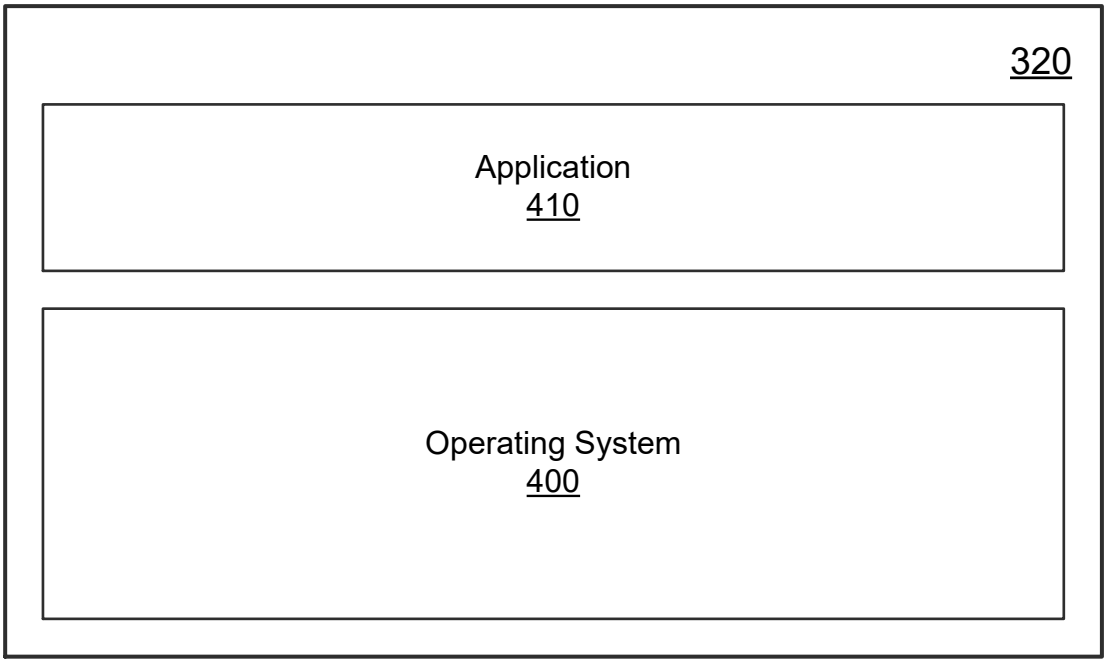

320
Application
410
Operating System
400

FIG. 4

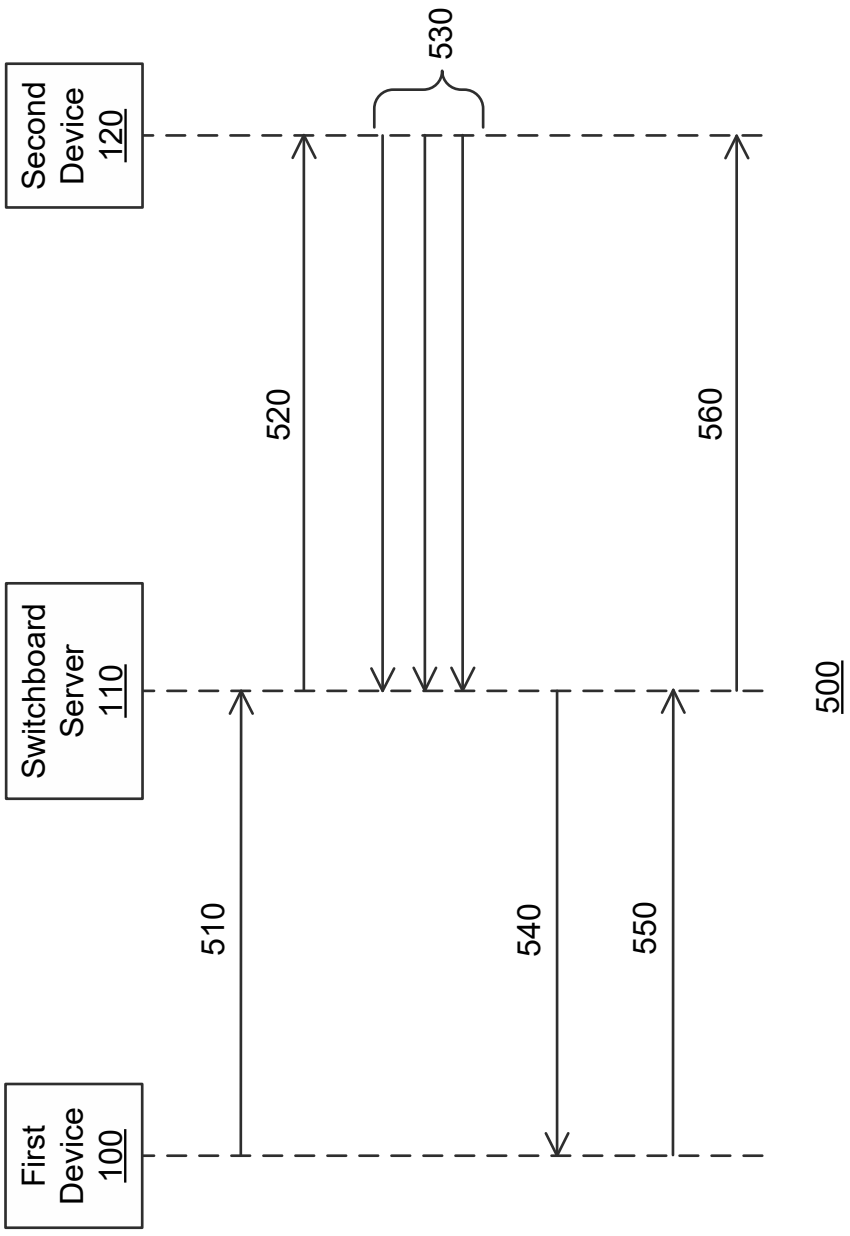

Second Device 120
Switchboard Server 110
First Device 100
530
520
560
510
540
550
500

FIG. 5

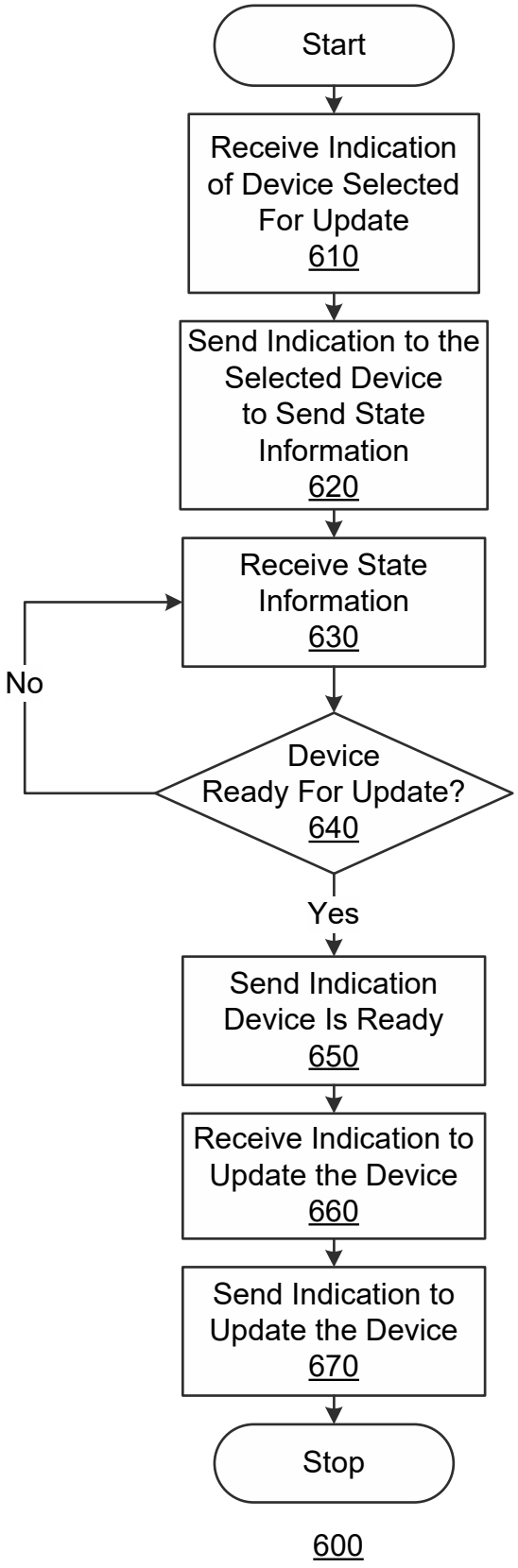

Start
Receive Indication of Device Selected For Update
610
Send Indication to the Selected Device to Send State Information
620
Receive State Information
630
Device Ready For Update?
640
No
Yes
Send Indication Device Is Ready
650
Receive Indication to Update the Device
660
Send Indication to Update the Device
670
Stop
600

FIG. 6

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1

CONFIRMATION NO. 6713

192641
Botos Churchill IP Law LLP - Malik
430 Mountain Avenue
Suite 401
New Providence, NJ 07974

POA ACCEPTANCE LETTER

OC000000066933854

Date Mailed: 01/16/2024

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/10/2024.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tawashington/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1

CONFIRMATION NO. 6713

14551
Rowand LLP (BlackBerry)
390 Bay Street, Suite 1200
Toronto, ON M5H 2Y2
CANADA

POWER OF ATTORNEY NOTICE

OC000000066933838

Date Mailed: 01/16/2024

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/10/2024.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tawashington/

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: MALIKIE INNOVATIONS LIMITED

Application No./Patent No.: 16054004 Filed/Issue Date: 08/03/2018

Titled: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

MALIKIE INNOVATIONS LIMITED, a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: SEAMAN CONRAD DELBERT;WILLIS EDWARD SNOW;INGLIS DAVID ALAN;QADERI HASHIM MOHAMMAD;H To: BLACKBERRY LIMITED

   The document was recorded in the United States Patent and Trademark Office at
   Reel 047603, Frame 0849, or for which a copy thereof is attached.

2. From: BLACKBERRY LIMITED To: MALIKIE INNOVATIONS LIMITED

   The document was recorded in the United States Patent and Trademark Office at
   Reel 064104, Frame 0103, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: BLACKBERRY LIMITED To: MALIKIE INNOVATIONS LIMITED

The document was recorded in the United States Patent and Trademark Office at
Reel 064271, Frame 0199, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Richard J. Botos/	2024-01-10
Signature	Date
Richard J. Botos	32,016
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
16/054,004	**01/10/2024 11:18:48 AM Z ET**	**101-0393USP1**

Title of Invention

SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	10719309
CONFIRMATION #	6713	FILED BY	Prince Samuel
PATENT CENTER #	63899986	FILING DATE	08/03/2018
CUSTOMER #	14551	FIRST NAMED INVENTOR	Edward Snow Willis
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Richard Botos

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
16054004_373c.pdf	3	Assignee showing of ownership per 37 CFR 3.73	82 KB
16054004_POA.pdf	3	Power of Attorney	206 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
16054004_373c.pdf	4664B00AA9B542C9FBE2CBFE088AA8934F49F1CB095BA217C5E08C6ACD9B2C6E839C5B37742601C86AD86AB489B6ECCF15A6EE7AE4943E42E8AA859641A9B44B

16054004_POA.pdf 0950F1AF1AE7B6CB21194CC059CC2E1675E0C06BC0F4F9F66
15656A3DA32AE6A09559ED5188E65F4AB399A278CF280C69C
5A74D2743453D17D217D7C996F1BEF

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	16/054,004
Filing Date	08/03/2018
First Named Inventor	Edward Snow Willis
Title	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
Art Unit	2196
Examiner Name	QAMRUN NAHAR
Attorney Docket Number	50468-US-PAT

SIGNATURE of Applicant or Patent Practitioner

Signature	/Richard J. Botos/	Date (Optional)	2024-01-10
Name	Richard J. Botos	Registration Number	32,016
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/82 (07-17)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

[x] Practitioners associated with Customer Number: 192641

OR

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

[x] The address associated with Customer Number: 192641

OR

[ ]

Firm or individual name	Botos Churchill IP Law, LLP	
Address	430 Mountain Ave., Suite 401	
City New Providence	State NJ	Zip 07974
Country USA		
Telephone (908) 738-1770	Email pto@bciplaw.com	

Assignee name and address: Malikie Innovations Limited
The Glass Houses GH2 92 Georges Street Lower
Dun Laoghaire, Dublin, A96 VR66

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

Signature [signature]	Date 13th June 2023
Name ANGELA QUINLAN	Telephone +353 87 9171202
Title MANAGING DIRECTOR	

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/054,004	07/21/2020	10719309	101-0393USP1	6713

14551 7590 06/30/2020

Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ONTARIO M5H 2Y4
CANADA

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

BlackBerry Limited, Waterloo, CANADA
Edward Snow Willis, Ottawa, CANADA;
David Alan Inglis, Stittsville, CANADA;
Hashim Mohammad Qaderi, Kitchener, CANADA;
Scott Hutchens, Ottawa, CANADA;
Christopher Scott Travers, Ottawa, CANADA;
Conrad Delbert Seaman, Ottawa, CANADA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

14551 7590 03/16/2020

Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ONTARIO M5H 2Y4
CANADA

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

Helen Vongphakdy	(Typed or printed name)
/Helen Vongphakdy/	(Signature)
June 15, 2020	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1	6713

TITLE OF INVENTION: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	06/16/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
NAHAR, QAMRUN	2196	717-173000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 Rowand LLP
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: BlackBerry Limited

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Waterloo, Ontario, Canada

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ☒ Corporation or other private group entity ❑ Government

4a. Fees submitted: ☒ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Jeffrey Tracey/ Date June 15, 2020

Typed or printed name Jeffrey Tracey Registration No. 63,848

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0165

Electronic Patent Application Fee Transmittal

Application Number:	16054004
Filing Date:	03-Aug-2018
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow Willis
Filer:	Jeffrey Michael Tracey/Helen Vongphakdy
Attorney Docket Number:	101-0393USP1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1000**

Electronic Acknowledgement Receipt

EFS ID:	39717843
Application Number:	16054004
International Application Number:	
Confirmation Number:	6713
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow Willis
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Helen Vongphakdy
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP1
Receipt Date:	15-JUN-2020
Filing Date:	03-AUG-2018
Time Stamp:	13:38:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1000
RAM confirmation Number	E20206ED38592551
Deposit Account	505494
Authorized User	Helen Vongphakdy
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.21 (Miscellaneous fees and charges) 37 CFR 1.20 (Post Issuance fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.16 (National application filing, search, and examination fees)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	50468-US-PAT_2020-06-15_Fee_Transmittal.pdf	316761 1995c787b5aae24e4bfe670f240e1ef4db121398	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30675 1ac515f4f5096dd30fb6b125b5e5b22153be0510	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	347436		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

14551 7590 03/16/2020

Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ONTARIO M5H 2Y4
CANADA

EXAMINER	
NAHAR, QAMRUN	
ART UNIT	PAPER NUMBER
2196	

DATE MAILED: 03/16/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1	6713

TITLE OF INVENTION: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	06/16/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 02/11)

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0170

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

14551 7590 03/16/2020

Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ONTARIO M5H 2Y4
CANADA

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1	6713

TITLE OF INVENTION: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	06/16/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
NAHAR, QAMRUN	2196	717-173000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0171

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1	6713

14551 7590 03/16/2020

Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ONTARIO M5H 2Y4
CANADA

EXAMINER	
NAHAR, QAMRUN	
ART UNIT	**PAPER NUMBER**
2196	

DATE MAILED: 03/16/2020

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0172

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	**Application No.** 16/054,004	**Applicant(s)** Willis et al.	
	Examiner QAMRUN NAHAR	**Art Unit** 2196	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the amendment filed on 12/17/19.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-20 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 12/4/19.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/QAMRUN NAHAR/
Primary Examiner, Art Unit 2196

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0174

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

This action is in response to the amendment filed on 12/17/19.

The rejection under 35 U.S.C. 103 as being unpatentable over Bae (US 2007/0192462) in view of Shim (US 2013/0311611) to claims 1-8 and 10-20 is withdrawn in view of applicant's amendment and remarks/arguments.

The rejection under 35 U.S.C. 103 as being unpatentable over Bae (US 2007/0192462) in view of Shim (US 2013/0311611), and further in view of Maeda (US 2016/0277195) to claim 9 is withdrawn in view of applicant's amendment and remarks/arguments.

Claims 1-20 are pending.

Claims 1-20 are allowed.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, determine, by the processor based on the state information about the second device, that the second device is in a condition where the second device is ready to perform the update; send, to the first device using the communications subsystem, an indication that the second device is ready to perform the update; receive, from the first device using the communications subsystem, an indication to update the second device; and send, to the second device using the communications subsystem, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an

indication without any direct interaction with the second device as substantially recited in each of the independent claims.

The closest cited prior arts, Bae (US 2007/0192462) and Shim (US 2013/0311611) teach a method for updating a device. However, Bae (US 2007/0192462) and Shim (US 2013/0311611) fail to teach determine, by the processor based on the state information about the second device, that the second device is in a condition where the second device is ready to perform the update; send, to the first device using the communications subsystem, an indication that the second device is ready to perform the update; receive, from the first device using the communications subsystem, an indication to update the second device; and send, to the second device using the communications subsystem, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device as substantially recited in each of the independent claims; and as pointed out by the applicant's remarks/arguments on pg. 9, par. 9 to pg. 11, par. 4.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is **(571) 272-3730**. The examiner can normally be reached on Mondays through Fridays from 10:00 AM to 6:30 PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emerson Puente, can be reached on **(571) 272-3652**. The fax phone number for the organization where this application or processing is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Qamrun Nahar/
Primary Examiner, Art Unit 2196

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	**Art Unit**
	QAMRUN NAHAR	2196

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/28/2019	03/05/2020							
	1	✓	=							
	2	✓	=							
	3	✓	=							
	4	✓	=							
	5	✓	=							
	6	✓	=							
	7	✓	=							
	8	✓	=							
	9	✓	=							
	10	✓	=							
	11	✓	=							
	12	✓	=							
	13	✓	=							
	14	✓	=							
	15	✓	=							
	16	✓	=							
	17	✓	=							
	18	✓	=							
	19	✓	=							
	20	✓	=							

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0178

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	**Art Unit**
	QAMRUN NAHAR	2196

CPC							
Symbol						**Type**	**Version**
G06F	/	8	/	65		F	2013-01-01
H04L	/	12	/	2814		I	2013-01-01
H04L	/	12	/	2825		I	2013-01-01
H04L	/	67	/	12		I	2013-01-01

CPC Combination Sets								
Symbol						**Type**	**Set**	**Ranking**	**Version**
	/		/						

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/QAMRUN NAHAR/ Primary Examiner, Art Unit 2196	05 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20200305

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0179

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	**Art Unit**
	QAMRUN NAHAR	2196

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F	/	9	/	44

NON-CLAIMED				
G06F	/	9	/	44

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
717	168

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					
717	171					

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/QAMRUN NAHAR/ Primary Examiner, Art Unit 2196 (Primary Examiner)	05 March 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office — Part of Paper No.: 20200305

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0180

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	**Art Unit**
	QAMRUN NAHAR	2196

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/QAMRUN NAHAR/ Primary Examiner, Art Unit 2196	05 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20200305

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0181

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	Art Unit
	QAMRUN NAHAR	2196

CPC - Searched*		
Symbol	Date	Examiner
G06F 8/65 with text	09/28/2019, 3/5/20	QN

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor(s) Name Search (Palm)	09/27/2019	QN
East Text Search (see search report)	09/28/2019	QN
Searched G06F 8/65 with text (see search history)	09/28/2019, 3/5/20	QN
NPL Search (see search history)	09/28/2019	QN
Updated Search	03/05/2020	QN

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0182

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	Art Unit
	QAMRUN NAHAR	2196

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	Interference Searched (text search only - see search history)	03/05/2020	QN

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0183

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	5	(updat$3 with electronic with device$1) and ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:28
L2	0	(updat$3 with device$1) same ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:29
L3	6	(updat$3 with device$1) same ((home adj appliance$1) with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:29
L4	58	G06F8/65.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:29
L5	1848	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:30
L6	4	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1) and (determin$3 with status with device$1 with ready)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:31
L7	0	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1) and (determin$3 with status with device$1 with ready with update)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 12:31

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L8	0	(updat$3 with device$1) same ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT	OR	OFF	2020/03/05 12:34
L9	6	(updat$3 with device$1) same ((home adj appliance$1) with off)	US-PGPUB; USPAT	OR	OFF	2020/03/05 12:35
L10	4	(server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1) and (determin$3 with status with device$1 with	US-PGPUB; USPAT	OR	OFF	2020/03/05 12:35

		ready)					

3/5/2020 12:36:26 PM
C:\Users\qnahar\Documents\EAST\Workspaces\16054004.wsp

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16054004
Filing Date	2018-08-03
First Named Inventor	WILLIS, Edward Snow
Art Unit	2676
Examiner Name	
Attorney Docket Number	101-0393USP1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20140052330	A1	2014-02-20	Mitchell et al.	
	2	20160266886	A1	2016-09-15	Sarkar et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	3511825	EP	A1	2019-07-17	BlackBerry Ltd.		
	2	106656565	CN	A	2017-05-10	Guangzhou Automobile Group Co.		

EFS Web 2.1.18

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16054004
	Filing Date	2018-08-03
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2676
	Examiner Name	
	Attorney Docket Number	101-0393USP1

If you wish to add additional Foreign Patent Document citation information please click the Add button **Add**

NON-PATENT LITERATURE DOCUMENTS **Remove**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	EPO, Extended European Search Report relating to EP application no. 19187392.6, dated 29 Nov 2019	

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature	/QAMRUN NAHAR/	Date Considered	03/05/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16054004
	Filing Date	2018-08-03
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2676
	Examiner Name	
	Attorney Docket Number	101-0393USP1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2019-12-04
Name/Print	Jeffrey Tracey	Registration Number	63,848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

Bibliographic Data

Application No: 16/054,004

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /QAMRUN NAHAR/ Examiner's Signature | Initials

Title: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
08/03/2018	717	2196	101-0393USP1
RULE			

APPLICANTS

BlackBerry Limited, Waterloo, CANADA

INVENTORS

Edward Snow Willis Ottawa, CANADA

David Alan Inglis Stittsville, CANADA

Hashim Mohammad Qaderi Kitchener, CANADA

Scott Hutchens Ottawa, CANADA

Christopher Scott Travers Ottawa, CANADA

Conrad Delbert Seaman Ottawa, CANADA

CONTINUING DATA

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

08/29/2018

STATE OR COUNTRY

CANADA

ADDRESS

Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ON M5H 2Y4
CANADA

FILING FEE RECEIVED

$1,880

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1

CONFIRMATION NO. 6713

14551
Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ON M5H 2Y4
CANADA

PUBLICATION NOTICE

OC000000114527836

Title:SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

Publication No.US-2020-0042301-A1
Publication Date:02/06/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Electronic Acknowledgement Receipt

EFS ID:	38056342
Application Number:	16054004
International Application Number:	
Confirmation Number:	6713
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow Willis
Customer Number:	14551
Filer:	Neil Leonard Padgett/Helen Vongphakdy
Filer Authorized By:	Neil Leonard Padgett
Attorney Docket Number:	101-0393USP1
Receipt Date:	17-DEC-2019
Filing Date:	03-AUG-2018
Time Stamp:	14:34:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	50468-US-PAT_2019-12-17_RESP.pdf	66045 85b132d96d49b37fcfa2f4ce3b36c57043d2e873	no	11

Warnings:

Information:	
Total Files Size (in bytes):	66045

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 16/054,004	Art Unit: 2676
Applicant: BlackBerry Limited	Confirmation No.: 6713
Filing Date: August 3, 2018	Examiner: Qamrun Nahar
Title: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	Customer No.: 14551

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Dear Commissioner:

This paper is filed in response to the Office Action dated October 3, 2019. The Applicant respectfully requests reconsideration in view of the following amendments and remarks.

Amendments to the Specification begin on **page 2** of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on **page 4** of this paper.

Remarks appear on **page 9** of this paper.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0194

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0035] with the following amended paragraph:

[0035] The memory 320 may include random access memory, read-only memory, persistent storage such as, for example, flash memory, a solid-state drive or the like. Read-only memory and persistent storage are a computer-readable medium. A computer-readable medium may be organized using a file system such as may be administered by an operating system governing overall operation of the ~~first device 100~~example computing device 300.

Please replace paragraph [0038] with the following amended paragraph:

[0038] FIG. 4 depicts a simplified organization of software components stored in the memory 320 of the ~~first device 100~~example computing device 300. As illustrated these software components include an operating system 400 and an application 410.

Please replace paragraph [0039] with the following amended paragraph:

[0039] The operating system 400 comprises software and may comprise, for example, software such as, for example, Android (TM), QNX (TM), Linux (TM), Apple(TM) iOS (TM), Microsoft (TM) Windows (TM), or the like. The operating system 400 controls the overall operation of the ~~first device 100~~example computing device 300 and allows the application 410 to access the processor 310, the memory 320, and the communications subsystem 330.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0195

Please replace paragraph [0040] with the following amended paragraph:

[0040] The application 410, comprises software that, in combination with the operating system 400, adapts the ~~first device 100~~ example computing device 300 to operate as a device for various purposes. For example, the application 410 may cooperate with the operating system 400 to adapt a suitable instance of the example computing device 300 to operate as the switchboard server 110, the first device 100, or the second device 120.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0196

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A computer system comprising:

a processor;

a communications subsystem; and

a non-transitory computer-readable storage medium storing instructions that when executed by the processor adapt the computer system to:

receive, from a first device using the communications subsystem, an indication [[of]]that a second device for which an update is available was selected, at the first device, for update;

send, to the second device using the communications subsystem, an indication signalling the second device to send state information about the second device;

receive, from the second device using the communications subsystem, the state information about the second device;

determine, by the processor based on the state information about the second device, that the second device is in a condition where the second device is ready to perform [[an]]the update;

send, to the first device using the communications subsystem, an indication that the second device is ready to perform the update;

receive, from the first device using the communications subsystem, an indication to update the second device; and

send, to the second device using the communications subsystem, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0197

2. (Original) The computer system of claim 1, wherein the instructions, when executed by the processor, further adapt the computer system to:

receive, from the second device, one or more indications as to a status of the performing of the update; and

send, to the first device, information about the performing of the update based on the one or more indications.

3. (Original) The computer system of claim 1, wherein the state information about the second device indicates whether the second device is ready to perform the update.

4. (Original) The computer system of claim 1, wherein the state information about the second device indicates whether the second device has downloaded the update.

5. (Original) The computer system of claim 1, wherein the second device is configured to download the update responsive to the indication to begin performing the update.

6. (Original) The computer system of claim 1, wherein the computer system communicates with each of the first and second devices via a network, wherein the first and second devices cannot communicate directly with each other via the network.

7. (Original) The computer system of claim 1, wherein the indication of the second device selected for update further indicates authentication information and wherein the instructions, when executed by the processor, further adapt the computer system to:

prior to sending the indication signalling the second device to send the state information about the second device, determine based on the authentication information that a user associated with the authentication information is authorized to update the second device.

8. (Original) The computer system of claim 1, wherein the first device is configured to provide a user interface, responsive to the indication that the second device is ready to perform the update, for initiating the update of the second device and wherein the first

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0198

device is configured to send the indication to update the second device responsive to initiation of the update via the user interface.

9. (Original) The computer system of claim 1, wherein the second device is a component of another device and wherein determining that the second device is ready to perform the update comprises determining that the another device is not in use.

10. (Original) The computer system of claim 1, wherein the instructions that when executed by the processor further adapt the computer system to, prior to receiving from the indication of the second device selected for update, send, to the first device using the communications subsystem, a notification that the update is available for the second device.

11. (Original) The computer system of claim 10 further comprising sending an indication to the second device using the communications subsystem, a notification that the update is available for the second device.

12. (Original) The computer system of claim 11 wherein the second device is configured to download the update responsive to the notification that the update is available for the second device.

13. (Original) The computer system of claim 1, wherein the first device is a smartphone.

14. (Original) The computer system of claim 1, wherein the second device is included in an Internet-of-Things connected device.

15. (Currently amended) A computer-implemented method comprising:

receiving, at a server from a first device, an indication [[of]]<u>that</u> a second device <u>for which an update is available was</u> selected, at the first device, for update;

sending, by the server to the second device, an indication signalling the second device to send state information about the second device to the server;

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0199

receiving, by the server from the second device, the state information about the second device;

determining, by the server based on the received ~~the~~ state information about the second device, that the second device is in a condition where the second device is ready to perform [[an]]the update;

sending, by the server to the first device, an indication that the second device is ready to perform the update;

receiving, by the server from the first device, an indication to update the second device; and

sending, by the server to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

16. (Original) The computer-implemented method of claim 15, further comprising:

receiving, by the server from the second device, one or more indications as to a status of the performing of the update; and

sending, by the server to the first device, information about the performing of the update based on the one or more indications.

17. (Original) The computer-implemented method of claim 15, wherein the state information about the second device indicates at least one of whether the second device is ready to perform the update and whether the second device has downloaded the update.

18. (Original) The computer-implemented method of claim 15, wherein the second device is configured to download the update responsive to the indication to begin performing the update.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0200

19. (Original) The computer-implemented method of claim 15, wherein the indication of the second device selected for update further indicates authentication information, the method further comprising:

prior to sending the indication signalling the second device to send the state information about the second device to the server, determining by the server based on the authentication information that a user associated with the authentication information is authorized to update the second device.

20. (Currently amended) A non-transitory computer-readable storage medium storing instructions that when executed by a processor of a computer system adapt the computer system to:

receive, from a first device, an indication [[of]]that a second device for which an update is available was selected, at the first device, for update;

send, to the second device, an indication signalling the second device to send state information about the second device;

receive, from the second device, the state information about the second device;

determine, by the processor based on the state information about the second device, that the second device is in a condition where the second device is ready to perform [[an]]the update;

send, to the first device, an indication that the second device is ready to perform the update;

receive, from the first device, an indication to update the second device; and

send, to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0201

REMARKS

This paper is filed in response to the Office Action dated October 3, 2019, a response to which is due by January 3, 2020. Accordingly, we submit that this response is timely. If, however, an extension and/or other relief are required, the Applicant respectfully requests any required relief including extensions of time and authorize the Commissioner to charge the cost of any associated fees to Deposit Account No. 50-5494.

Description of the Amendment

Claims 1–20 are pending. Of these, claims 1, 15 and 20 are independent.

The independent claims have been amended for greater clarity.

Paragraphs [0035] and [0038]–[0040] have been amended to correct minor clerical errors and for consistency with the drawings as filed.

Support for the amendment is found at least at paragraphs [0032]–[0040], [0045], [0051], [0072] and in FIGS. 4 and 5 of the application as filed.

35 USC §103

The Office Action rejects claims 1–8 and 10–20 under 35 USC §103 as being obvious having regard to US 2007/0192462 to Bae et al. (hereinafter "Bae") in view of US 2013/0311611 to Shim et al. (hereinafter "Shim").

The Office Action rejects claim 9 under 35 USC §103 as being having regard to Bae in view of Shim in further view of US 2016/0277195 to Maeda et al. (hereinafter "Maeda").

The Applicant respectfully disagrees.

In the explanation of the rejection of independent claim 15 at page 2 of the Office Action, it is alleged that Bae discloses "determining, by the server based on the received the state information about the second device, that the second device is ready to perform an update". In particular, paragraph [0043] of Bae is cited in this regard. The explanation appears to map the "second device" to the home network device (HND) of Bae. Review of paragraph [0043] makes clear that that portion of Bae is concerned with determining whether an updated "bundle" exists for the

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0202

HND: "...the application server 210 performs an update check in step 445 to directly determine whether to perform an update process, and if the update process is necessary, the application server 210 transmits an update message to the MHD 200 in step 450. That is, the application server 210 determines whether an updated bundle per HND exists based on the bundle's information, and if an updated bundle exists, the application server 210 transmits the updated bundle to the MHD 200." (Emphasis added.) Put another way, paragraph [0043] of Bae is concerned with determining whether an update is available for an HND.

By contrast, claim 15 previously recited "determining, by the server based on the received the state information about the second device, that the second device is ready to perform an update;". As such, the determination being made is not as to whether an update is available for the second device, but rather whether the second device is ready to perform (*i.e.*, apply) some available update—see, *e.g.*, paragraphs [0051]–[0056] and [0072]. Respectfully, this is not disclosed by Bae. That is to say, Bae does not disclose or suggest a server determining based on received state information about a second device that that second device is in a condition where it is ready to perform some update.

This distinction between the subject-matter of claim 15 and Bae is even clearer when amended claim 15 is considered. Claim 15 has been amended to further clarify that the availability of the update is known to the server based on an indication received from the first device—"receiving, at a server from a first device, an indication that a second device **for which an update is available** was selected, at the first device, for update"—and that what is being determined by the served based on the state information is that the second device is in a condition where the second device is ready to perform that update—"determining, by the server based on the received state information about the second device, that **the second device is in a condition where the second device is ready to perform the update**" (emphasis added). As explained above, none of this is disclosed by Bae.

Combination with Shim and/or Maeda does nothing to cure the deficiencies of Bae as regards claim 15.

In summary, Bae, Shim and Maeda, whether taken alone or in combination, do not disclose, teach or suggest "receiving, at a server from a first device, an indication that a second device for

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0203

which an update is available was selected, at the first device, for update; ... determining, by the server based on the received state information about the second device, that the second device is in a condition where the second device is ready to perform the update".

In view of the foregoing, claim 15 is believed non-obvious and withdrawal of the rejection of claim 15 under 35 USC §103 is requested.

Independent claims 1 and 20 include similar features to the above-highlighted features of claim 15 and thus are believed non-obvious for at least the reasons given in favor of claim 15. Withdrawal of the rejection of claims 1 and 20 under 35 USC §103 is therefore requested.

Each of claims 2–14 and 16–19 depends, directly or indirectly, from one of the independent claims and thus is believed non-obvious for at least the reasons given in favor of those claims. Withdrawal of the rejection of claims 2–14 and 16–19 under 35 USC §103 is therefore requested.

Concluding Remarks

In view of the above, the presently pending claims are believed to be in condition for immediate allowance. Allowance is, therefore, respectfully requested.

If a telephone conference would facilitate prosecution, please contact the undersigned.

Respectfully Submitted,

BlackBerry Limited

/Neil L. Padgett/

Neil L. Padgett
Agent for Applicant
Registration No. 77,625
Date: 17 December 2019

Rowand LLP
Suite 2302, 401 Bay St., PO Box 56, Toronto, Ontario, Canada M5H 2Y4
Telephone: (416) 479-8647
Fax: (416) 363-8429
Email: mailbox@rowandlaw.com

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0204

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16054004
Filing Date	2018-08-03
First Named Inventor	WILLIS, Edward Snow
Art Unit	2676
Examiner Name	
Attorney Docket Number	101-0393USP1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20140052330	A1	2014-02-20	Mitchell et al.	
	2	20160266886	A1	2016-09-15	Sarkar et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	3511825	EP	A1	2019-07-17	BlackBerry Ltd.		
	2	106656565	CN	A	2017-05-10	Guangzhou Automobile Group Co.		

EFS Web 2.1.18

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16054004
	Filing Date	2018-08-03
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2676
	Examiner Name	
	Attorney Docket Number	101-0393USP1

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	EPO, Extended European Search Report relating to EP application no. 19187392.6, dated 29 Nov 2019	

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16054004
	Filing Date	2018-08-03
	First Named Inventor	WILLIS, Edward Snow
	Art Unit	2676
	Examiner Name	
	Attorney Docket Number	101-0393USP1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2019-12-04
Name/Print	Jeffrey Tracey	Registration Number	63,848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 3 511 825 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
17.07.2019 Bulletin 2019/29

(51) Int Cl.:
G06F 8/65 *(2018.01)* ***H04L 29/08*** *(2006.01)*

(21) Application number: **19150593.2**

(22) Date of filing: **07.01.2019**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **12.01.2018 US 201815869868**

(71) Applicant: **BlackBerry Limited**
Waterloo, Ontario N2K 0A7 (CA)

(72) Inventors:
- **WILLIS, Edward Snow**
  Kanata, Ontario K2K 0B3 (CA)
- **QADERI, Hashim Mohammad**
  Waterloo, Ontario N2K 0A7 (CA)
- **HUTCHENS, Scott**
  Kanata, Ontario K2K 0B3 (CA)
- **INGLIS, David Alan**
  Stittsville, Ontario K2S 0A5 (CA)

(74) Representative: **Hanna Moore + Curley**
Garryard House
25/26 Earlsfort Terrace
Dublin 2, D02 PX51 (IE)

(54) METHOD AND SYSTEM FOR CONTROLLING SOFTWARE UPDATES ON A NETWORK CONNECTED DEVICE

(57) A method at a computing device acting as a switchboard between an electronic device and a device to be updated, the method including receiving, at the computing device, a connection request from the electronic device, the connection request including an identifier for the device to be updated; receiving, at the computing device, a connection request from the device to be updated; associating, at the computing device, the connection request from the electronic device and the connection request from the device to be updated; forwarding, at the computing device, a message from the device to be updated to the electronic device that update conditions have been met; forwarding, at the computing device, a message from the electronic device to the device to be updated to start an update process; and forwarding, at the computing device, update status information from the device to be updated to the electronic device.

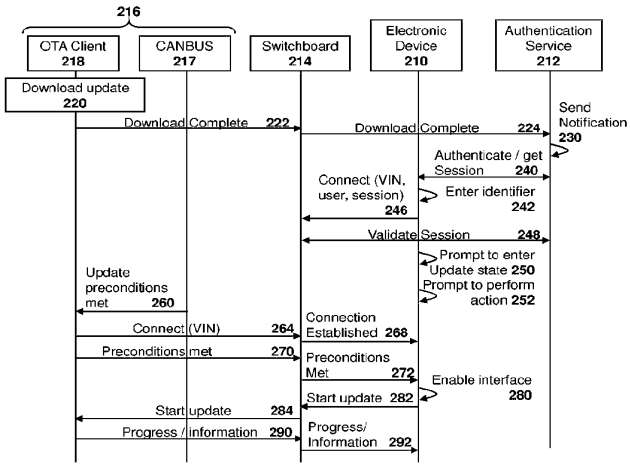


FIG. 2

Printed by Jouve, 75001 PARIS (FR)

EP 3 511 825 A1

Description

FIELD OF THE DISCLOSURE

[0001] The present disclosure relates to over-the-air updates for network connected devices, and in particular relates to the over-the-air updates for network connected devices having no feedback mechanism.

BACKGROUND

[0002] Network connected devices often contain software that occasionally needs to be updated. For example, in vehicles, an electronic control unit (ECU) controls a system or subsystem of the vehicle, and may occasionally need firmware or software updates.

[0003] However, in many cases, such network connected devices may not have a graphical user interface to provide for the initiation of an update, nor is there any mechanism to provide feedback as to the status of an update.

[0004] Further, in many cases, it is undesirable to push an update to such network connected device at a random time. For example, it would be dangerous to push an update to a braking system in a vehicle while the vehicle is in operation. Even if the vehicle is stopped or if the engine is off, in some cases it may not be an appropriate time to make an update. For example, a vehicle may be at a weighing station or fueling station, and the pushing of the update may prevent the vehicle from leaving such station for an extended period of time, delaying other vehicles from being serviced at such station.

SUMMARY

[0005] Accordingly there is provided a method, a device and a computer program as detailed in the claims that follow.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The present disclosure will be better understood with reference to the drawings, in which:

Figure 1 is a block diagram showing an example architecture for a system in accordance with the embodiments of the present disclosure;

Figure 2 is a data flow diagram showing the updating of a device using a switchboard and an electronic device;

Figure 3 is a block diagram showing data structures for associating an electronic device with a device to be updated;

Figure 4 is a block diagram of an example computing device capable of being used with the embodiments of the present disclosure; and

Figure 5 is a block diagram of an example mobile device capable of being used with the embodiments of the present disclosure.

DETAILED DESCRIPTION OF THE DRAWINGS

[0007] The present disclosure provides a method at a computing device acting as a switchboard between an electronic device and a device to be updated, the method comprising: receiving, at the computing device, a connection request from the electronic device, the connection request including an identifier for the device to be updated; receiving, at the computing device, a connection request from the device to be updated; associating, at the computing device, the connection request from the electronic device and the connection request from the device to be updated; forwarding, at the computing device, a message from the device to be updated to the electronic device that update conditions have been met; forwarding, at the computing device, a message from the electronic device to the device to be updated to start an update process; and forwarding, at the computing device, update status information from the device to be updated to the electronic device.

[0008] The present disclosure further provides a computing device configured to act as a switchboard between an electronic device and a device to be updated, the computing device comprising: a processor; and a communications subsystem, wherein the computing device is configured to: receive a connection request from the electronic device, the connection request including an identifier for the device to be updated; receive a connection request from the device to be updated; associate the connection request from the electronic device and the connection request from the device to be updated; forward a message from the device to be updated to the electronic device that update conditions have been met; forward a message from the electronic device to the device to be updated to start an update process; and forward update status information from the device to be updated to the electronic device.

[0009] The present disclosure further provides a computer readable medium for storing instruction code, which when executed by a processor of a computing device configured to act as a switchboard between an electronic device and a device to be updated, cause the computing device to: receive a connection request from the electronic device, the connection request including an identifier for the device to be updated; receive a connection request from the device to be updated; associate the connection request from the electronic device and the connection request from the device to be updated; forward a message from the device to be updated to the electronic device that update conditions have been met; forward a message from the electronic device to the device to be updated to start an update process; and forward update

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0210

status information from the device to be updated to the electronic device.

[0010] Therefore, in accordance with the embodiments of present disclosure, methods and systems are provided for network connected devices that have no graphical user interfaces, but which have network interfaces, to have updates initiated and monitored through another electronic device. A network connected device, as used herein, may be any stationary or mobile computing device. For example, the device may be any device affixed to or part of shipping containers, truck trailers, or truck cabins in one embodiment. In other embodiments, the device may be affixed to or part or any vehicle, including motor vehicles (e.g. automobiles, cars, trucks, buses, motorcycles, etc.), aircraft (e.g. airplanes, unmanned aerial vehicles, unmanned aircraft systems, drones, helicopters, etc.), spacecraft (e.g. space planes, space shuttles, space capsules, space stations, satellites etc.), watercraft (e.g. ships, boats, hovercraft, submarines etc.), rail vehicles (e.g. trains and trams, etc.) and other types of vehicles including any combination of the foregoing, whether currently existing or after arising, among others.

[0011] In other cases, the network connected device may be a device such as an Internet of things (IOT) device, endpoints, home automation devices, medical equipment in hospital or home environments, inventory tracking devices, environmental monitoring devices, energy management devices, infrastructure management devices, vehicles or devices for vehicles, fixed electronic devices, among others.

[0012] The network connected device may connect, in some cases, to a network through another device. For example, the network connected device may be an ECU in a vehicle that communicates using a gateway in the vehicle to connect to, for example, a cellular network. Other options for such devices are possible.

[0013] Further the electronic device having a user interface may be any computing device, including a mobile device such as a cellular telephone, smartphone, internet appliance, laptop, desktop computer, smart watch, wearable, or other similar device.

[0014] While the embodiments of the present disclosure are provided below with regard to vehicle systems, the present disclosure is not limited to vehicle systems and any device having a network connection can be used with the embodiments of the present disclosure.

[0015] In the case of vehicles, the specific timing of an update cannot generally be inferred simply by observing the device state. For example, simply because a vehicle is not running and has the keys in the ignition, this does not imply that it is a good time for the vehicle to be updated. The vehicle could be at a gas pump, weighing station, among other scenarios, where the disabling of the vehicle for a time period to perform an update may be inappropriate.

[0016] Therefore, in accordance with the embodiments of the present disclosure, a user is allowed to initiate, via an electronic device, the update of a network connected device.

[0017] Further, in accordance with some embodiments of the present disclosure, a user may have difficulty identifying a specific device on which the update is to be performed. In such situation, a check that the appropriate device is being updated may be beneficial.

[0018] For example, when dealing with a fleet of vehicles such as trucks or rental vehicles, the person performing the update may have various vehicles to select from. Utilizing a vehicle identification number or other similar unique identifier, identification of the particular vehicle that the user wishes to update may occur. However, such system of selecting the vehicle may be error-prone and therefore, in accordance with embodiments described below, checks may be made to ensure that the correct vehicle is being updated.

[0019] Further, as described below, a network connected device may be on a different network than the electronic device being used for the update. For example, a network connected device may be secured on a private network. Many cellular carriers configure their networks utilizing private networks.

[0020] However, the electronic device may be on a different private network.

[0021] Given that there is no guarantee that the device and the electronic device are on the same private network, direct connectivity between the electronic device and the device being updated may be difficult.

[0022] Based on this, in accordance with the present disclosure, an intermediary server is provided, referred to herein as an over-the-air (OTA) switchboard. This server component is hosted in a manner that makes it available from the public internet and therefore both the device being updated and the electronic device can connect to such server.

[0023] In particular, reference is now made to **Figure 1**, which shows a simplified architecture for a system in accordance with the present disclosure. In the embodiment of **Figure 1**, a plurality of devices, namely devices **110**, **112** and **114**, communicate through a base station **122** or access point **124** to the Internet **130** or other similar network. As provided above, devices **110**, **112**, or **114** may be any device that needs to have software updates, and may, for example, be an ECU in a vehicle.

[0024] Communication may be with one or a plurality of the servers, such as servers **132** or **134** in the embodiment of **Figure 1**. For example, server **132** may be an authentication server while server **134** may be an over-the-air switchboard server in one embodiment. However, in other embodiments, the functionality of servers **132** and **134** may be found on a single server.

[0025] An electronic device **140** communicates through a base station **142** or access point **144** with Internet **130**, and may thereby communicate with servers **132** and **134**.

[0026] As indicated above, the electronic device **140** and a network device such as device **110** may be on different private networks. For example, in the embodi-

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0211

ment of **Figure 1**, electronic device **140** is in a first private network **146** with a carrier and device **110** may be in a second private network **126**, with the same or a different carrier.

[0027] Based on potentially being on different private networks, communication may occur between an electronic device **140** and a device **110** utilizing a server **132**, as described in more detail below.

[0028] Utilizing a system as described with regard to **Figure 1** above, an update may occur based on a user receiving on an electronic device a notification that the vehicle or similar device to be updated has an update pending. Such update notification may be provided, for example, from an update server or other network element.

[0029] Specifically, reference is now made to **Figure 2**. In the embodiment of **Figure 2**, an electronic device **210** may include software or an application for initiating and monitoring updates on a vehicle.

[0030] An authentication service **212** provides authentication for both the electronic device **210** as well as for vehicle communications, as described below.

[0031] Further, a switchboard **214** allows communication between the electronic device **210** and a vehicle.

[0032] The vehicle **216** includes internal communications between components or Electronic Control Units (ECU). Such internal communications may be based on any wired or wireless technology. The internal communications may allow for firmware or software for a component in the vehicle to be updated. In the example of **Figure 2**, the internal communication is performed using CANBUS **217**.

[0033] Further, vehicle **216** includes an over-the-air (OTA) client **218**. The OTA client **218** provides for communication between the vehicle **216** and the switchboard **214**.

[0034] In accordance with the embodiment of **Figure 2**, a software update may be downloaded to a vehicle prior to the installation of such update. The update may be provided, for example, through switchboard **214** or directly from an update server (not shown). Such software update download is shown by block **220**.

[0035] The download is however not installed at this point. The use of the pre-downloading of the update software allows installation of the software to occur more quickly once installation is started. Pre-downloading also ensures that a disruption in network communications will not impact installation times.

[0036] However, in other embodiments, the installation of the software may include downloading updates concurrently.

[0037] In the embodiment of **Figure 2**, if the software update is pre-downloaded, then the OTA client **218** may send a download complete message **222** to the switchboard **214**.

[0038] Switchboard **214** may then provide a download complete message **224** directly to an electronic device **210** in some embodiments. In other embodiments, the indication that the download is compete may be provided to a server such as to the authentication service **212** to provide a notification to the electronic **device 210**.

[0039] For example, in the embodiment of **Figure 2**, the authentication service **212** may be used to provide a notification to the electronic device **210**. In this regard, the authentication service may keep a list of electronic devices associated with the vehicle from which message **222** was sent, as relayed in message **224**.However, this is not limiting and in other embodiments, different servers may be used to associated electronic devices to vehicles and send message **224**.

[0040] In alternative embodiments in which pre-downloading does not occur, if a server has received an indication that an update is available, the server may keep a list or database of components installed in the various vehicles under its control. Therefore, the server may cross reference the update to a list of vehicles that need such update and then may further cross-reference to electronic devices associated with those vehicles.

[0041] Based on the association of the electronic device to the vehicle, the a server such as authentication service **212** may then send a message to the associated electronic device or devices, as shown with arrow **230** in the embodiment of **Figure 2**.

[0042] One of such subscribed users may be the user of electronic device **210**.

[0043] At some subsequent time when the installation of the update is appropriate, the user may then log in to a phone application or other software on electronic device **210** to initiate the installation of such software. In particular, in the embodiment of **Figure 2**, the user may perform an authentication with the authentication service **212**. A session identifier may be provided based on the authentication. The authentication is shown with arrow **240** in the embodiment of **Figure 2**.

[0044] Once a user of the electronic device is authenticated with the authentication service **212**, an identifier for the vehicle or device being upgraded may be entered. The identifier may be any number, code or designation that uniquely identifies the object being upgraded.

[0045] The identifier may be provided to the electronic device in various ways. For example, for a vehicle, the identification may be provided by manually entering a vehicle identification number, or by scanning a barcode or QR code in the vehicle.

[0046] In other embodiments, the identifier may be provided by clicking on a link in the message or notification received at arrow **230**. For example, an Android intent can be used to define a link in an email that could then launch an application on an Android type system. Similar functionality could be performed on an iOS device or other operating system device.

[0047] In other embodiments, the identifier may be input utilizing a pre-stored list within the electronic device **210**. For example, a user may be presented with a list of vehicle identifiers for vehicles associated with the electronic device **210**, and a user may select an identifier

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0212

from the list.

[0048] Other options for entering an identifier into electronic device **210** are possible, and the present disclosure is not limited to any method of providing the identifier to the electronic device.

[0049] The entering of the identifier is shown in the embodiment of **Figure 2** with arrow **242**.

[0050] Subsequently, the electronic device **210** connects and communicates with switchboard **214** by sending a connect message **246**. Connect message **246** may include various information. For example, in the embodiment of **Figure 2** the message includes the identifier entered at arrow **242**, session information obtained at arrow **240**, as well as user information. However, in other embodiments different information may be provided in the connect message **246**.

[0051] The switchboard **214** may then validate the session received in message **246** with authentication service **212**, as shown by arrow **248**.

[0052] As will be appreciated by those in the art, the authentication service may be part of the switchboard **214**, in which case, the validation at arrow **248** is internal. In this case, the session token may not be required to be sent from the electronic device.

[0053] Once the electronic device is connected to the switchboard **214**, the electronic device may be prompted to have the user perform certain actions. For example, in the embodiment of **Figure 2**, the electronic device may prompt a user to put the vehicle into an update state as shown by arrow **250**. This may involve turning the engine off but having the key in a standby position, among other options. The present disclosure is not limited to any particular actions that need to be taken to put the vehicle into an update state.

[0054] The application or software on the electronic device may then prompt a user to perform an action which would not normally occur while the vehicle is in such update state. For example, in the embodiment of **Figure 2**, the prompt may involve instructing a user to press and hold a button or combination of buttons available to a user on the vehicle. This shown with arrow **252** in the embodiment of **Figure 2**.

[0055] In particular, the combination of actions at arrows **250** and **252** would typically not occur in the normal operation of the vehicle, thereby causing the vehicle to recognize that an update attempt is occurring. Specifically, in the embodiment of **Figure 2**, the CANBUS **217** on the vehicle realizes that the update state has been entered and that the button or combinations of buttons is being pressed. Therefore, the CANBUS **217** sends message **260** to the OTA client **218** indicating that the update preconditions have been met.

[0056] The OTA client **218** may then connect to the switchboard **214** by sending a connect message **264** along with the identification number for the vehicle.

[0057] The switchboard **214** may provide a notification, as shown by message **268**, to the electronic device **210** that a connection with the vehicle has been established.

[0058] Further, the OTA client **218** may inform the switchboard **214** that the update preconditions have been met, as shown by arrow **270**. This may further be relayed by switchboard **214** to the electronic device **210**, as shown with arrow **272**.

[0059] The electronic device **210** may then enable a user interface to allow the updates to be started, as shown by arrow **280**. For example, a "start" button may be enabled or become visible on the electronic device to allow the user to start the update.

[0060] If the user interface receives an input, such as pressing of a start button or other similar action to start the update, then the electronic device **210** may send a start command to switchboard **214**, shown by message **282**, which may then be relayed to the OTA client **218**, shown by message **284**.

[0061] Subsequently, the OTA client **218** cause the update to be started and may provide periodic status updates on the installation process to the switchboard **214**, shown with arrow **290**. Such status updates and progress reports may be relayed to the electronic device **210**, as shown by arrow **292**.

[0062] For example, during the update process, the OTA client **218** sends progress information including items such as percentage completed and remaining, as well as the overall outcome of the installation process, to the switchboard. The switchboard may then forward this information to the connected phone application or other element of the electronic device **210** to provide the user of the electronic device with such information.

[0063] In this way, the user of such electronic device will know the status of the update and when the update finishes.

[0064] Utilizing the embodiment of **Figure 2** above, various functionality is achieved. In particular, if the user is managing a fleet of devices, there is a need to ensure that the device identifier entered into the electronic device corresponds with the correct device to be updated. This is achieved based on the actions that are taken within the vehicle or other device being updated, along with interaction with the electronic device. The concurrent physical action on the device being updated and action on the electronic device ensures that the correct device is updated.

[0065] Further, the above embodiments prevent unintended updates. For example, if the electronic device initiates an update but no message is received from the vehicle, then the update process will not be started and the enablement of the "start" button will not occur. Further, if the vehicle indicates that the conditions for an update have been met but no electronic device has connected to try to do the update, then the switchboard may assume that such update preconditions were entered accidentally and no update is initiated.

[0066] In some embodiments, once the update process starts, it will proceed through to completion. This completion is either a successful completion or based on a roll back or failure of the software update. This ensures

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0213

that even if the connection is lost to either the vehicle or the electronic device, that the update will continue.

[0067] In the above, security is provided through the fact that both the user of the electronic device needs to be authenticated to the authentication service, as well as the physical interaction with the device being updated. Thus, the combination of preconditions indicates that malicious updating of the vehicle is unlikely to occur. Further, the loading of the update itself may be done through a secure mechanism between the vehicle and an updated server.

[0068] With regard to the OTA switchboard **214**, the switchboard may hold a list of vehicles and associated devices, and may simply forward messages from one to the other utilizing any messaging format. Thus, once the association between the device and the vehicle is established, over the OTA switchboard **214** merely acts as a conduit for forwarding messages between the two. For example, reference is now made to **Figure 3**, which shows an association between the vehicle identification number data for a vehicle with a session owner user information from an electronic device.

[0069] In the embodiment of **Figure 3**, the VIN data **310** may be associated with a plurality of states or variables, including an update state, the current session owner, the vehicle operational state, the update progress, the current release version, the current release install timestamp, and a release initiator.

[0070] The session owner user information **320** contains information identifying a user interacting with the remote OTA update control mechanism. For example, this may be an application on electronic device **210** from the embodiment of **Figure 2**.

[0071] The vehicle update preconditions **330** may be a set of preconditions that are configured to indicate whether the vehicle is ready for updating. These conditions may involve, for example, putting the ignition key into a run position without turning on the engine and holding cruise control. Other options including setting the parking brake, among other options, for the vehicle update preconditions are however possible.

[0072] Based on **Figures 1** to **3**, a vehicle that does not have a feedback mechanism can be updated through the use of an electronic device such as a mobile phone and through the use of a server that may act as a switchboard for communications between the vehicle and the electronic device.

[0073] The device being updated or the electronic device may be any computing device. One simplified block diagram of a computing device is shown with regard to **Figure 4**.

[0074] In **Figure 4**, computing device **410** includes a processor **420** and a communications subsystem **430**, where the processor **420** and communications subsystem **430** cooperate to perform the methods of the embodiments described above. Communications subsystem **420** may, in some embodiments, comprise multiple subsystems, for example for different radio technologies.

[0075] Processor **420** is configured to execute programmable logic, which may be stored, along with data, on device **410**, and shown in the example of **Figure 4** as memory **440**. Memory **440** can be any tangible, non-transitory computer readable storage medium. The computer readable storage medium may be a tangible or in transitory/non-transitory medium such as optical (e.g., CD, DVD, etc.), magnetic (e.g., tape), flash drive, hard drive, or other memory known in the art.

[0076] Alternatively, or in addition to memory **440**, computing device **410** may access data or programmable logic from an external storage medium, for example through communications subsystem **430**.

[0077] Communications subsystem **430** allows device **410** to communicate with other devices or network elements and may vary based on the type of communication being performed. For example, if computing device **410** is an ECU, communications subsystem 430 may be the interface to a CANBUS. If computing device **410** is a server or OTA client then communications subsystem **430** may include wired or wireless communications such as cellular, WiFi, ethernet, fiber, among other options. Further, communications subsystem **430** may comprise a plurality of communications technologies, including any wired or wireless communications technology.

[0078] Communications between the various elements of device **410** may be through an internal bus **460** in one embodiment. However, other forms of communication are possible.

[0079] The computing device of **Figure 4** could be any fixed or mobile device. If the computing device is a mobile device, one example mobile device is described below with regard to **Figure 5**.

[0080] Mobile device **500** may comprise a two-way wireless communication device having voice or data communication capabilities or both. Mobile device **500** generally has the capability to communicate with other computer systems. Depending on the exact functionality provided, the mobile device may be referred to as a data messaging device, a two-way pager, a wireless e-mail device, a smartphone, a cellular telephone with data messaging capabilities, a wireless Internet appliance, a wireless device, a mobile device, an embedded cellular modem, an electronic device or a data communication device, as examples.

[0081] Where mobile device **500** is enabled for two-way communication, it may incorporate a communication subsystem **511**, including a receiver **512** and a transmitter **514**, as well as associated components such as one or more antenna elements **516** and **518**, local oscillators (LOs) **513**, and a processing module such as a digital signal processor (DSP) **520**. As will be apparent to those skilled in the field of communications, the particular design of the communication subsystem **511** will be dependent upon the communication network in which the mobile device is intended to operate.

[0082] Network access requirements will also vary depending upon the type of network **519**. In some networks,

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0214

network access is associated with a subscriber or user of the mobile device **500**. A mobile device may require an embedded or a removable user identity module (RUIM) or a subscriber identity module (SIM) card or a UMTS SIM (USIM) in order to operate on a network. The USIM/SIM/RUIM interface **544** is normally similar to a card-slot into which a USIM/SIM/RUIM card can be inserted and ejected. The USIM/SIM/RUIM card can have memory and hold many key configurations **551**, and other information **553** such as identification, and subscriber related information.

[0083] When required network registration or activation procedures have been completed, mobile device **500** may send and receive communication signals over the network **519**. As illustrated in **Figure 5**, network **519** can include multiple base stations communicating with the mobile device.

[0084] Signals received by antenna **516** through communication network **519** are input to receiver **512**, which may perform such common receiver functions as signal amplification, frequency down conversion, filtering, channel selection and the like. Analog to digital (A/D) conversion of a received signal allows more complex communication functions such as demodulation and decoding to be performed in the DSP **520**. In a similar manner, signals to be transmitted are processed, including modulation and encoding for example, by DSP **520** and input to transmitter **514** for digital to analog (D/A) conversion, frequency up conversion, filtering, amplification and transmission over the communication network **519** via antenna **518**. DSP **520** not only processes communication signals, but also provides for receiver and transmitter control. For example, the gains applied to communication signals in receiver **512** and transmitter **514** may be adaptively controlled through automatic gain control algorithms implemented in DSP **520**.

[0085] Mobile device **500** generally includes a processor **538** which controls the overall operation of the device. Communication functions, including data and voice communications, are performed through communication subsystem **511**. Processor **538** also interacts with further device subsystems such as the display **522**, flash memory **524**, random access memory (RAM) **526**, auxiliary input/output (I/O) subsystems **528**, serial port **530**, one or more keyboards or keypads **532**, speaker **534**, microphone **536**, other communication subsystem **540** such as a short-range communications subsystem, DSRC subsystem 3GPP based V2X subsystem, or cellular subsystem, and any other device subsystems generally designated as **542**. Serial port **530** could include a USB port, On-Board Diagnostics (OBD) port or other port known to those in the art.

[0086] Some of the subsystems shown in **Figure 5** perform communication-related functions, whereas other subsystems may provide "resident" or on-device functions. Notably, some subsystems, such as keyboard **532** and display **522**, for example, may be used for both communication-related functions, such as entering a text message for transmission over a communication network, and device-resident functions such as a calculator or task list.

[0087] Operating system software used by the processor **538** may be stored in a persistent store such as flash memory **524**, which may instead be a read-only memory (ROM) or similar storage element (not shown). Those skilled in the art will appreciate that the operating system, specific device applications, or parts thereof, may be temporarily loaded into a volatile memory such as RAM **526**. Received communication signals may also be stored in RAM **526**.

[0088] As shown, flash memory **524** can be segregated into different areas for both computer programs **558** and program data storage **550**, **552**, **554** and **556**. These different storage types indicate that each program can allocate a portion of flash memory **524** for their own data storage requirements. Processor **538**, in addition to its operating system functions, may enable execution of software applications on the mobile device. A predetermined set of applications that control basic operations, including potentially data and voice communication applications for example, will normally be installed on mobile device **500** during manufacturing. Other applications could be installed subsequently or dynamically.

[0089] Applications and software may be stored on any computer readable storage medium. The computer readable storage medium may be a tangible or in transitory/non-transitory medium such as optical (e.g., CD, DVD, etc.), magnetic (e.g., tape) or other memory known in the art.

[0090] One software application may be a personal information manager (PIM) application having the ability to organize and manage data items relating to the user of the mobile device such as, but not limited to, e-mail, messages, calendar events, voice mails, appointments, and task items. Further applications, including device update applications, productivity applications, social media applications, games, among others, may also be loaded onto the mobile device **500** through the network **519**, an auxiliary I/O subsystem **528**, serial port **530**, short-range communications subsystem **540** or any other suitable subsystem **542**, and installed by a user in the RAM **526** or a non-volatile store (not shown) for execution by the processor **538**. Such flexibility in application installation increases the functionality of the device and may provide enhanced on-device functions, communication-related functions, or both.

[0091] In a data communication mode, a received signal such as a text message or web page download will be processed by the communication subsystem **511** and input to the processor **538**, which may further process the received signal for output to the display **522**, or alternatively to an auxiliary I/O device **528**.

[0092] A user of mobile device **500** may also compose data items such as messages for example, using the keyboard **532**, which may be a complete alphanumeric keyboard or telephone-type keypad, either physical or virtu-

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0215

al, among others, in conjunction with the display **522** and possibly an auxiliary I/O device **528**. Such composed items may then be transmitted over a communication network through the communication subsystem **511**.

[0093] Where voice communications are provided, overall operation of mobile device **500** is similar, except that received signals may typically be output to a speaker **534** and signals for transmission may be generated by a microphone **536**. Alternative voice or audio I/O subsystems, such as a voice message recording subsystem, may also be implemented on mobile device **500**. Although voice or audio signal output is preferably accomplished primarily through the speaker **534**, display **522** may also be used to provide an indication of the identity of a calling party, the duration of a voice call, or other voice call related information for example.

[0094] Serial port **530** in **Figure 5** may be implemented in a mobile device for which synchronization with a user's desktop computer (not shown) may be desirable, but is an optional device component. Such a port **530** may enable a user to set preferences through an external device or software application and may extend the capabilities of mobile device **500** by providing for information or software downloads to mobile device **500** other than through a wireless communication network. As will be appreciated by those skilled in the art, serial port **530** can further be used to connect the mobile device to a computer to act as a modem or for charging a battery on the mobile device.

[0095] Other communications subsystems **540**, such as a short-range communications subsystem, is a further component which may provide for communication between mobile device **500** and different systems or devices, which need not necessarily be similar devices. For example, the subsystem **540** may include an infrared device and associated circuits and components or a Bluetooth™ or Bluetooth™ Low Energy communication module to provide for communication with similarly enabled systems and devices. Subsystem **540** may further include a DSRC radio or similar radio. Subsystem **540** may further include non-cellular communications such as Wi-Fi or WiMAX, or near field communications.

[0096] The embodiments described herein are examples of structures, systems or methods having elements corresponding to elements of the techniques of this application. This written description may enable those skilled in the art to make and use embodiments having alternative elements that likewise correspond to the elements of the techniques of this application. The intended scope of the techniques of this application thus includes other structures, systems or methods that do not differ from the techniques of this application as described herein, and further includes other structures, systems or methods with insubstantial differences from the techniques of this application as described herein.

[0097] While operations are depicted in the drawings in a particular order, this should not be understood as requiring that such operations be performed in the particular order shown or in sequential order, or that all illustrated operations be performed, to achieve desirable results. In certain circumstances, multitasking and parallel processing may be employed. Moreover, the separation of various system components in the implementation descried above should not be understood as requiring such separation in all implementations, and it should be understood that the described program components and systems can generally be integrated together in a single software product or packaged into multiple software products.

[0098] Also, techniques, systems, subsystems, and methods described and illustrated in the various implementations as discrete or separate may be combined or integrated with other systems, modules, techniques, or methods. Other items shown or discussed as coupled or directly coupled or communicating with each other may be indirectly coupled or communicating through some interface, device, or intermediate component, whether electrically, mechanically, or otherwise. Other examples of changes, substitutions, and alterations are ascertainable by one skilled in the art and may be made.

[0099] While the above detailed description has shown, described, and pointed out the fundamental novel features of the disclosure as applied to various implementations, it will be understood that various omissions, substitutions, and changes in the form and details of the system illustrated may be made by those skilled in the art. In addition, the order of method steps are not implied by the order they appear in the claims.

[0100] When messages are sent to/from an electronic device, such operations may not be immediate or from the server directly. They may be synchronously or asynchronously delivered, from a server or other computing system infrastructure supporting the devices/methods/systems described herein. The foregoing steps may include, in whole or in part, synchronous/asynchronous communications to/from the device/infrastructure. Moreover, communication from the electronic device may be to one or more endpoints on a network. These endpoints may be serviced by a server, a distributed computing system, a stream processor, etc. Content Delivery Networks (CDNs) may also provide may provide communication to an electronic device. For example, rather than a typical server response, the server may also provision or indicate a data for content delivery network (CDN) to await download by the electronic device at a later time, such as a subsequent activity of electronic device. Thus, data may be sent directly from the server, or other infrastructure, such as a distributed infrastructure, or a CDN, as part of or separate from the system.

[0101] Typically, storage mediums can include any or some combination of the following: a semiconductor memory device such as a dynamic or static random access memory (a DRAM or SRAM), an erasable and programmable read-only memory (EPROM), an electrically erasable and programmable read-only memory (EEPROM) and flash memory; a magnetic disk such as a fixed,

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0216

floppy and removable disk; another magnetic medium including tape; an optical medium such as a compact disk (CD) or a digital video disk (DVD); or another type of storage device. Note that the instructions discussed above can be provided on one computer-readable or machine-readable storage medium, or alternatively, can be provided on multiple computer-readable or machine-readable storage media distributed in a large system having possibly a plurality of nodes. Such computer-readable or machine-readable storage medium or media is (are) considered to be part of an article (or article of manufacture). An article or article of manufacture can refer to any manufactured single component or multiple components. The storage medium or media can be located either in the machine running the machine-readable instructions, or located at a remote site from which machine-readable instructions can be downloaded over a network for execution.

[0102] In the foregoing description, numerous details are set forth to provide an understanding of the subject disclosed herein. However, implementations may be practiced without some of these details. Other implementations may include modifications and variations from the details discussed above. It is intended that the appended claims cover such modifications and variations.

Claims

1. A method at a computing device acting as a switchboard between an electronic device and a device to be updated, the method comprising:

   receiving, at the computing device, a connection request from the electronic device, the connection request including an identifier for the device to be updated;
   receiving, at the computing device, a connection request from the device to be updated;
   associating, at the computing device, the connection request from the electronic device and the connection request from the device to be updated;
   forwarding, at the computing device, a message from the device to be updated to the electronic device that update conditions have been met;
   forwarding, at the computing device, a message from the electronic device to the device to be updated to start an update process; and
   forwarding, at the computing device, update status information from the device to be updated to the electronic device.

2. The method of claim 1, wherein the connection request from the device to be updated is received after physical interaction at the device to be updated.

3. The method of claim 1 or 2, wherein the device to be updated has no update feedback interface.

4. The method of any preceding claim, wherein the identifier is a vehicle identification number.

5. The method of any preceding claim, further comprising authenticating the connection request from the electronic device with an authentication service.

6. The method of claim 5, wherein the authenticating is based on a session identifier received in the connection request from the electronic device.

7. The method of any preceding claim, wherein at least one of the electronic device and device to be updated is on a private cellular network.

8. A computing device configured to act as a switchboard between an electronic device and a device to be updated, the computing device comprising:

   a processor; and
   a communications subsystem,

   wherein the computing device is configured to:

   receive a connection request from the electronic device, the connection request including an identifier for the device to be updated;
   receive a connection request from the device to be updated;
   associate the connection request from the electronic device and the connection request from the device to be updated;
   forward a message from the device to be updated to the electronic device that update conditions have been met;
   forward a message from the electronic device to the device to be updated to start an update process; and
   forward update status information from the device to be updated to the electronic device.

9. The computing device of claim 8, wherein the connection request from the device to be updated is received after physical interaction at the device to be updated.

10. The computing device of claim 8 or 9, wherein the device to be updated has no update feedback interface.

11. The computing device of any one of claims 8 to 10, wherein the identifier is a vehicle identification number.

12. The computing device of any one of claims 8 to 11, wherein the computing device is further configured

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0217

to authenticate the connection request from the electronic device with an authentication service.

13. The computing device of claim 12, wherein the authentication is based on a session identifier received in the connection request from the electronic device.

14. The computing device of any one of claims 8 to 13, wherein at least one of the electronic device and device to be updated is on a private cellular network.

15. A computer program, which when executed by a processor of a computing device configured to act as a switchboard between an electronic device and a device to be updated, causes the computing device to carry out the method of any one of claims 1 to 7.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0218

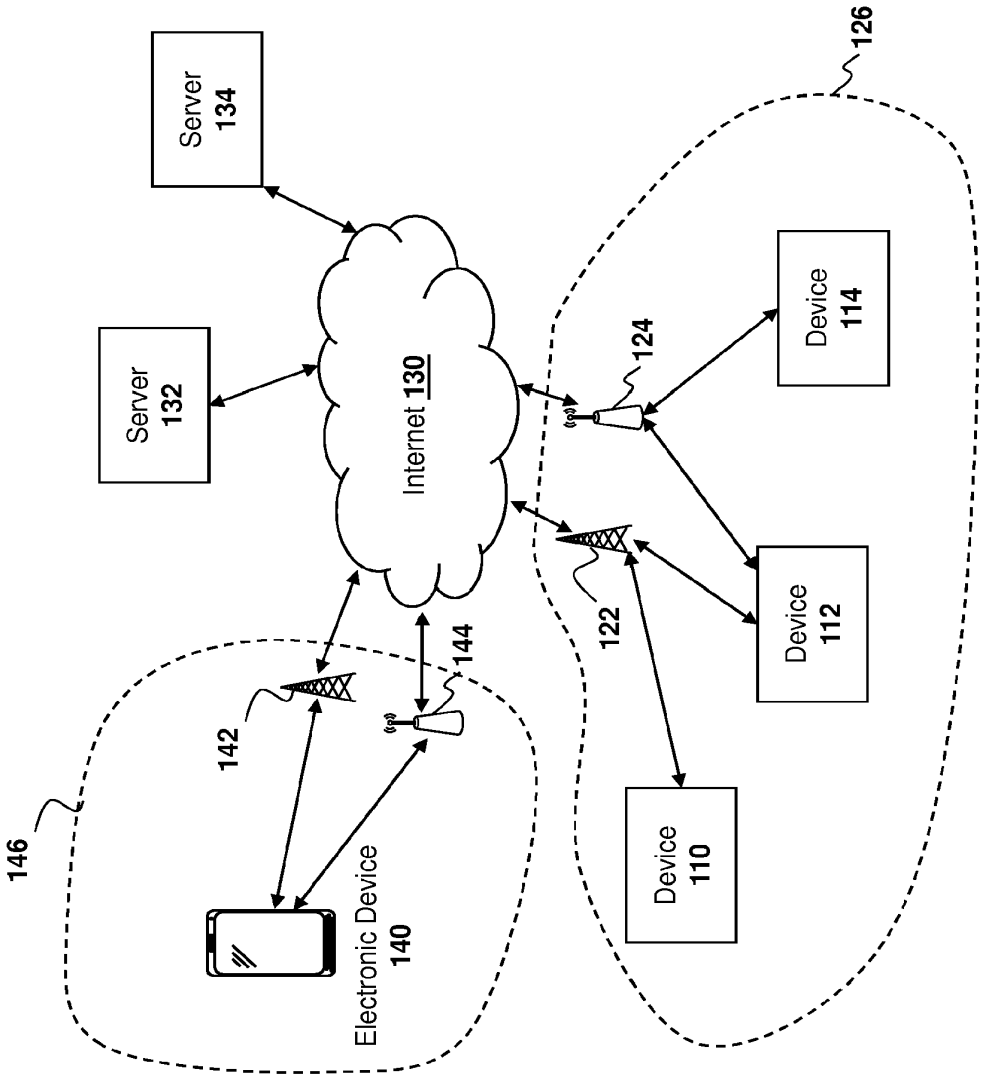


FIG. 1

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0219

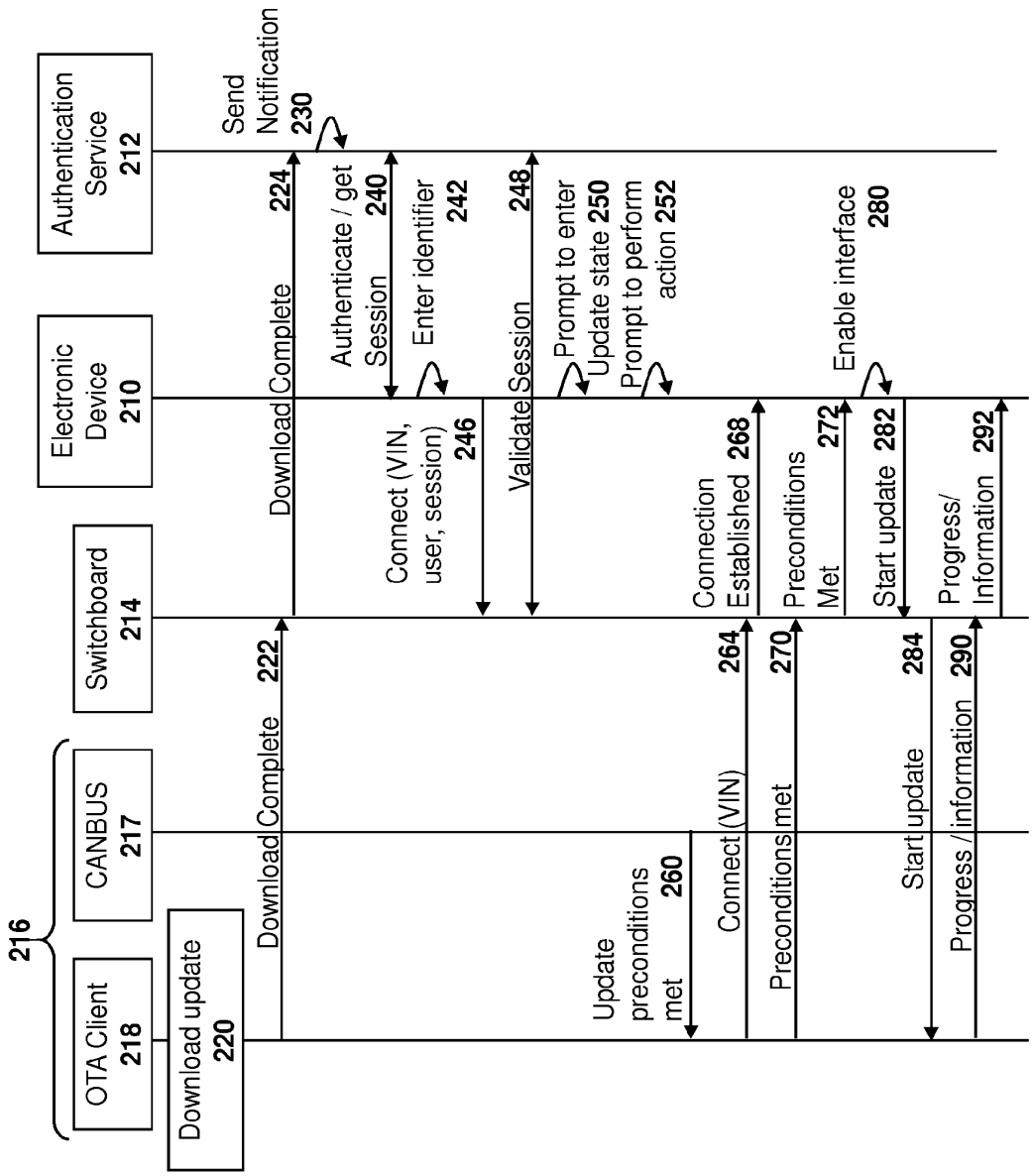


FIG. 2

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0220

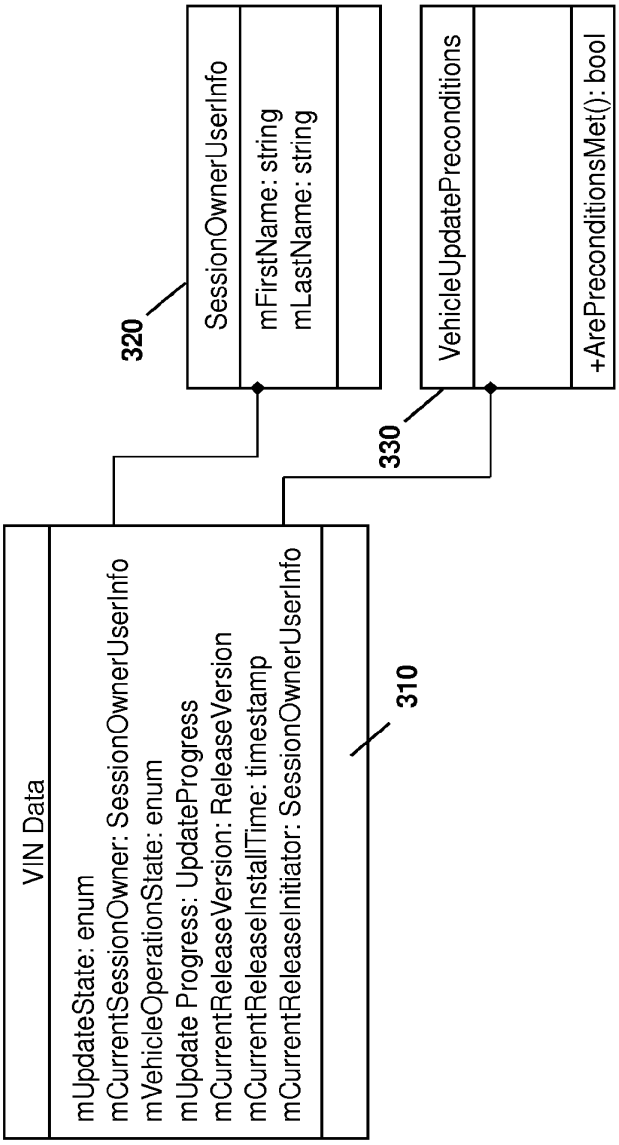


FIG. 3

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0221

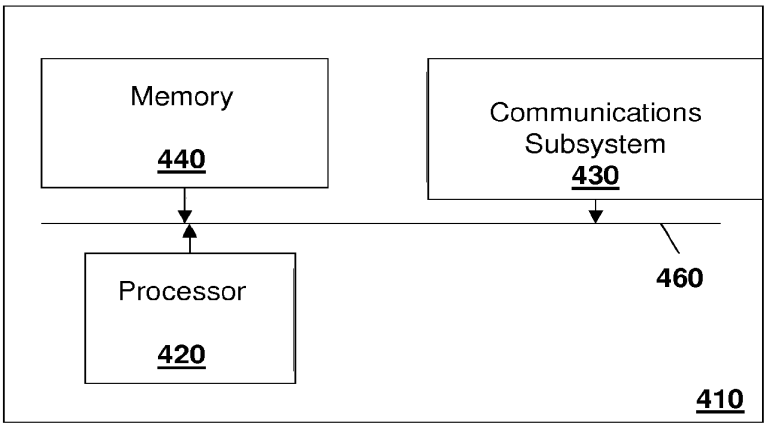


FIG. 4

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0222

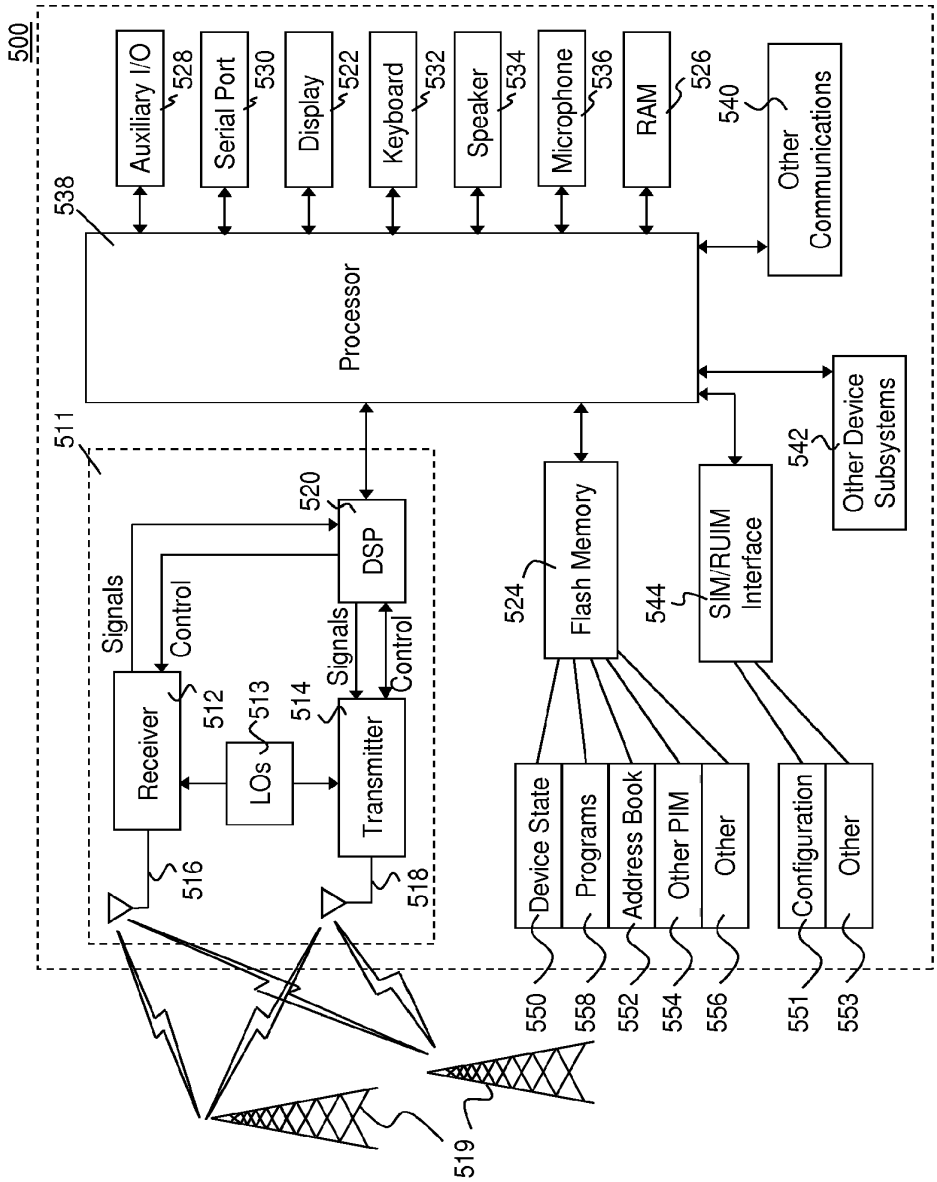


FIG. 5

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0223

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 19 15 0593

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2016/371075 A1 (MOELLER DOUGLAS S [US] ET AL) 22 December 2016 (2016-12-22) * paragraph [0009] * * paragraph [0011] - paragraph [0023] * * paragraph [0035] - paragraph [0070] * * paragraph [0106] - paragraph [0128] * * paragraph [0162] - paragraph [0164] *	1-15	INV. G06F8/65 H04L29/08
A	US 2009/222497 A1 (RYAN DARCY JOSEPH [CA]) 3 September 2009 (2009-09-03) * paragraph [0025] - paragraph [0041] *	1-15	
A	US 2004/039500 A1 (AMENDOLA SANDRO [DE] ET AL) 26 February 2004 (2004-02-26) * paragraph [0023] - paragraph [0027] *	1-15	

TECHNICAL FIELDS SEARCHED (IPC)
G06F
H04L
G06G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	21 May 2019	Del Chiaro, Silvia

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0224

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 19 15 0593

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-05-2019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2016371075 A1	22-12-2016	CN 106257419 A	28-12-2016
		DE 102016210674 A1	22-12-2016
		US 2016371075 A1	22-12-2016
US 2009222497 A1	03-09-2009	CA 2649752 A1	29-08-2009
		RU 2010139891 A	10-04-2012
		US 2009222497 A1	03-09-2009
		WO 2009107000 A2	03-09-2009
US 2004039500 A1	26-02-2004	DE 10037397 A1	14-02-2002
		EP 1410166 A2	21-04-2004
		JP 2004519751 A	02-07-2004
		US 2004039500 A1	26-02-2004
		WO 0210903 A2	07-02-2002

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0225

Electronic Acknowledgement Receipt

EFS ID:	37929219
Application Number:	16054004
International Application Number:	
Confirmation Number:	6713
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow Willis
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Helen Vongphakdy
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP1
Receipt Date:	04-DEC-2019
Filing Date:	03-AUG-2018
Time Stamp:	15:55:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	50468-US-PAT_2019-12-04_IDS2.pdf	1034481 71d7cd113519533ef70ed6c872a7553ce421b8ac	no	4

Warnings:

Information:					
2	Foreign Reference	50468-EP-EPA_REF_CN106656565A_D4.pdf	835885 fa2dd6e18472e3100b94fa446e83d211b3fbdddc	no	14
Warnings:					
Information:					
3	Foreign Reference	50468-EP-EPA_REF_CN106656565A_D4_English_Translation.pdf	633626 f25f80af1a25d77ebdbe78ec7379f57c8ff30ff4	no	13
Warnings:					
Information:					
4	Foreign Reference	50468-EP-EPA_REF_EP3511825A1_D1.pdf	932278 78aedb8c7d70e2d108fa59238cbe2944b82ebcdc	no	17
Warnings:					
Information:					
5	Non Patent Literature	50468-EP-EPA_29-11-2019_EESR.pdf	293008 3662dfd7178726a8641b3aaf608257f68000b17c	no	9
Warnings:					
Information:					
		Total Files Size (in bytes):	3729278		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

(19)中华人民共和国国家知识产权局

(12)发明专利申请

(10)申请公布号 CN 106656565 A
(43)申请公布日 2017.05.10

(21)申请号 201611001924.9

(22)申请日 2016.11.15

(71)申请人 广州汽车集团股份有限公司
地址 510000 广东省广州市越秀区东风中路448-458号成悦大厦23楼

(72)发明人 李延定

(74)专利代理机构 深圳汇智容达专利商标事务所(普通合伙) 44238
代理人 潘中毅 熊贤卿

(51)Int.Cl.
H04L 12/24(2006.01)
H04L 29/08(2006.01)
G06F 9/44(2006.01)
G06F 9/445(2006.01)

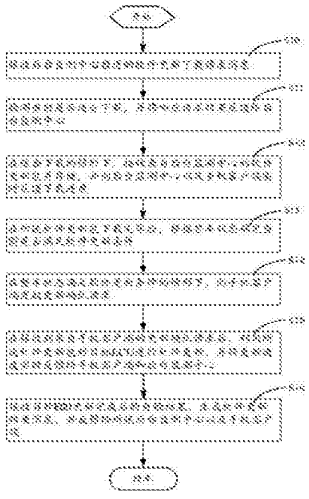
权利要求书2页 说明书6页 附图5页

(54)发明名称

一种汽车控制器远程更新方法、装置及系统

(57)摘要

本发明公开了一种汽车控制器远程更新方法，至少包括步骤：接收后台监测中心推送的软件更新下载请求消息；在适合下载的情形下，接收来自后台监测中心的软件更新包并存储，并向后台监测中心以及手机客户端实时反馈下载进度；在整车状态满足软件更新条件的情形下，向手机客户端发起更新确认请求；在手机客户端允许后，通过CAN总线利用所述软件更新包对目标ECU进行软件更新；接收目标ECU更新完成后的自检结果，生成软件更新结果消息，并反馈给所述后台监测中心以及手机客户端。本发明还公开了相应的装置及系统。实施本发明，可以在汽车用户侧对目标ECU进行在线更新，无需将整车或零部件返厂或4S店，提高了ECU软件更新的便利性及安全性。



CN 106656565 A

1.一种汽车控制器远程更新方法，在设置于汽车侧的远程控制终端中实现，其特征在于，至少包括如下步骤：

接收后台监测中心推送的软件更新下载请求消息；

检测当前是否适合下载，并将检测结果反馈给后台监测中心；

在适合下载的情形下，接收来自后台监测中心的软件更新包并存储，并向后台监测中心以及手机客户端实时反馈下载进度；

在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新条件；

在整车状态满足软件更新条件的情形下，向手机客户端发起更新确认请求；

在接收到来自手机客户端的更新确认反馈为允许后，通过CAN总线利用所述软件更新包对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心；

接收目标ECU更新完成后的自检结果，生成软件更新结果消息，并反馈给所述后台监测中心以及手机客户端。

2.如权利要求1所述的一种汽车控制器远程更新方法，其特征在于，进一步包括：

当所述响应请求结果为不适合下载时，在延时后继续接收来自后台监测中心的软件更新下载请求消息。

3.如权利要求1所述的一种汽车控制器远程更新方法，其特征在于，在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新条件的步骤具体为：

判断所述整车状态是否处于运行状态或充电状态下，如果是，则确定当前不满足软件更新条件；否则，则确定当前满足软件更新条件。

4.如权利要求1-3任一项所述的一种汽车控制器远程更新方法，其特征在于，在接收到来自手机客户端的更新确认反馈为允许后，通过CAN总线利用所述软件更新包对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心的步骤具体为：

解析所述软件更新包的内容，确定所述汽车中涉及有软件更新内容的ECU为目标ECU，其他ECU为非目标ECU；

控制所述非目标ECU停止工作，进入休眠状态；控制待更新的目标ECU处于唤醒状态；

根据所述软件更新包的内容，通过CAN总线对所述目标ECU进行软件更新；

将更新进度实时反馈给手机客户端和后台监测中心。

5.一种汽车控制器远程更新装置，其特征在于，至少包括：

下载请求消息接收单元，用于接收后台监测中心推送的软件更新下载请求消息；

下载条件检测单元，用于检测当前是否适合下载，并将检测结果反馈给后台监测中心；

下载处理单元，用于在下载条件检测单元检测到适合下载时，接收来自后台监测中心的软件更新包并存储，并向后台监测中心以及手机客户端实时反馈下载进度；

更新条件检测单元，用于在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新条件；

更新确认请求单元，用于更新条件检测单元检测到整车状态满足软件更新条件时，向手机客户端发起更新确认请求；

软件更新处理单元，用于在接收到来自手机客户端的更新确认反馈为允许后，利用所述软件更新包通过CAN总线对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心；

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0229

更新结果反馈单元，用于接收目标ECU更新完成后的自检结果，生成软件更新结果消息，并反馈给所述后台监测中心以及手机客户端。

6.如权利要求5所述的一种汽车控制器远程更新装置，其特征在于，所述更新条件检测单元包括：

判断单元，用于判断所述整车状态是否处于运行状态或充电状态下；

确定单元，用于在所述判断单元判断结果为是时，则确定当前不满足软件更新条件；否则，则确定当前满足软件更新条件。

7.如权利要求5或6所述的一种汽车控制器远程更新装置，其特征在于，所述软件更新处理单元包括：

解析单元，用于解析所述软件更新包的内容，确定所述汽车中涉及有软件更新内容的ECU为目标ECU，其他ECU为非目标ECU；

控制单元，用于控制所述非目标ECU停止工作，进入休眠状态；控制待更新的目标ECU处于唤醒状态；

更新单元，用于根据所述软件更新包的内容，通过CAN总线对所述目标ECU进行软件更新；

进度反馈单元，用于将更新进度实时反馈给所述手机客户端和后台监测中心。

8.一种汽车控制器远程更新系统，其特征在于，至少包括：

远程控制终端，设置于汽车侧，包括如权利要求5至7任一项所述的汽车控制器远程更新装置；

后台监测中心，用于通过远程控制终端监测汽车的ECU的数据，以及向远程控制终端推送软件更新包；

手机客户端，装载于与所述汽车相应的授权用户手机上，用于接收来自远程控制终端以及后台监测中心的消息，并对来自远程控制终端的更新确认请求进行确认；

其中，所述远程控制终端通过CAN总线与汽车中的各ECU进行通信；所述远程控制终端、所述后台监测中心、手机客户端三者之间通过无线方式进行通信。

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0230

一种汽车控制器远程更新方法、装置及系统

技术领域

[0001] 本发明涉及一种汽车控制器的远程更新技术领域，特别涉及一种汽车控制器远程更新方法、装置及系统。

背景技术

[0002] 现如今汽车大量普及，被人们使用，随着汽车技术的发展，汽车的智能化技术也越来越被人们所关注。

[0003] 随着汽车技术的突飞发展，每隔一段时间，就会有一项新的功能可能会应用到汽车上，这就涉及到为汽车上的电子控制器(Electronic Control Unit，ECU)进行升级更新操作。无论是修补控制器上新发现的缺陷或功能上的BUG、漏洞，还是新增功能的应用，都需要对控制器进行软件更新。

[0004] 而在现有技术中，对控制器进行升级更新的方法一般是将汽车或待更新控制部件返厂进行更新；或者也可选择将汽车移至在4S店等维修点，由工程师进行更新。

[0005] 但这样的方法往往成本高，周期长，也难以保证对所有目标汽车进行更新，尤其是汽车被售往各地区的情形下，进一步加大了实现的难度。

发明内容

[0006] 本发明所要解决的技术问题在于，提供一种汽车控制器远程更新方法、装置及系统，在汽车用户侧就可以实现对汽车中目标ECU的远程更新，提高了ECU软件更新的便利性及安全性。

[0007] 为了解决上述技术问题，本发明实施例的一方面提供一种汽车控制器远程更新方法，在设置于汽车侧的远程控制终端中实现，至少包括如下步骤：

接收后台监测中心推送的软件更新下载请求消息；

检测当前是否适合下载，并将检测结果反馈给后台监测中心；

在适合下载的情形下，接收来自后台监测中心的软件更新包并存储，并向后台监测中心以及手机客户端实时反馈下载进度；

在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新条件；

在整车状态满足软件更新条件的情形下，向手机客户端发起更新确认请求；

在接收到来自手机客户端的更新确认反馈为允许后，通过CAN总线利用所述软件更新包对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心；

接收目标ECU更新完成后的自检结果，生成软件更新结果消息，并反馈给所述后台监测中心以及手机客户端。

[0008] 其中，进一步包括：

当所述响应请求结果为不适合下载时，在延时后继续接收来自后台监测中心的软件更新下载请求消息。

[0009] 其中，在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0231

条件的步骤具体为：

判断所述整车状态是否处于运行状态或充电状态下，如果是，则确定当前不满足软件更新条件；否则，则确定当前满足软件更新条件。

[0010] 其中，在接收到来自手机客户端的更新确认反馈为允许后，通过CAN总线利用所述软件更新包对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心的步骤具体为：

解析所述软件更新包的内容，确定所述汽车中涉及有软件更新内容的ECU为目标ECU，其他ECU为非目标ECU；

控制所述非目标ECU停止工作，进入休眠状态；控制待更新的目标ECU处于唤醒状态；

根据所述软件更新包的内容，通过CAN(Controller Area Network，控制器局域网络)总线对所述目标ECU进行软件更新；

将更新进度实时反馈给手机客户端和后台监测中心。

[0011] 相应地，本发明实施例的另一方面提供一种汽车控制器远程更新装置，至少包括：

下载请求消息接收单元，用于接收后台监测中心推送的软件更新下载请求消息；

下载条件检测单元，用于检测当前是否适合下载，并将检测结果反馈给后台监测中心；

下载处理单元，用于在下载条件检测单元检测到适合下载时，接收来自后台监测中心的软件更新包并存储，并向后台监测中心以及手机客户端实时反馈下载进度；

更新条件检测单元，用于在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新条件；

更新确认请求单元，用于更新条件检测单元检测到整车状态满足软件更新条件时，向手机客户端发起更新确认请求；

软件更新处理单元，用于在接收到来自手机客户端的更新确认反馈为允许后，利用所述软件更新包通过CAN总线对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心；

更新结果反馈单元，用于接收目标ECU更新完成后的自检结果，生成软件更新结果消息，并反馈给所述后台监测中心以及手机客户端。

[0012] 其中，所述更新条件检测单元包括：

判断单元，用于判断所述整车状态是否处于运行状态或充电状态下；

确定单元，用于在所述判断单元判断结果为是时，则确定当前不满足软件更新条件；否则，则确定当前满足软件更新条件。

[0013] 其中，所述软件更新处理单元包括：

解析单元，用于解析所述软件更新包的内容，确定所述汽车中涉及有软件更新内容的ECU为目标ECU，其他ECU为非目标ECU；

控制单元，用于控制所述非目标ECU停止工作，进入休眠状态；控制待更新的目标ECU处于唤醒状态；

更新单元，用于根据所述软件更新包的内容，通过CAN总线对所述目标ECU进行软件更新；

进度反馈单元，用于将更新进度实时反馈给所述手机客户端和后台监测中心。

[0014] 相应地，本发明实施例的再一方面，还提供一种汽车控制器远程更新系统，至少包

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0232

括：

远程控制终端，设置于汽车侧，包括如权利要求5至7任一项所述的汽车控制器远程更新装置；

后台监测中心，用于通过远程控制终端监测汽车的ECU的数据，以及向远程控制终端推送软件更新包；

手机客户端，装载于与所述汽车相应的授权用户手机上，用于接收来自远程控制终端以及后台监测中心的消息，并对来自远程控制终端的更新确认请求进行确认；

其中，所述远程控制终端通过CAN总线与汽车中的各ECU进行通信；所述远程控制终端、所述后台监测中心、手机客户端三者之间通过无线方式进行通信。

[0015] 实施本发明实施例，具有如下的有益效果：

实施本发明实施例，通过在车身侧设置一个具备的无线通信功能远程控制终端，其可以接收后台监测中心的软件更新包，并与汽车的相关用户的手机客户端进行交互，由手机客户端确定是否允许进行更新，并利用整车CAN网络通信功能，对目标ECU(控制器)实现在线软件更新，无需将整车或零部件返厂或4S店，在汽车用户侧就可以直接完成远程更新，提高了更新ECU软件的便利性；同时，由于最终的更新启动，需要用户的确认，从而提高了安全性。

附图说明

[0016] 为了更清楚地说明本发明实施例或现有技术中的技术方案，下面将对实施例或现有技术描述中所需要使用的附图作简单地介绍，显而易见地，下面描述中的附图仅仅是本发明的一些实施例，对于本领域普通技术人员来讲，在不付出创造性劳动性的前提下，还可以根据这些附图获得其他的附图。

[0017] 图1是本发明提供的一种汽车控制器远程更新系统的一个实施例的结构示意图；

图2是本发明提供的一种汽车控制器远程更新方法的一个实施例的主要流程示意图；

图3是图2中步骤S15的详细的流程示意图；

图4是本发明提供的一种汽车控制器远程更新装置的一个实施例的结构示意图；

图5是图4中更新条件检测单元的结构示意图；

图6是图4中软件更新处理单元的结构示意图。

具体实施方式

[0018] 下面将结合本发明实施例中的附图，对本发明实施例中的技术方案进行清楚、完整地描述，显然，所描述的实施例仅仅是本发明一部分实施例，而不是全部的实施例。基于本发明中的实施例，本领域普通技术人员在没有作出创造性劳动前提下所获得的所有其他实施例，都属于本发明保护的范围。

[0019] 下面将结合附图对本发明做进一步详细描述。

[0020] 如图1所示，示出了本发明是本发明提供的一种汽车控制器远程更新系统的一个实施例的结构示意图；在该实施例中，该汽车控制器远程更新系统至少包括：

设置于汽车侧的远程控制终端4，其通过CAN总线与汽车中的各ECU进行通信，可以获得各ECU(控制器)5中的信息，同时可以控制对各ECU进行软件更新；

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0233

后台监测中心2，用于通过远程控制终端4监测汽车的ECU的数据，以及向远程控制终端4推送软件更新包，可以理解的是，该后台监测中心2可以设置于汽车制造企业或ECU提供商处，当相应汽车ECU的软件需要进行更新时，可以主动向各远程控制终端4推送相应信息；

手机客户端3，装载于与所述汽车相应的授权用户的手机上，用于接收来自远程控制终端4以及后台监测中心2的消息，并对来自远程控制终端4的更新确认请求（后文会进行说明）进行确认；

其中，所述远程控制终端4、所述后台监测中心2、手机客户端3三者之间通过无线方式进行通信。

[0021] 在后文中会对上述涉及的各部件的功能及相互的交互关系进行详细说明。

[0022] 如图2所示，示出了本发明提供的一种汽车控制器远程更新方法的一个实施例的主要流程示意图；并一并结合图3所示。在该实施例中，该汽车控制器远程更新方法在设置于汽车侧的远程控制终端4中实现，该方法至少包括如下步骤：

步骤S10，接收后台监测中心推送的软件更新下载请求消息，具体地，该软件更新下载请求消息中可以含诸如需要更新的ECU名称，版本号等信息；

步骤S11，检测当前是否适合下载，并将检测结果反馈给后台监测中心；

可以理解的是，当远程控制终端自身存在故障，或正在执行某项特殊功能时，则认为当前不适合下载；

所述后台监测中心收到的响应请求结果为不适合下载时，后台监测中心会延时（例如间隔一小时）后继续向所述远程控制终端推送的软件更新下载请求消息，即当所述响应请求结果为不适合下载时，远程控制终端在延时后继续接收来自后台监测中心的软件更新下载请求消息；否则，向所述远程控制终端推送软件更新包。

[0023] 步骤S12，在适合下载的情形下，接收来自后台监测中心的软件更新包并存储，并向后台监测中心以及手机客户端实时反馈下载进度；

步骤S13，在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新条件，具体地，在一些例子中，在该步骤中需要判断所述整车状态是否处于运行状态或充电状态下，如果是，则确定当前不满足软件更新条件；否则，则确定当前满足软件更新条件；

步骤S14，在整车状态满足软件更新条件的情形下，向手机客户端发起更新确认请求，此时会在手机客户端上显示该更新确认请求，供用户确认是否可以进行后续的更新操作；

步骤S15，在接收到来自手机客户端的更新确认反馈为允许后，通过CAN总线利用所述软件更新包对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心；若接收到的来自手机客户端的是更新确认反馈为不允许后，则继续等待，直到手机客户端发送允许信息；

具体地，该步骤S15可包括：

步骤S150，解析所述软件更新包的内容，确定所述汽车中涉及有软件更新内容的ECU为目标ECU，其他ECU为非目标ECU；

步骤S151，控制所述非目标ECU停止工作，进入休眠状态；控制待更新的目标ECU处于唤醒状态；

步骤S152，根据所述软件更新包的内容，通过CAN总线对所述目标ECU进行软件更新；

步骤S153，将更新进度实时反馈给手机客户端和后台监测中心；

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0234

步骤S16，接收目标ECU更新完成后的自检结果，生成软件更新结果消息，并反馈给所述后台监测中心以及手机客户端。

[0024] 可以理解的是，如果某个目标ECU更新完成后的自检结果为不正常，则需要对该目标ECU再次进行软件更新，直至其自检结果正常。

[0025] 相应地，如图4所示，示出了本发明提供的一种汽车控制器远程更新装置的一个实施例的结构示意图，一并结合图5、图6所示，在该实施例中，汽车控制器远程更新装置1设置于图1中的远程控制终端4中，其至少包括：

下载请求消息接收单元10，用于接收后台监测中心推送的软件更新下载请求消息；

下载条件检测单元11，用于检测当前是否适合下载，并将检测结果反馈给后台监测中心；

下载处理单元12，用于在下载条件检测单元检测到适合下载时，接收来自后台监测中心的软件更新包并存储，并向后台监测中心以及手机客户端实时反馈下载进度；

更新条件检测单13，用于在所述软件更新包下载完毕后，根据整车状态确定当前是否满足软件更新条件；

更新确认请求单元14，用于更新条件检测单元检测到整车状态满足软件更新条件时，向手机客户端发起更新确认请求；

软件更新处理单元15，用于在接收到来自手机客户端的更新确认反馈为允许后，利用所述软件更新包通过CAN总线对目标ECU进行软件更新，并将更新进度实时反馈给手机客户端和后台监测中心；

更新结果反馈单元16，用于接收目标ECU更新完成后的自检结果，生成软件更新结果消息，并反馈给所述后台监测中心以及手机客户端。

[0026] 其中，所述更新条件检测单元13包括：

判断单元130，用于判断所述整车状态是否处于运行状态或充电状态下；

确定单元131，用于在所述判断单元判断结果为是时，则确定当前不满足软件更新条件；否则，则确定当前满足软件更新条件。

[0027] 所述软件更新处理单15元包括：

解析单元150，用于解析所述软件更新包的内容，确定所述汽车中涉及有软件更新内容的ECU为目标ECU，其他ECU为非目标ECU；

控制单元151，用于控制所述非目标ECU停止工作，进入休眠状态；控制待更新的目标ECU处于唤醒状态；

更新单元152，用于根据所述软件更新包的内容，通过CAN总线对所述目标ECU进行软件更新；

进度反馈单元153，用于将更新进度实时反馈给所述手机客户端和后台监测中心。

[0028] 更多的细节，可以参考前述对图1至图3的描述，在此不进行详述。

[0029] 实施本发明，具有如下有益效果：

实施本发明实施例，通过在车身侧设置一个具备的无线通信功能远程控制终端，其可以接收后台监测中心的软件更新包，并与汽车的相关用户的手机客户端进行交互，由手机客户端确定是否允许进行更新，并利用整车CAN网络通信功能，对目标ECU(控制器)实现在线软件更新，无需将整车或零部件返厂或4S店，在汽车用户侧就可以直接完成远程更新，提

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0235

高了更新ECU软件的便利性;同时,由于最终的更新启动,需要用户的确认,从而提高了安全性。

[0030] 以上内容是结合具体的优选实施方式对本发明所作的进一步详细说明,不能认定本发明的具体实施只局限于这些说明。对于本发明所属技术领域的普通技术人员来说,在不脱离本发明构思的前提下,还可以做出若干简单推演或替换,都应当视为属于本发明的保护范围。

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0236

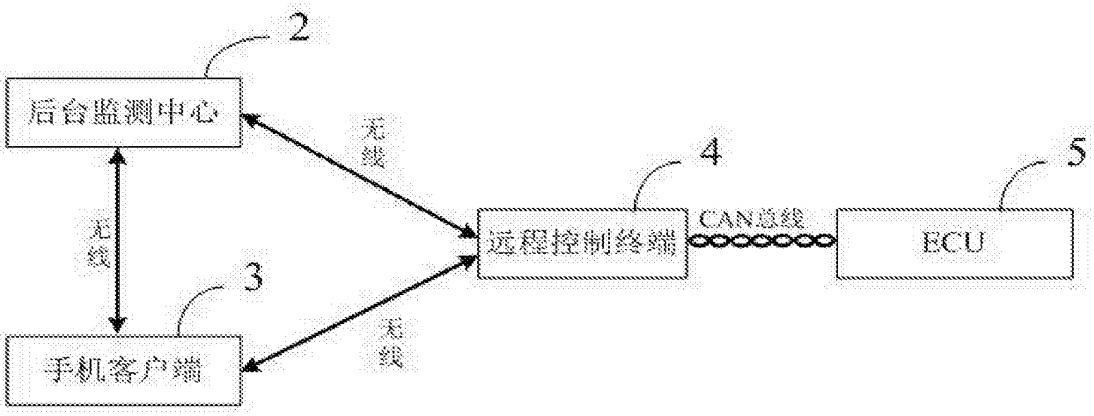


图1

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0237

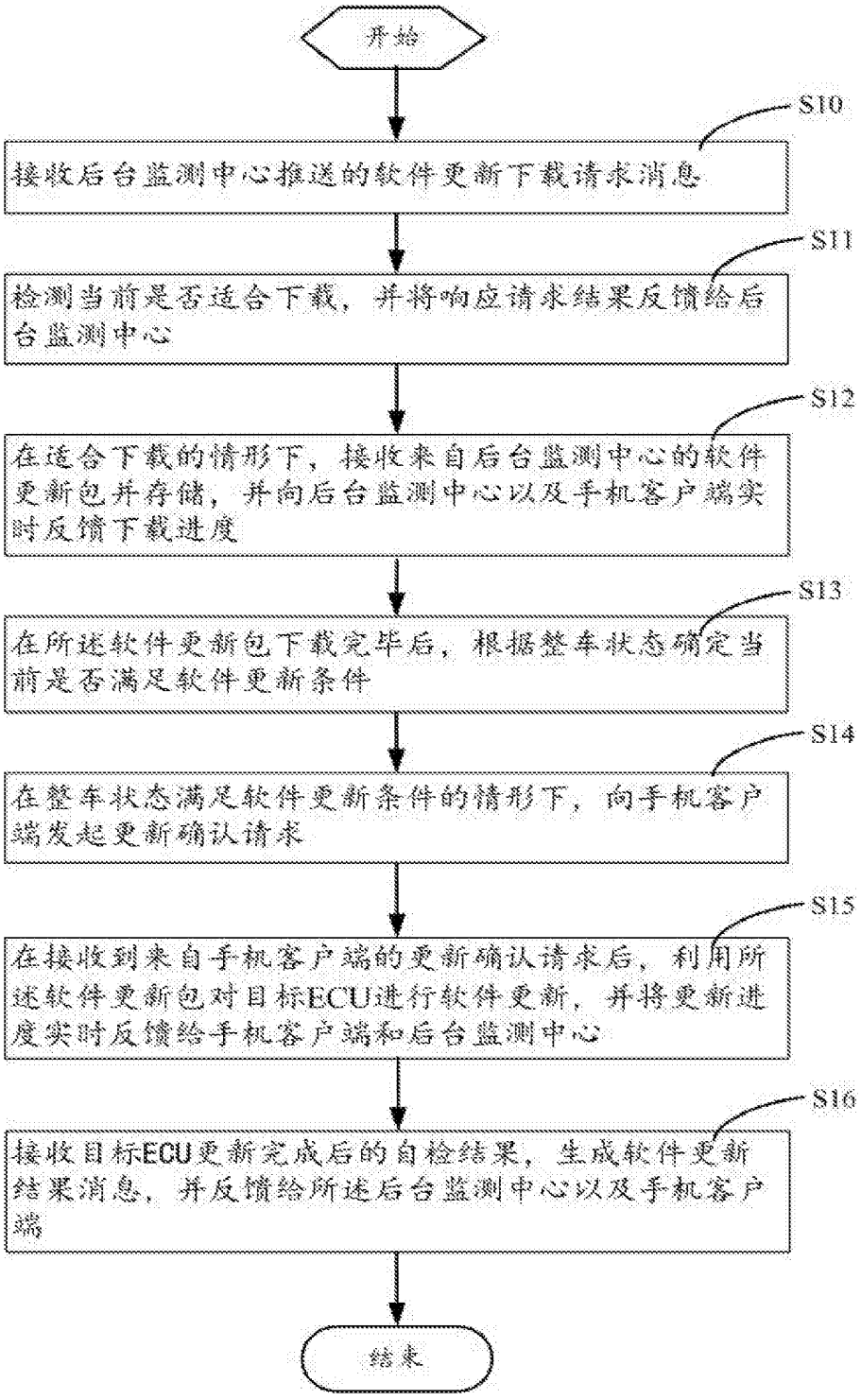


图2

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0238

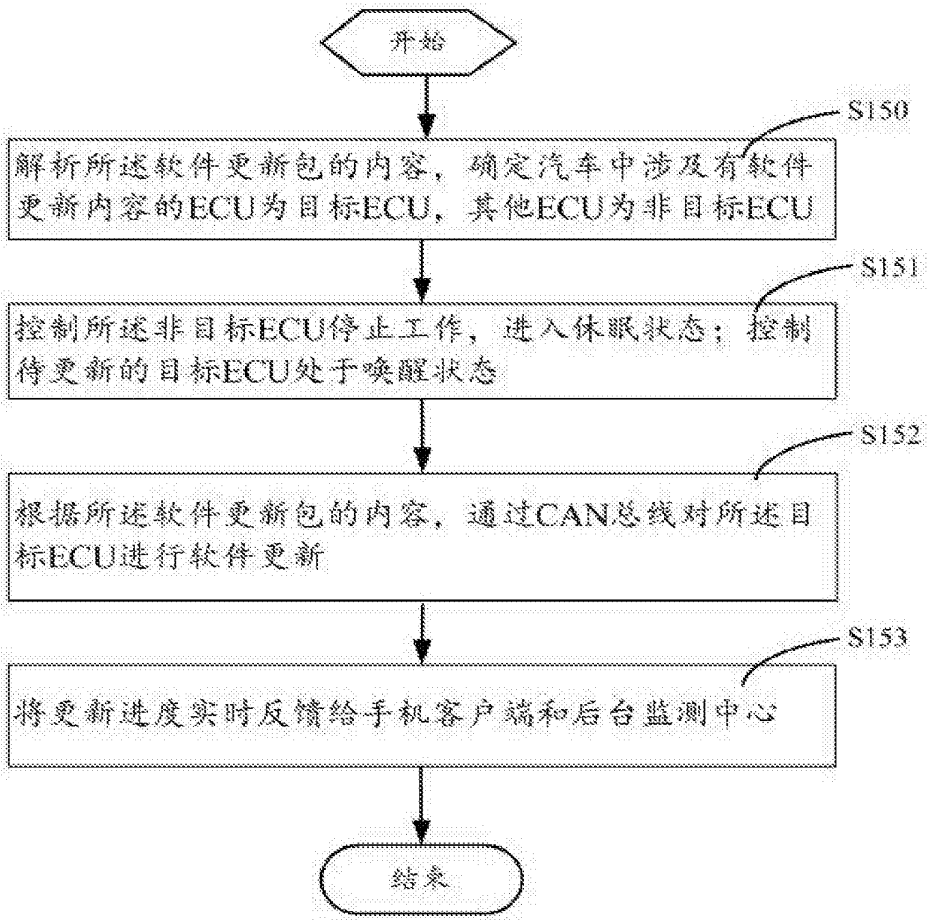


图3

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0239

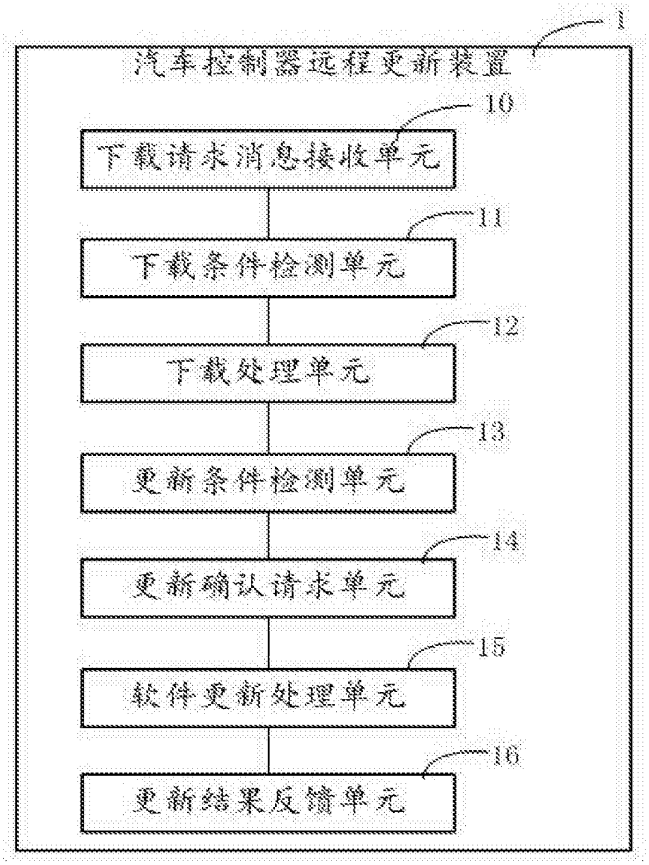


图4

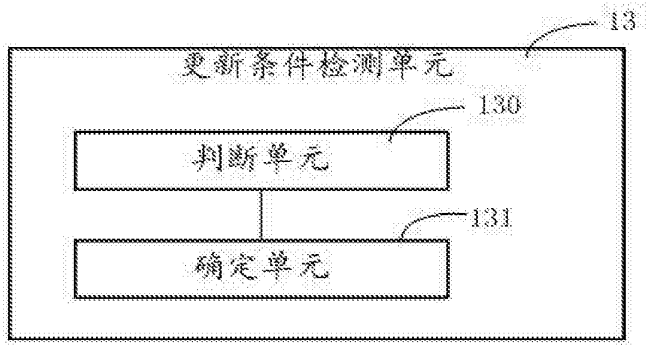


图5

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0240

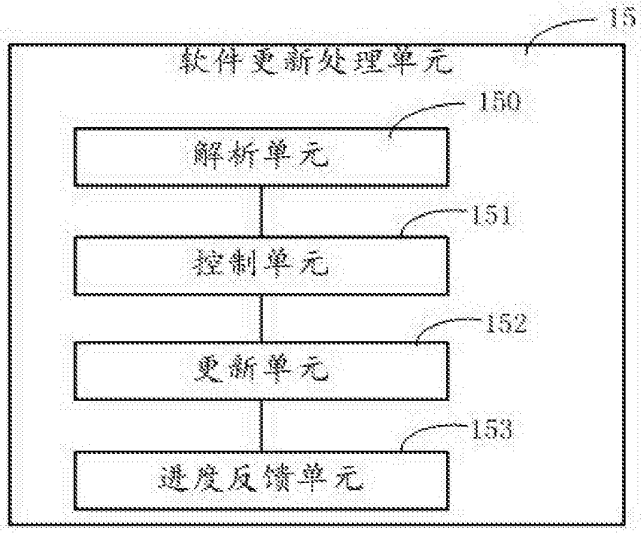


图6

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0241

© TXPCNEA

CN106656565A 20170510

IPPH ST36 XML through DFP

SUBJECT OF THE INVENTION

A kind of automobile controller method for remote updating, apparatus and system

[**0001**] Technical field

[**0002**] The present invention relates to a kind of long-range update method field of automobile controller, more particularly to a kind of automobile controller is long-range Update method, apparatus and system.

[**0003**] Background technology

[**0004**] Nowadays automobile is popularized in a large number, is used by people, and with the development of automotive engineering, the intellectualized technology of automobile is also got over Come more of interest by people.

[**0005**] Prominent with automotive engineering flies development, and at set intervals, just having a new function may be applied to vapour Che Shang, this is related to as the electronic controller on automobile (Electronic Control Unit, ECU) Carry out upgrading renewal Operation.Newfound defect or BUG functionally, leak on controller, or the application of what's new are either repaired, is all needed Software upgrading is carried out to controller.

[**0006**] And in the prior art, the method that upgrading renewal is carried out to controller is usually by automobile or control unit to be updated Return factory to be updated;Or also may be selected automobile to be moved in maintenace points such as 4S shops, it is updated by engineer.

[**0007**] But such method often high cost, the cycle is long, it is also difficult to which guarantee is updated to all object vehicles, especially In the case of automobile is sold toward each department, the difficulty of realization is further increased.

[**0008**] The content of the invention

[**0009**] The technical problem to be solved is, there is provided a kind of automobile controller method for remote updating, device and be System, the long-range renewal of target ECU in user vehicle

side just can be realized to automobile improves the convenience of ECU software renewal And security.

[**0010**] In order to solve above-mentioned technical problem, the one side of the embodiment of the present invention provides a kind of automobile controller remotely side of renewal Method, realizes in the remote control terminal for be arranged at automobile side, at least comprises the steps：

[**0011**] Receive the software upgrading downloading request message that backstage monitoring center pushes;

[**0012**] Testing result is fed back to backstage monitoring center by detection currently if appropriate for download;

[**0013**] In the case of being adapted to download, receive the software upgrading bag from backstage monitoring center and store, and in the monitoring of backstage The heart and cell-phone customer terminal Real-time Feedback download progress;

[**0014**] After the software upgrading bag is downloaded and finished, determined whether to meet software upgrading condition according to whole vehicle state;

[**0015**] In the case of whole vehicle state meets software upgrading condition, initiate to update confirmation request to cell-phone customer terminal;

[**0016**] Receive from cell-phone customer terminal renewal confirm be fed back to allow after, by CAN utilize the software upgrading Bag carries out software upgrading to target ECU, and will update progress Real-time Feedback to cell-phone customer terminal and backstage monitoring center;

[**0017**] The self-detection result after the completion of target ECU updates is received, software upgrading results messages are generated, and feeds back to the backstage monitoring Center and cell-phone customer terminal.

[**0018**] Wherein, further include：

[**0019**] When the respond request result for be not suitable for download when, continue to after the delay from backstage monitoring center software more Newly downloaded request message.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0243

[0020] Wherein, after the software upgrading bag is downloaded and finished, determined whether to meet software upgrading according to whole vehicle state The step of condition, is specially：

[0021] Judge that the whole vehicle state whether under running status or charged state, if it is, determining software is currently unsatisfactory for Update condition;Otherwise, it is determined that currently meet software upgrading condition.

[0022] Wherein, receiving after the renewal from cell-phone customer terminal confirms to be fed back to allow, by CAN using described Software upgrading bag carries out software upgrading to target ECU, and will update progress Real-time Feedback in cell-phone customer terminal and backstage monitoring The step of heart, is specially：

[0023] The content of the software upgrading bag is parsed, determines that the ECU for including software upgrading content in the automobile is target ECU, Other ECU are non-targeted ECU;

[0024] Control non-targeted ECU to quit work, into resting state;Control target ECU to be updated is in wake-up states;

[0025] According to the content of the software upgrading bag, by CAN (Controller Area Network, controller local area network) Bus carries out software upgrading to target ECU;

[0026] Progress Real-time Feedback will be updated to cell-phone customer terminal and backstage monitoring center.

[0027] Correspondingly, the another aspect of the embodiment of the present invention provides a kind of automobile controller remotely updating device, at least includes：

[0028] Downloading request message receiving unit, for receiving the software upgrading downloading request message of backstage monitoring center push;

[0029] Download condition detector unit, it is current if appropriate for download for detecting, and testing result is fed back into backstage monitoring center;

[0030] Download processing unit, for when download condition detector unit detects suitable download, receiving from backstage monitoring center Software upgrading bag and store, and to backstage monitoring center and cell-phone customer terminal Real-time Feedback download progress;

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0244

[0031] Update condition detector unit, for after the software upgrading bag is downloaded and finished, being determined whether according to whole vehicle state Meet software upgrading condition;

[0032] Confirmation request unit is updated, when detecting whole vehicle state for update condition detector unit and meeting software upgrading condition, to Cell-phone customer terminal initiates to update confirmation request;

[0033] Software upgrading processing unit, for receive from cell-phone customer terminal renewal confirm be fed back to allow after, using institute State software upgrading bag carries out software upgrading to target ECU by CAN, and will update progress Real-time Feedback to cell-phone customer terminal With backstage monitoring center;

[0034] Result feedback unit is updated, for receiving the self-detection result after the completion of target ECU updates, software upgrading result is generated and is disappeared Breath, and feed back to the backstage monitoring center and cell-phone customer terminal.

[0035] Wherein, the update condition detector unit includes :

[0036] Judging unit, for judging the whole vehicle state whether under running status or charged state;

[0037] Determining unit, for when the judging unit judged result is to be, it is determined that be currently unsatisfactory for software upgrading condition;It is no Then, it is determined that currently meet software upgrading condition.

[0038] Wherein, the software upgrading processing unit includes :

[0039] Resolution unit, for parsing the content of the software upgrading bag, determines and includes software upgrading content in the automobile ECU is target ECU, and other ECU are non-targeted ECU;

[0040] Control unit, quits work, into resting state for controlling non-targeted ECU;At control target ECU to be updated In wake-up states;

[0041] Updating block, for according to the content of the software upgrading bag, software being carried out more to target ECU by CAN Newly;

[0042] Progress feedback unit, for progress Real-time Feedback will to be updated to the cell-phone customer terminal and backstage monitoring center.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0245

[**0043**] Correspondingly, the another further aspect of the embodiment of the present invention, also provides a kind of automobile controller remote update system, at least wraps Include：

[**0044**] Remote control terminal, is arranged at automobile side, long-range more including the automobile controller as described in any one of claim 5 to 7 New equipment;

[**0045**] Backstage monitoring center, for being monitored the data of the ECU of automobile by remote control terminal, and is pushed away to remote control terminal Send software upgrading bag;

[**0046**] Cell-phone customer terminal, is loaded on authorized user's mobile phone corresponding with the automobile, for receiving from remote control terminal And the message of backstage monitoring center, and the renewal confirmation request from remote control terminal is confirmed;

[**0047**] Wherein, the remote control terminal is communicated by CAN with each ECU in automobile;The remote control terminal, Wirelessly communicated between the backstage monitoring center, cell-phone customer terminal three.

[**0048**] Implement the embodiment of the present invention, with following beneficial effect：

[**0049**] Implement the embodiment of the present invention, by arranging a radio communication function remote control terminal for possessing in body side, it can To receive the software upgrading bag of backstage monitoring center, and interact with the cell-phone customer terminal of the associated user of automobile, by mobile phone Client determines whether to be updated, and using car load CAN network communication function, to target ECU (Controller) Realize Line software upgrading, without the need for car load or parts are returned into factory or 4S shops, in user vehicle side long-range renewal can be just done directly, and carried The high convenience for updating ECU software;Simultaneously as final renewal starts, the confirmation of user is needed, so as to improve safety Property.

[**0050**] Description of the drawings

[**0051**] In order to be illustrated more clearly that the embodiment of the present invention or technical scheme of the prior art, below will be to embodiment or existing The accompanying drawing to be used needed for having technology description is briefly described, it should be apparent that, drawings in the following description are only this Some embodiments of invention, for those of ordinary skill in the art, without having to pay creative labor, may be used also To obtain other accompanying drawings according to these accompanying drawings.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0246

[0052] Fig. 1 is a kind of structural representation of the one embodiment for automobile controller remote update system that the present invention is provided;

[0053] Fig. 2 is a kind of main flow schematic diagram of the one embodiment for automobile controller method for remote updating that the present invention is provided;

[0054] Fig. 3 is the detailed schematic flow sheet of step S15 in Fig. 2;

[0055] Fig. 4 is a kind of structural representation of the one embodiment for automobile controller remotely updating device that the present invention is provided;

[0056] Fig. 5 is the structural representation of update condition detector unit in Fig. 4;

[0057] Fig. 6 is the structural representation of software upgrading processing unit in Fig. 4.

[0058] Specific embodiment

[0059] Below in conjunction with the accompanying drawing in the embodiment of the present invention, the technical scheme in the embodiment of the present invention is carried out clear, complete Site preparation is described, it is clear that described embodiment is only a part of embodiment of the invention, rather than the embodiment of whole.It is based on Embodiment in the present invention, it is every other that those of ordinary skill in the art are obtained under the premise of creative work is not made Embodiment, belongs to the scope of protection of the invention.

[0060] The present invention is described in further detail below in conjunction with accompanying drawing.

[0061] As shown in figure 1, showing that the present invention is of a kind of automobile controller remote update system that the present invention is provided The structural representation of embodiment;In this embodiment, the automobile controller remote update system at least includes：

[0062] The remote control terminal 4 of automobile side is arranged at, it passes through CAN and is communicated with each ECU in automobile, it is possible to obtain Each ECU (Controller) Information in 5, while can control to carry out software upgrading to each ECU;

[0063] Backstage monitoring center 2, for monitoring the data of the ECU of automobile by remote control terminal 4, and to remote control terminal 4 pushing softwares update bag, it is to be understood

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0247

that the backstage monitoring center 2 can be arranged at automobile manufacturing enterprise or ECU providers Place, when the software of corresponding automobile ECU needs to be updated, actively can push corresponding information to each remote control terminal 4;

[**0064**] Cell-phone customer terminal 3, is loaded on the mobile phone of authorized user corresponding with the automobile, for receiving from remotely control end End 4 and the message of backstage monitoring center 2, and to the renewal confirmation request from remote control terminal 4 (Can be said hereinafter It is bright) Confirmed;

[**0065**] Wherein, between the remote control terminal 4, the backstage monitoring center 2, the three of cell-phone customer terminal 3 wirelessly Communicated.

[**0066**] The function of the above-mentioned each part being related to and mutual interactive relation can be described in detail below.

[**0067**] As shown in Fig. 2 a kind of one embodiment of automobile controller method for remote updating of present invention offer is provided Main flow schematic diagram;And combine in the lump shown in Fig. 3.In this embodiment, the automobile controller method for remote updating is being arranged Realize in the remote control terminal 4 of automobile side, the method at least comprises the steps :

[**0068**] Step S10, receives the software upgrading downloading request message that backstage monitoring center pushes, and specifically, the software upgrading is downloaded Can contain all if desired for information such as the ECU titles for updating, version numbers in request message;

[**0069**] Step S11, detects currently if appropriate for download, and testing result is fed back into backstage monitoring center;

[**0070**] It is understood that when remote control terminal itself has failure, or when being carrying out a certain specific function, then it is assumed that when Before be not suitable for download;

[**0071**] When the respond request result that the backstage monitoring center receives is downloaded to be not suitable for, backstage monitoring center can time delay (For example Between every other hour) Continue the software upgrading downloading request message pushed to the remote control terminal afterwards, i.e., when the response please When seeking result to be not suitable for downloading, remote control terminal is continued to after the delay under the software upgrading of backstage monitoring center Carry request message;Otherwise, update to the remote control terminal pushing software and wrap.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0248

[**0072**] Step S12, in the case of being adapted to download, receives the software upgrading bag from backstage monitoring center and stores, and To backstage monitoring center and cell-phone customer terminal Real-time Feedback download progress;

[**0073**] Step S13, after the software upgrading bag is downloaded and finished, determines whether to meet software upgrading bar according to whole vehicle state Whether part, specifically, in some instances, need to judge the whole vehicle state in running status or charging shape in this step Under state, if it is, determining software upgrading condition is currently unsatisfactory for;Otherwise, it is determined that currently meet software upgrading condition;

[**0074**] Step S14, in the case of whole vehicle state meets software upgrading condition, initiates to update confirmation request to cell-phone customer terminal, The renewal confirmation request now can be shown on cell-phone customer terminal, is confirmed whether that follow-up renewal operation can be carried out for user;

[**0075**] Step S15, is receiving after the renewal from cell-phone customer terminal confirms to be fed back to allow, by CAN using described Software upgrading bag carries out software upgrading to target ECU, and will update progress Real-time Feedback in cell-phone customer terminal and backstage monitoring The heart;If what is received from cell-phone customer terminal is updated after confirmation is fed back to not allow, continue waiting for, until cell phone customer End sends permission information;

[**0076**] Specifically, step S15 may include :

[**0077**] Step S150, parses the content of the software upgrading bag, determines that the ECU for including software upgrading content in the automobile is Target ECU, other ECU are non-targeted ECU;

[**0078**] Step S151, controls non-targeted ECU and quits work, into resting state;Control target ECU to be updated is in calls out Awake state;

[**0079**] Step S152, according to the content of the software upgrading bag, software upgrading is carried out by CAN to target ECU;

[**0080**] Step S153, will update progress Real-time Feedback to cell-phone customer terminal and backstage monitoring center;

[0081] Step S16, receives the self-detection result after the completion of target ECU updates, and generates software upgrading results messages, and feeds back to described Backstage monitoring center and cell-phone customer terminal.

[0082] If it is understood that the self-detection result after the completion of certain target ECU updates is abnormal, needed to the mesh Mark ECU carries out again software upgrading, until its self-detection result is normal.

[0083] Correspondingly, as shown in figure 4, showing an a kind of reality of automobile controller remotely updating device of present invention offer The structural representation of example is applied, in the lump with reference to shown in Fig. 5, Fig. 6, in this embodiment, automobile controller remotely updating device 1 is arranged In remote control terminal 4 in Fig. 1, it at least includes:

[0084] Downloading request message receiving unit 10, for receiving the software upgrading downloading request message of backstage monitoring center push;

[0085] Download condition detector unit 11, it is current if appropriate for download for detecting, and testing result is fed back in the monitoring of backstage The heart;

[0086] Download processing unit 12, for when download condition detector unit detects suitable download, receiving in the monitoring of backstage The software upgrading bag of the heart is simultaneously stored, and to backstage monitoring center and cell-phone customer terminal Real-time Feedback download progress;

[0087] Update condition detection single 13, for after the software upgrading bag is downloaded and finished, being determined whether according to whole vehicle state Meet software upgrading condition;

[0088] Confirmation request unit 14 is updated, when detecting whole vehicle state for update condition detector unit and meeting software upgrading condition, Initiate to update confirmation request to cell-phone customer terminal;

[0089] Software upgrading processing unit 15, for receive from cell-phone customer terminal renewal confirm be fed back to allow after, utilize The software upgrading bag carries out software upgrading to target ECU by CAN, and will update progress Real-time Feedback to cell phone customer End and backstage monitoring center;

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0250

[0090] Result feedback unit 16 is updated, for receiving the self-detection result after the completion of target ECU updates, software upgrading result is generated and is disappeared Breath, and feed back to the backstage monitoring center and cell-phone customer terminal.

[0091] Wherein, the update condition detector unit 13 includes：

[0092] Judging unit 130, for judging the whole vehicle state whether under running status or charged state;

[0093] Determining unit 131, for when the judging unit judged result is to be, it is determined that be currently unsatisfactory for software upgrading bar Part;Otherwise, it is determined that currently meet software upgrading condition.

[0094] The software upgrading processes single 15 yuan to be included：

[0095] Resolution unit 150, for parsing the content of the software upgrading bag, determines and includes software upgrading content in the automobile ECU be target ECU, other ECU be non-targeted ECU;

[0096] Control unit 151, quits work, into resting state for controlling non-targeted ECU;Control target to be updated ECU is in wake-up states;

[0097] Updating block 152, for according to the content of the software upgrading bag, software being carried out to target ECU by CAN Update;

[0098] Progress feedback unit 153, for progress Real-time Feedback will to be updated to the cell-phone customer terminal and backstage monitoring center.

[0099] More details, may be referred to the aforementioned description to Fig. 1 to Fig. 3, and here is not described in detail.

[0100] Implement the present invention, have the advantages that：

[0101] Implement the embodiment of the present invention, by arranging a radio communication function remote control terminal for possessing in body side, it can To receive the software upgrading bag of backstage monitoring center, and interact with the cell-phone customer terminal of the associated user of automobile, by mobile phone Client determines whether to be updated, and using car load CAN network communication function, to target ECU (Controller) Realize Line software upgrading, without the need for car load or parts are returned into factory or 4S shops, in

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0251

user vehicle side long-range renewal can be just done directly, and carried The high convenience for updating ECU software;Simultaneously as final renewal starts, the confirmation of user is needed, so as to improve safety Property.

[**0102**] Above content is to combine specific preferred embodiment further description made for the present invention, it is impossible to assert The present invention be embodied as be confined to these explanations.For general technical staff of the technical field of the invention, On the premise of without departing from present inventive concept, some simple deduction or replace can also be made, should all be considered as belonging to the present invention's Protection domain.

1. 1. a kind of automobile controller method for remote updating, realizes in the remote control terminal for be arranged at automobile side, and its feature exists In at least comprising the steps :
   Receive the software upgrading downloading request message that backstage monitoring center pushes ;
   Testing result is fed back to backstage monitoring center by detection currently if appropriate for download ;
   In the case of being adapted to download, receive the software upgrading bag from backstage monitoring center and store, and in the monitoring of backstage The heart and cell-phone customer terminal Real-time Feedback download progress ;
   After the software upgrading bag is downloaded and finished, determined whether to meet software upgrading condition according to whole vehicle state ;
   In the case of whole vehicle state meets software upgrading condition, initiate to update confirmation request to cell-phone customer terminal ;
   Receive from cell-phone customer terminal renewal confirm be fed back to allow after, by CAN utilize the software upgrading Bag carries out software upgrading to target ECU, and will update progress Real-time Feedback to cell-phone customer terminal and backstage monitoring center ;
   The self-detection result after the completion of target ECU updates is received, software upgrading results messages are generated, and feeds back to the backstage monitoring Center and cell-phone customer terminal.
2. 2. a kind of automobile controller method for remote updating as claimed in claim 1, it is characterised in that further include :
   When the respond request result for be not suitable for download when, continue to after the delay from backstage monitoring center software more Newly downloaded request message.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0252

3. 3. a kind of automobile controller method for remote updating as claimed in claim 1, it is characterised in that in the software upgrading bag After download is finished, determine whether that the step of meeting software upgrading condition is specially according to whole vehicle state :
   Judge that the whole vehicle state whether under running status or charged state, if it is, determining software is currently unsatisfactory for Update condition ; Otherwise, it is determined that currently meet software upgrading condition.
4. 4. a kind of automobile controller method for remote updating as described in any one of claim 1-3, it is characterised in that receiving After confirming to be fed back to allow from the renewal of cell-phone customer terminal, by CAN target ECU is entered using the software upgrading bag Row software upgrading, and will be specially the step of updating progress Real-time Feedback to cell-phone customer terminal and backstage monitoring center :
   The content of the software upgrading bag is parsed, determines that the ECU for including software upgrading content in the automobile is target ECU, Other ECU are non-targeted ECU ;
   Control non-targeted ECU to quit work, into resting state ; Control target ECU to be updated is in wake-up states ;
   According to the content of the software upgrading bag, software upgrading is carried out to target ECU by CAN ;
   Progress Real-time Feedback will be updated to cell-phone customer terminal and backstage monitoring center.
5. 5. a kind of automobile controller remotely updating device, it is characterised in that at least include :
   Downloading request message receiving unit, for receiving the software upgrading downloading request message of backstage monitoring center push ;
   Download condition detector unit, it is current if appropriate for download for detecting, and testing result is fed back into backstage monitoring center ;
   Download processing unit, for when download condition detector unit detects suitable download, receiving from backstage monitoring center Software upgrading bag and store, and to backstage monitoring center and cell-phone customer terminal Real-time Feedback download progress ;
   Update condition detector unit, for after the software upgrading bag is downloaded and finished, being determined whether according to whole vehicle state Meet software upgrading condition ;
   Confirmation request unit is updated, when detecting whole vehicle state for update condition detector unit and meeting software upgrading condition, to Cell-phone customer terminal initiates to update confirmation request ;
   Software upgrading processing unit, for receive from cell-phone customer terminal renewal confirm be fed back to allow after, using institute State software upgrading bag carries out software upgrading to target ECU by CAN, and will update progress Real-time Feedback to cell-phone customer terminal With backstage monitoring center ;
   Result feedback unit is updated, for receiving the self-detection result after the completion of target ECU updates, software upgrading result is generated and is disappeared Breath, and feed back to the backstage monitoring center and cell-phone customer terminal.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0253

6. 6. a kind of automobile controller remotely updating device as claimed in claim 5, it is characterised in that the update condition detection Unit includes :
   Judging unit, for judging the whole vehicle state whether under running status or charged state ;
   Determining unit, for when the judging unit judged result is to be, it is determined that be currently unsatisfactory for software upgrading condition ; It is no Then, it is determined that currently meet software upgrading condition.
7. 7. a kind of automobile controller remotely updating device as described in claim 5 or 6, it is characterised in that the software upgrading Processing unit includes :
   Resolution unit, for parsing the content of the software upgrading bag, determines and includes software upgrading content in the automobile ECU is target ECU, and other ECU are non-targeted ECU ;
   Control unit, quits work, into resting state for controlling non-targeted ECU ; At control target ECU to be updated In wake-up states ;
   Updating block, for according to the content of the software upgrading bag, software being carried out more to target ECU by CAN Newly ;
   Progress feedback unit, for progress Real-time Feedback will to be updated to the cell-phone customer terminal and backstage monitoring center.
8. 8. a kind of automobile controller remote update system, it is characterised in that at least include :
   Remote control terminal, is arranged at automobile side, long-range more including the automobile controller as described in any one of claim 5 to 7 New equipment ;
   Backstage monitoring center, for being monitored the data of the ECU of automobile by remote control terminal, and is pushed away to remote control terminal Send software upgrading bag ;
   Cell-phone customer terminal, is loaded on authorized user's mobile phone corresponding with the automobile, for receiving from remote control terminal And the message of backstage monitoring center, and the renewal confirmation request from remote control terminal is confirmed ;
   Wherein, the remote control terminal is communicated by CAN with each ECU in automobile ; The remote control terminal, Wirelessly communicated between the backstage monitoring center, cell-phone customer terminal three.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0254

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/054,004	Filing Date 08/03/2018	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	12/04/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	SLIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/MONIQUE BENJAMIN/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1	6713

14551 7590 10/03/2019

Rowand LLP (BlackBerry)
Suite 2302, 401 Bay Street
PO Box 56
Toronto, ONTARIO M5H 2Y4
CANADA

EXAMINER	
NAHAR, QAMRUN	

ART UNIT	PAPER NUMBER
2196	

NOTIFICATION DATE	DELIVERY MODE
10/03/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailbox@rowandlaw.com

Office Action Summary	**Application No.** 16/054,004	**Applicant(s)** Willis et al.	
	Examiner QAMRUN NAHAR	**Art Unit** 2196	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 8/3/18.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-20 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-20 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 8/3/18 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 8/3/18.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0257

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claims 1-20 have been examined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 and 10-20 is/are rejected under 35 U.S.C. 103 as being unpatentable over Bae (US 2007/0192462) in view of Shim (US 2013/0311611).

Per Claim 15:

Bae teaches receiving, at a server from a first device, an indication of a second device selected, at the first device, for update; determining, by the server based on the received the state information about the second device, that the second device is ready to perform an update; sending, by the server to the first device, an indication that the second device is ready to perform the update ([0043] One method is a polling method in which the application server 210 is the subject of update determination according to the present invention. Steps 440 to 450 of FIG. 4 indicate the polling method. In the polling method, **if the MHD 200 periodically transmits bundle information, i.e., a bundle name and version information, to a repository URL of the application server 210, the application server 210 determines whether a bundle version**

corresponding to the received bundle name has been updated. If an updated bundle exists, the application server 210 informs the MHD 200 that an updated bundle exists and transmits a location of the updated bundle to the MHD 200. In other words, if the MHD 200 transmits an update polling message to the application server 210 in step 440, the application server 210 performs an update check in step 445 to directly determine whether to perform an update process, and if the update process is necessary, the application server 210 transmits an update message to the MHD 200 in step 450. That is, the application server 210 determines whether an updated bundle per HND exists based on the bundle's information, and if an updated bundle exists, the application server 210 transmits the updated bundle to the MHD 200.); and receiving, by the server from the first device, an indication to update the second device ([0045] Using any one of the above-described methods, **before a bundle is downloaded from a repository of the application server 210, a description of the version information and the updated content of the bundle is transmitted. Accordingly, the MHD 200 displays updated information in step 465, and the user can directly decide an update start operation after checking the displayed information. That is, a menu is implemented for the user to check whether bundles are updated and directly determine whether an updated bundle has been downloaded by displaying update information of each of the bundles on the user interface of the MHD 200. Using this menu, the user can check which function of which one of the HNDs 200 is updated before an update process is performed, and if the user wants to maintain a previous version, the user can reject the update process.** [0046] **To do this, the MHD 200 determines in step 470 whether an update request is input from the user using an update start menu on the user interface. If the update request is input as the determination result, the MHD 200 transmits a get updated bundle file message to the application server**

210 in step 475. In response to the get updated bundle file message, the application server 210 transmits an updated bundle file to the MHD 200 in step 480. In other words, if the user finally decides the update start operation, a Java archive Oar) file of a bundle is temporarily stored in the MHD 200 from the repository of the application server 210. In step 485, the MHD 200 transmits a send bundle repository location information message to the HND 220 to ask in which location an updated bundle is stored. In response to the send bundle repository location information message, the HND 220 requests the updated bundle file in step 490 and downloads the updated bundle file via the MHD 200 in step 495. That is, the MHD 200 allows an HND 220 requiring an update process to directly download a new bundle jar file and update an existing bundle jar file by transmitting repository location information of a corresponding bindle to the HND 220. In another embodiment, the MHD 200 updates an existing bundle jar file by overlapping the existing bundle jar file through a file upload in a state of uninstalling a corresponding bundle of an HND 220 requiring an update process using an upload function of a DLNA class.). Bae does not explicitly teach sending, by the server to the second device, an indication signalling the second device to send state information about the second device to the server; receiving, by the server from the second device, the state information about the second device; and sending, by the server to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

However, Shim teaches sending, by the server to the second device, an indication signalling the second device to send state information about the second device to the server; receiving, by the server from the second device, the state information about the second device; and sending, by the server to the second device, an indication to begin performing the update,

wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device ([0142] Next, subsequent to receiving the update request, **the management server 200 transmits package 0 corresponding to a trigger message to the electronic device 100 (S230), and receives package 1 containing device credentials and device information from the electronic device 100 (S310). Then, the management server 200 transmits package 2 containing server credentials, URL information of the application program and a download start command to the electronic device 100 (S320a). The electronic device 100 that has received the package 2 stores the URL information of the application program (S325), and transmits package 3 to inform that the update command has been stored through the package 2 (S360a). The management server 200 transmits package 4 in response to the package 3 (S370).** [0143] **Next, the electronic device 100 may perform a download process based on the stored URL information according to the received application program update command.** The electronic device 100 requests a download descriptor (hereinafter, referred to as "DD") for the application program to be downloaded using a URL of the DD extracted from the stored URL information (S381), and receives DD for the application program to be downloaded from the management server 200 (S382). Then, the electronic device 100 requests the application program to be downloaded using a URL of the DD extracted from the stored URL information (S383), and receives the application program to be downloaded from the management server 200 (S384).).

It would have been obvious to one having ordinary skill in the computer art before the effective filing date of the claimed invention to modify the method disclosed by Bae to include sending, by the server to the second device, an indication signalling the second device to send

state information about the second device to the server; receiving, by the server from the second device, the state information about the second device; and sending, by the server to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device using the teaching of Shim. The modification would be obvious because one of ordinary skill in the art would be motivated to allow processes such as firmware update or software download to be carried out in a wireless manner (Shim, par. 0004).

Per Claim 16:

Shim teaches:

- receiving, by the server from the second device, one or more indications as to a status of the performing of the update; and sending, by the server to the first device, information about the performing of the update based on the one or more indications (par. 0141 and 0144).

Per Claim 17:

Shim teaches:

- wherein the state information about the second device indicates at least one of whether the second device is ready to perform the update and whether the second device has downloaded the update (par. 0144).

Per Claim 18:

Shim teaches:

- wherein the second device is configured to download the update responsive to the indication to begin performing the update (par. 0144).

Per Claim 19:

Shim teaches:

- wherein the indication of the second device selected for update further indicates authentication information, the method further comprising: prior to sending the indication signalling the second device to send the state information about the second device to the server, determining by the server based on the authentication information that a user associated with the authentication information is authorized to update the second device (par. 0099).

Per Claim 20:

This is a medium version of the claimed method discussed above (claim 15, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, this claim is also obvious.

Per Claim 1-2, 5 & 7:

These are system versions of the claimed method discussed above (claims 15-16 and 18-19, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also obvious.

Per Claim 3-4:

These are system versions of the claimed method discussed above (claim 17), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also obvious.

Per Claim 6:

Shim teaches:

- wherein the computer system communicates with each of the first and second devices via a network, wherein the first and second devices cannot communicate directly with each other via the network (par. 0046-0048).

Per Claim 8:

Bae teaches:

- wherein the first device is configured to provide a user interface, responsive to the indication that the second device is ready to perform the update, for initiating the update of the second device and wherein the first device is configured to send the indication to update the second device responsive to initiation of the update via the user interface (par. 0045-0046).

Per Claim 10:

Bae teaches:

- wherein the instructions that when executed by the processor further adapt the computer system to, prior to receiving from the indication of the second device selected for update, send, to the first device using the communications subsystem, a notification that the update is available for the second device (par. 0042-0043).

Per Claim 11:

Shim teaches:

- further comprising sending an indication to the second device using the communications subsystem, a notification that the update is available for the second device (par. 0142).

Per Claim 12:

Shim teaches:

- wherein the second device is configured to download the update responsive to the notification that the update is available for the second device (par. 0142-0143).

Per Claim 13:

Bae teaches:

- wherein the first device is a smartphone ("… an MHD 200" in par. 0029 and see FIG. 2, item 200).

Per Claim 14:

Bae teaches:

- wherein the second device is included in an Intemet-of-Things connected device ("… a plurality of HNDs 220 …" in par. 0029 and see FIG. 2, item 220).

Claims 9 is/are rejected under 35 U.S.C. 103 as being unpatentable over Bae (US 2007/0192462) in view of Shim (US 2013/0311611), and further in view of Maeda (US 2016/0277195).

Per Claim 9:

The rejection of claim 1 is incorporated, and further, Bae does not explicitly teach wherein the second device is a component of another device and wherein determining that the second device is ready to perform the update comprises determining that the another device is not in use. However, Maeda teaches wherein the second device is a component of another device ([0068] FIG. 1 is a diagram illustrating the overall configuration of the authentication system 10 according to the present disclosure. The authentication system 10 is configured including **controllers 100, devices 200**, servers 300, and a portal server 400. **The controllers 100a to b are devices having functions of controlling devices. The controllers 100a to b also have functions of connecting to servers, transmitting information of home electric appliance devices to the server, receiving control requests from the servers, controlling the home electric appliance devices, and so forth. The devices 200a through c**

are home electric appliance devices and housing facility devices that collect device history information, such as televisions, recorders, air conditioners, refrigerators, batteries, and so forth. The servers 300a through c are a content server that distributes content, a manufacturer server of a manufacturer that manufactures home electric appliance devices, and a service server of a service provider that provides services. As a specific example, history information of a device in the home is transmitted to the controller, and the control transmits history information of the device to the manufacturer server. Also, in a case where the service server is an electric power company, the electric power company connects to the controller via a home smart meter (omitted from illustration). The controller controls devices in the home based on electric power information from the electric power company, and suppresses consumption of electric power within the home.) and wherein determining that the second device is ready to perform the update comprises determining that the another device is not in use ([0296] (20) The CRL updating processing in the above embodiments is performed when the new home appliance device 200d is added to the authentication system 10, but this is not restrictive. **The CRL version may be notified to other devices within the authentication system 10 when the power is turned on to the device or when returning from a sleep state, or when reconnecting to the network, or notification may be made periodically or at random timings. Accordingly, in a case where the new home appliance device 200d is added to the authentication system 10 in a state where the power is off or in a sleep state, or cut off from the network, the CRL can be updated. The new home appliance device 200d also can update the CRLs of devices having old CRL versions by notifying the CRL version at the above-described timings after connection to the authentication system 10, not just at the time of connection.**).

It would have been obvious to one having ordinary skill in the computer art before the effective filing date of the claimed invention to modify the system disclosed by Bae to include wherein the second device is a component of another device and wherein determining that the second device is ready to perform the update comprises determining that the another device is not in use using the teaching of Maeda. The modification would be obvious because one of ordinary skill in the art would be motivated to authenticate a home electric appliance device (Maeda, par. 0006).

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is **(571) 272-3730**. The examiner can normally be reached on Mondays through Fridays from 10:00 AM to 6:30 PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emerson Puente, can be reached on **(571) 272-3652**. The fax phone number for the organization where this application or processing is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Qamrun Nahar/
Primary Examiner, Art Unit 2196

Notice of References Cited	Application/Control No. 16/054,004	Applicant(s)/Patent Under Reexamination Willis et al.	
	Examiner QAMRUN NAHAR	Art Unit 2196	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20070192462-A1	08-2007	Bae; Young-Kyu	H04L12/2809	709/223
*	B	US-20130311611-A1	11-2013	Shim; Jonghoon	H04L67/10	709/217
*	C	US-20160277195-A1	09-2016	MAEDA; MANABU	H04L9/3268	1/1
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0270

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	Art Unit
	QAMRUN NAHAR	2196

CPC - Searched*		
Symbol	Date	Examiner
G06F 8/65 with text	09/28/2019	QN

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor(s) Name Search (Palm)	09/27/2019	QN
East Text Search (see search report)	09/28/2019	QN
Searched G06F 8/65 with text (see search history)	09/28/2019	QN
NPL Search (see search history)	09/28/2019	QN

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0271

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/054,004	Willis et al.
	Examiner	**Art Unit**
	QAMRUN NAHAR	2196

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant						☐ CPA		☐ T.D.		☐ R.1.47
CLAIM		**DATE**								
Final	Original	09/28/2019								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0272

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	13	("20040083471" | "20050039178" | "20070192462" | "20080040713" | "20080301667" | "20090271507" | "20090300595" | "20100082559" | "20160294614" | "20170300313" | "7831967" | "8561054" | "8997092").PN.	US-PGPUB; USPAT	OR	OFF	2019/09/26 09:30
S3	105	(server$1 with receiv$3 with (status or update) with information with (home with appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 11:10
S4	26	((server$1 near3 receiv$3) with (status$1 or update$1) with information$1 with (home adj appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 11:11
S7	8	S4 and ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 12:47
S8	5	(updat$3 with electronic with device$1) and ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 12:50
L1	0	(updat$3 with device$1) same ((home adj appliance$1) with turned with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 20:00
L2	5	(updat$3 with device$1) same ((home adj appliance$1) with off)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 20:01
L3	0	G06F8/65.cpc. and (server$1 with receiv$3 with (status or update) with information with (home with appliance$1))	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 21:13
L4	48	G06F8/65.cpc. and (server$1 with receiv$3 with (status or update) with device$1) and (home with appliance$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/28 21:14

EAST Search History (Interference)

< This search history is empty>

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0273

9/ 28/ 2019 9:18:35 PM
C:\ Users\ qnahar\ Documents\ EAST\ Workspaces\ 16054004.wsp

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0274

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16054004
Filing Date	
First Named Inventor	
Art Unit	
Examiner Name	
Attorney Docket Number	101-0393USP1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7831967	B2	2010-11-09	Won et al.	
	2	8561054	B2	2013-10-15	Smirnov et al.	
	3	8997092	B2	2015-03-31	Gentile et al.	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090271507	A1	2009-10-29	Kodimer	
	2	20090300595	A1	2009-12-03	Moran et al.	
	3	20040083471	A1	2004-04-29	Nam et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16054004
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP1

	4	20050039178	A1	2005-02-17	Marolia et al.	
	5	20070192462	A1	2007-08-16	Bae et al.	
	6	20080040713	A1	2008-02-14	Subbakrishna et al.	
	7	20080301667	A1	2008-12-04	Rao et al.	
	8	20100082559	A1	2010-04-01	Sumcad et al.	
	9	20160294614	A1	2016-10-06	Searle et al.	
	10	20170300313	A1	2017-10-19	Gantt, JR. et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16054004
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP1

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/QAMRUN NAHAR/	Date Considered	09/28/2019

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16054004
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2018-08-03
Name/Print	Jeffrey Tracey	Registration Number	63,848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /Q.N/

IEEE.org | IEEE *Xplore* Digital Library | IEEE-SA | IEEE Spectrum | More Sites

Cart (0) | Create Account | Personal Sign In

Access provided by:
United States Patent and Trademark Office
Sign Out

Browse My Settings Get Help

Search within results Download PDFs | Per Page: Per Page 25 | Export | Alert Set Search Alerts | Search History

Showing 1-25 of 4,289 for ("Full Text & Metadata":server updating home appliance devices)

Conferences (2,789) Journals (745) Books (339) Magazines (281)

Standards (79) Early Access Articles (49) Courses (7)

Filter Alert Set Search Alerts | sort: Sort Relevance

Show

All Results

My Subscribed Content

Open Access

Year

Single Year Range

1984 2020

From To

1984 2020

Author

Affiliation

Publication Title

Publisher

Supplemental Items

Conference Location

Standard Status

Standard Type

1. **A Real-time Control System for Home/Office appliances automation, from mobile device through GPRS network**
   Usman Ali ; Syed Junaid Nawaz ; Nazish Jawad
   2006 13th IEEE International Conference on Electronics, Circuits and Systems
   Year: 2006 | Conference Paper | Publisher: IEEE
   Cited by: Papers (3) | Patents (1)
   Abstract (349 Kb)

   A Real-time Control System for Home/Office appliances automation, from mobile device through GPRS network

   Usman Ali | Syed Junaid Nawaz | Nazish Jawad
   2006 13th IEEE International Conference on Electronics, Circuits and Systems
   Year: 2006 | Conference Paper | Publisher: IEEE

2. **Service Oriented Framework for Modern Home Appliances**
   Li Xuemei ; Xu Gang
   2008 ISECS International Colloquium on Computing, Communication, Control, and Management
   Year: 2008 | Volume: 1 | Conference Paper | Publisher: IEEE
   Cited by: Papers (3)
   Abstract (457 Kb)

   Service Oriented Framework for Modern Home Appliances

   Li Xuemei | Xu Gang
   2008 ISECS International Colloquium on Computing, Communication, Control, and Management
   Year: 2008 | Volume: 1 | Conference Paper | Publisher: IEEE

3. **Implementation of an Auto Configuration Method for the Management Home Server**
   Byounghee Son , Youngchoong Park , Hagbae Kim
   2008 Second International Conference on Future Generation Communication and Networking Symposia
   Year: 2008 | Volume: 1 | Conference Paper | Publisher: IEEE
   Abstract (454 Kb)

   Implementation of an Auto Configuration Method for the Management Home Server

   Byounghee Son | Youngchoong Park | Hagbae Kim
   and Networking Symposia

Standards Dictionary Terms

- EMI
- ESD
- IEC
- ISO
- IT
- NIST
- PDU
- CPU
- LAN
- MAC
- PC
- RFI
- SPD

Browse »

IEEE websites place cookies on your device to give you the best user experience. By using our websites, you agree to the placement of these cookies. To learn more, read our Privacy Policy.

Accept & Close

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0280

ROWAND LLP

INTELLECTUAL PROPERTY LAW

Jeffrey Tracey
Email: jtracey@rowandlaw.com
Direct No.: 416-479-8664

November 20, 2018

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
U.S.A.

Dear Sir/Madam:

RE: UNITED STATES: Application No. 16/054,004
Assignee: BlackBerry Limited
Inventor(s): WILLIS, Edward Snow, et al.
Title: SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
Our File: 101-0393USP1

This is in response to the Informational Notice to Applicant dated August 31, 2018. Enclosed with this submission is a copy of the signed Declaration from inventors.

The fee under 37 CFR 1.16(f) for late filing of the declaration was submitted at the time of filing on August 3, 2018. If any additional fees fall due in connection with the filing of this document, the Commissioner is authorized to charge Deposit Account No. 50-5494.

Respectfully Submitted,

BlackBerry Limited

/Jeffrey Tracey/
Jeffrey Tracey
Agent for Applicant
Registration No. 63,848

Rowand LLP
Suite 2302, 401 Bay St., PO Box 56, Toronto, Ontario, Canada M5H 2Y4

Telephone: (416) 479-8647
Fax: (416)363-8429
Email: mailbox@rowandlaw.com

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004 filed on 3 August 2018.

The above-identified 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.

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.

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: Scott HUTCHENS Date (Optional) Sept 2018

Signature:

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc code: Oath
Document Description: Oath or declaration filed

PTO/AIA/02 (07-13)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

This statement is directed to:

☐ The attached application,

OR

☒ United States application or PCT international application number 16/054,004 filed on 08-03-2018.

LEGAL NAME of inventor to whom this substitute statement applies:

(*E.g.*, Given Name (first and middle (if any)) and Family Name or Surname)

Conrad Delbert Seaman

Residence (except for a deceased or legally incapacitated inventor):

City Ottawa | State ON | Country Canada

Mailing Address (except for a deceased or legally incapacitated inventor):

2115 Chalmers Road

City Ottawa | State ON | Zip K1H 6K4 | Country CA

I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Relationship to the inventor to whom this substitute statement applies:

☐ Legal Representative (for deceased or legally incapacitated inventor only),
☐ Assignee,
☒ Person to whom the inventor is under an obligation to assign,
☐ Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or
☐ Joint Inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0284

PTO/SB/AIA02 (07-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

- ☐ Inventor is deceased,
- ☐ Inventor is under legal incapacity,
- ☐ Inventor cannot be found or reached after diligent effort, or
- ■ Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- ■ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- ☐ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

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.

PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

Name: Steve Rai | Date (Optional):

Signature:

APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Applicant Name: BlackBerry Limited

Title of Person Executing This Substitute Statement: Authorized Signing Officer

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

City Waterloo | State ON | Country Canada

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

2200 University Ave. E.

City Waterloo | State ON | Zip N2K 0A7 | Country Canada

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

Legal OK

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0285

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004 filed on 3 August 2018.

The above-identified 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.

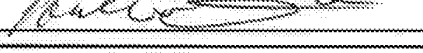
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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: Hashim Mohammad QADERI Date (Optional): Oct 5 2018

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004 filed on 3 August 2018

The above-identified 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.

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.

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: David Alan INGLIS Date (Optional) Sept 19, 2018

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004

filed on 3 August 2018

The above-identified 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.

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.

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: Christopher Scott TRAVERS Date (Optional): Sept 16, 2018

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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

Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

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 16/054,004 filed on 3 August 2018

The above-identified 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.

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.

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: Edward Snow WILLIS Date (Optional): _____

Signature: Edward Snow Willis

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	34356435
Application Number:	16054004
International Application Number:	
Confirmation Number:	6713
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow Willis
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Joanna Poon
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	101-0393USP1
Receipt Date:	20-NOV-2018
Filing Date:	03-AUG-2018
Time Stamp:	09:45:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	50468-US-PAT_2018-11-20_USPTOLTR_DECL.pdf	162335 d9b21934b88a854cb025de70f300baef4bb2e28b	no	1

Warnings:

Information:					
2	Oath or Declaration filed	50468-US-PAT_2018-09-12_DEC_SIGNED_ALL.pdf	910917 ab37d6feb0026df85c2ed6d950269e595e1e85fb	no	11
Warnings:					
Information:					
			Total Files Size (in bytes):	1073252	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/054,004	08/03/2018	Edward Snow Willis	101-0393USP1

CONFIRMATION NO. 6713

14551
Rowand LLP (BlackBerry)
Suite 900, 357 Bay St.
Toronto, ON M5H 2T7
CANADA

INFORMAL NOTICE

OC000000101948671

Date Mailed: 08/31/2018

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Edward Snow Willis
  David Alan Inglis
  Hashim Mohammad Qaderi
  Scott Hutchens
  Christopher Scott Travers
  Conrad Delbert Seaman

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/thaile/

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/054,004

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 460 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/054,004	08/03/2018	2676	1880	101-0393USP1	20	3

CONFIRMATION NO. 6713

FILING RECEIPT

14551
Rowand LLP (BlackBerry)
Suite 900, 357 Bay St.
Toronto, ON M5H 2T7
CANADA

OC000000101948870

Date Mailed: 08/31/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Edward Snow Willis, Ottawa, CANADA;
David Alan Inglis, Stittsville, CANADA;
Hashim Mohammad Qaderi, Kitchener, CANADA;
Scott Hutchens, Ottawa, CANADA;
Christopher Scott Travers, Ottawa, CANADA;
Conrad Delbert Seaman, Ottawa, CANADA;

Applicant(s)

BlackBerry Limited, Waterloo, CANADA

Assignment For Published Patent Application

BlackBerry Limited, Waterloo, CANADA

Power of Attorney: The patent practitioners associated with Customer Number 14551

Domestic Applications for which benefit is claimed - None.
A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 08/29/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/054,004**

Projected Publication Date: 02/06/2020

Non-Publication Request: No

Early Publication Request: No

Title

SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

Preliminary Class

358

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0300

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7831967	B2	2010-11-09	Won et al.	
	2	8561054	B2	2013-10-15	Smirnov et al.	
	3	8997092	B2	2015-03-31	Gentile et al.	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090271507	A1	2009-10-29	Kodimer	
	2	20090300595	A1	2009-12-03	Moran et al.	
	3	20040083471	A1	2004-04-29	Nam et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP1

	4	20050039178	A1	2005-02-17	Marolia et al.	
	5	20070192462	A1	2007-08-16	Bae et al.	
	6	20080040713	A1	2008-02-14	Subbakrishna et al.	
	7	20080301667	A1	2008-12-04	Rao et al.	
	8	20100082559	A1	2010-04-01	Sumcad et al.	
	9	20160294614	A1	2016-10-06	Searle et al.	
	10	20170300313	A1	2017-10-19	Gantt, JR. et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0302

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP1

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	101-0393USP1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Jeffrey Tracey/	Date (YYYY-MM-DD)	2018-08-03
Name/Print	Jeffrey Tracey	Registration Number	63,848

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

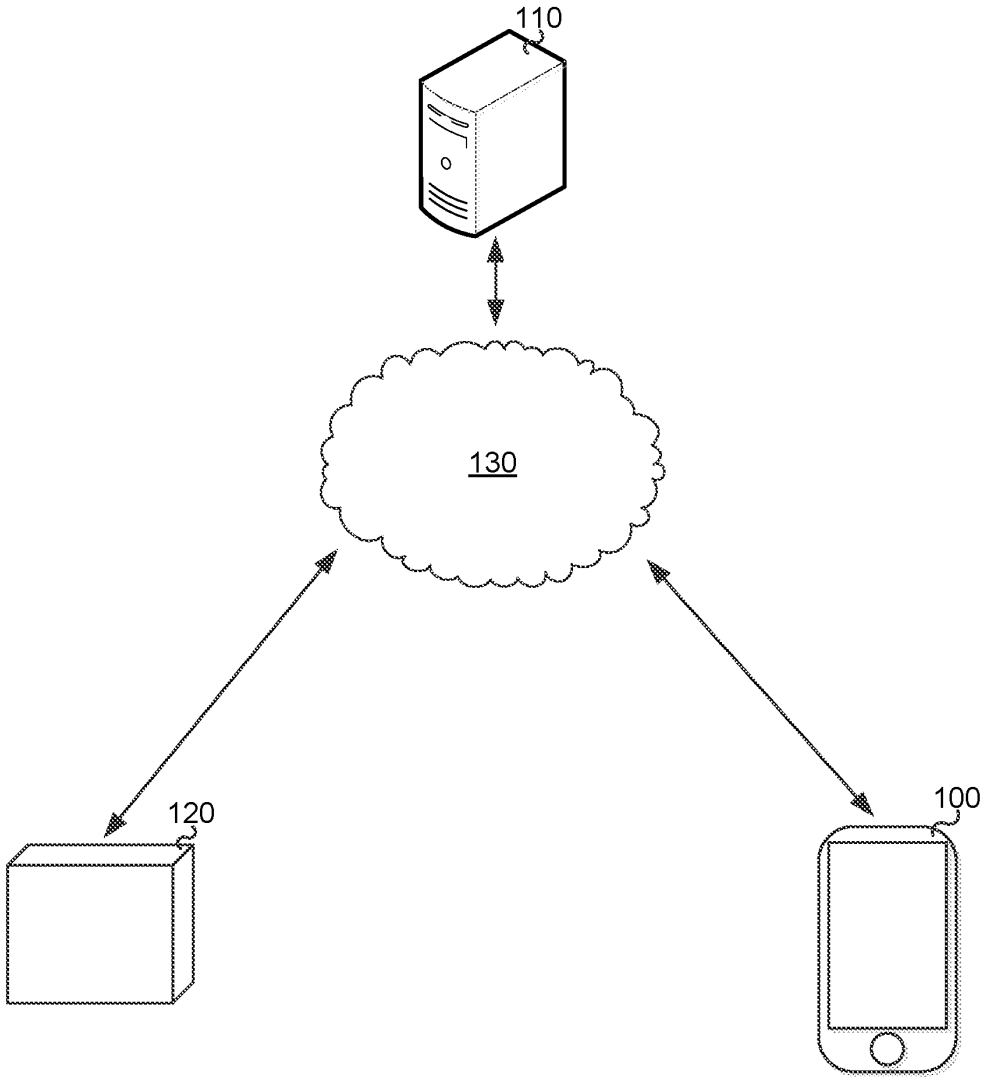


FIG. 1

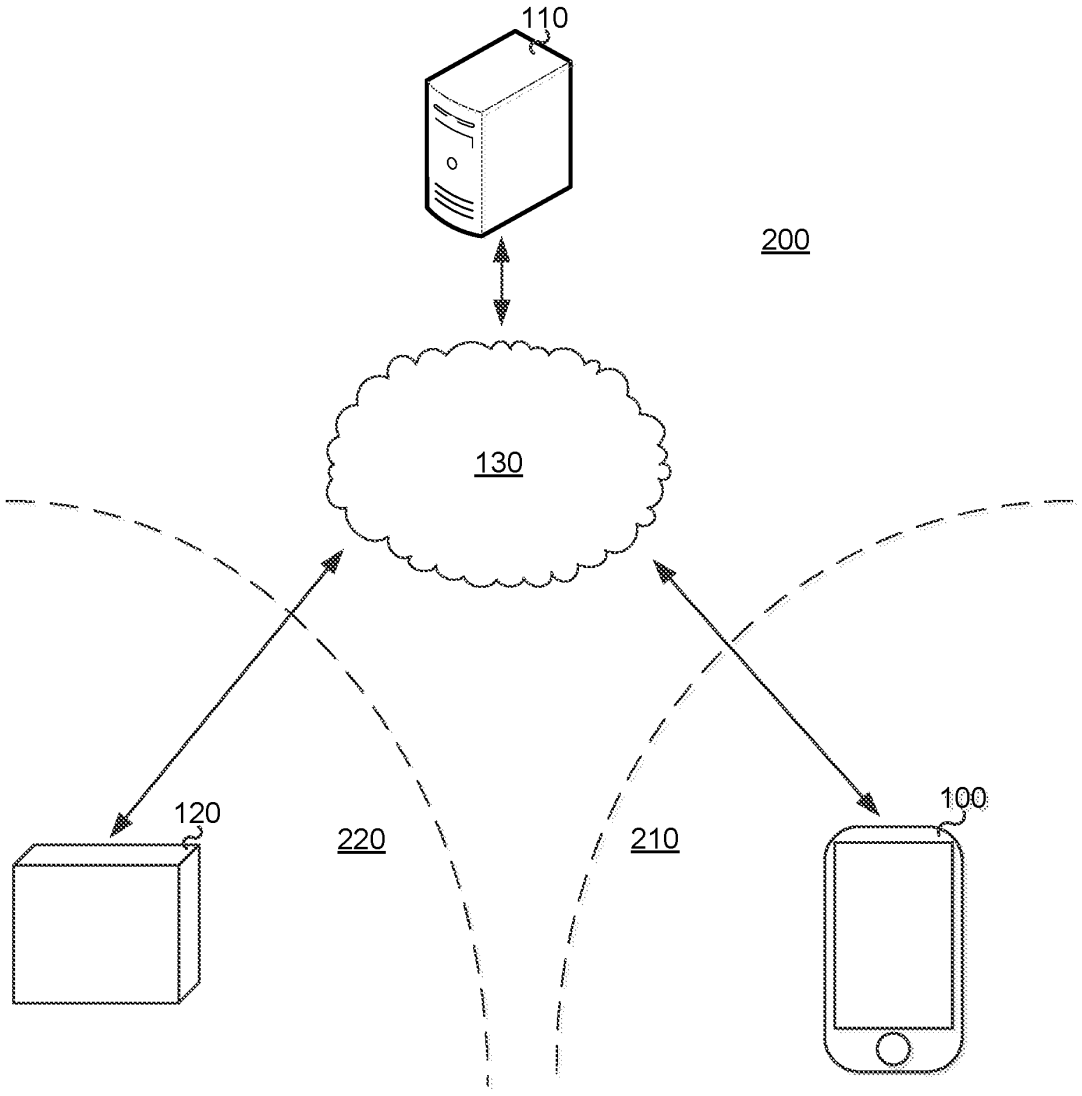


FIG. 2

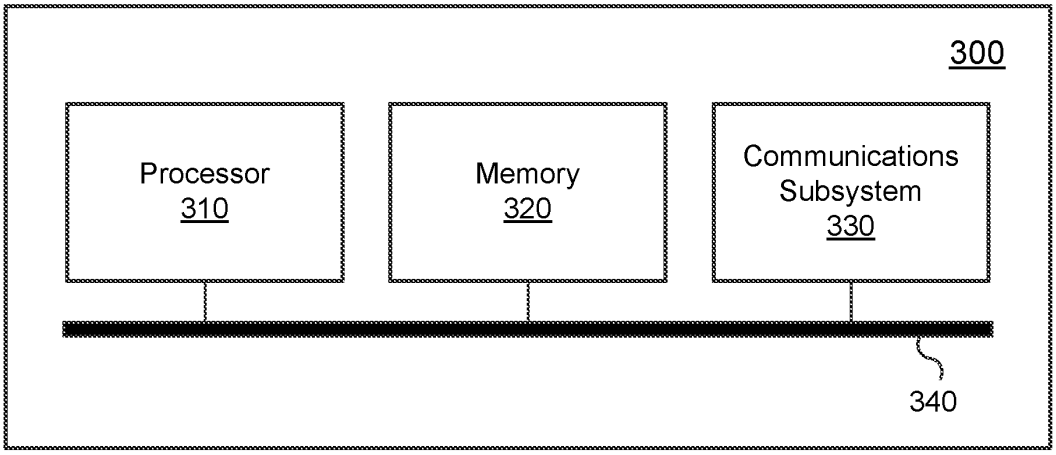

300
Processor
310
Memory
320
Communications
Subsystem
330
340

FIG. 3

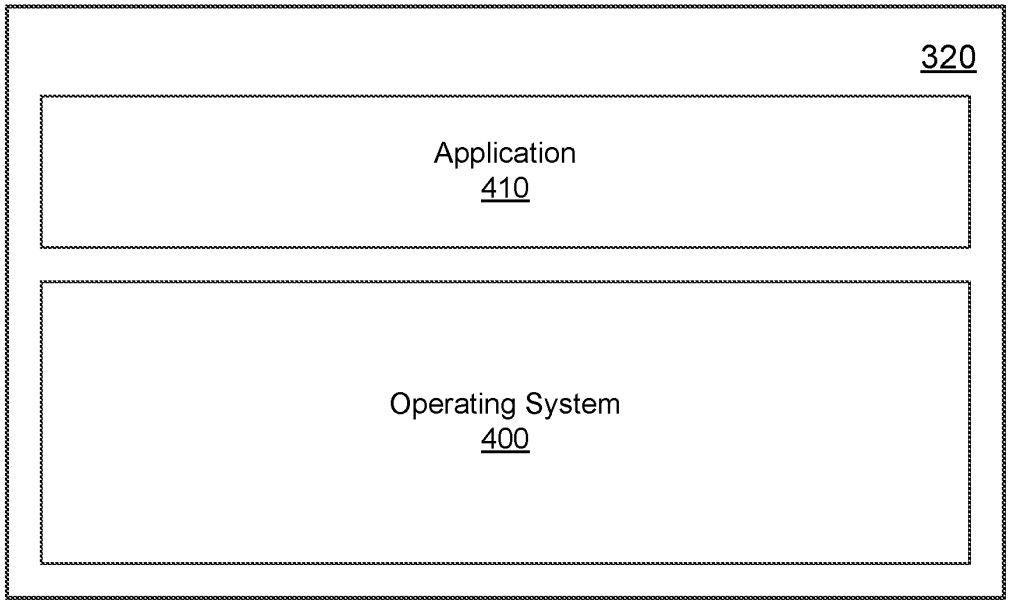

320
Application
410
Operating System
400

FIG. 4

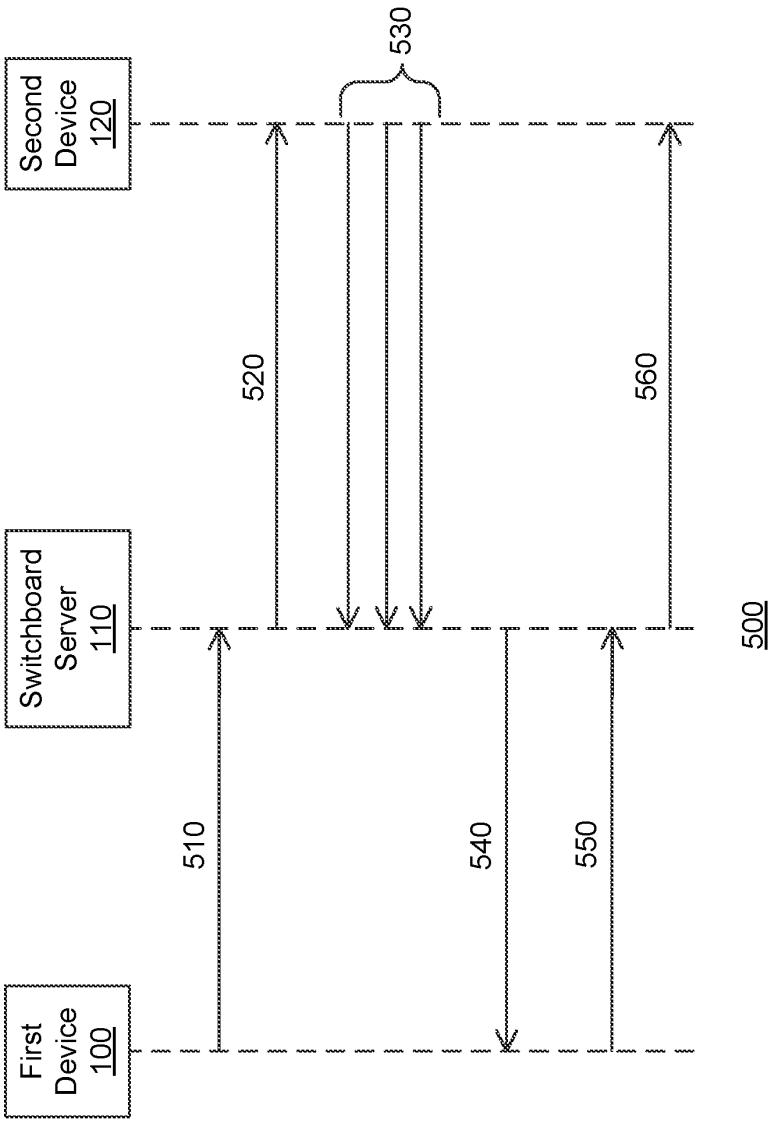

Second Device 120
Switchboard Server 110
First Device 100
530
520
560
510
540
550
500

FIG. 5

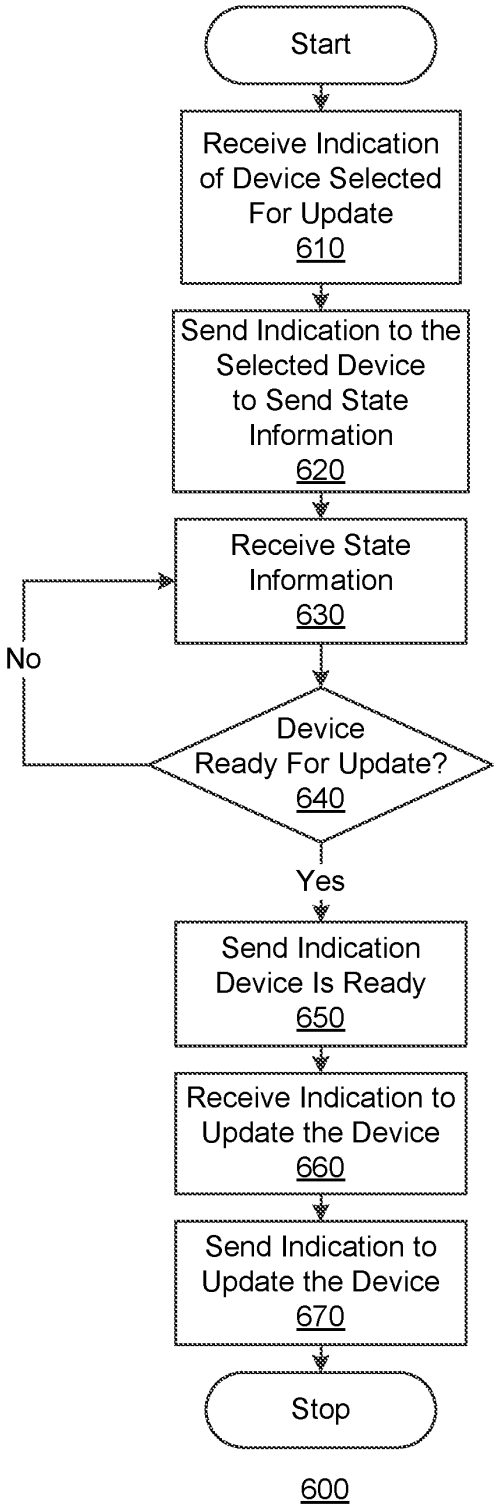

Start
Receive Indication of Device Selected For Update
610
Send Indication to the Selected Device to Send State Information
620
Receive State Information
630
No
Device Ready For Update?
640
Yes
Send Indication Device Is Ready
650
Receive Indication to Update the Device
660
Send Indication to Update the Device
670
Stop
600

FIG. 6

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Filer:	Jeffrey Michael Tracey/Helen Vongphakdy
Attorney Docket Number:	

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
LATE FILING FEE FOR OATH OR DECLARATION	1051	1	160	160
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1880**

Electronic Acknowledgement Receipt

EFS ID:	33366668
Application Number:	16054004
International Application Number:	
Confirmation Number:	6713
Title of Invention:	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
First Named Inventor/Applicant Name:	Edward Snow WILLIS
Customer Number:	14551
Filer:	Jeffrey Michael Tracey/Helen Vongphakdy
Filer Authorized By:	Jeffrey Michael Tracey
Attorney Docket Number:	
Receipt Date:	03-AUG-2018
Filing Date:	
Time Stamp:	11:49:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1880
RAM confirmation Number	080318INTEFSW11504800
Deposit Account	505494
Authorized User	Helen Vongphakdy
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	50468-US-PAT_2018-08-03_PoA.pdf	764258 76e6ae3bdf76e562c013de567ad6f4300c25282b	no	2
Warnings:					
Information:					
2	Application Data Sheet	50468-US-PAT_2018-08-03_ADS.pdf	1256703 09dcd84e5ad8752df643a7fac204630607a2836b	no	10
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	50468-US-PAT_2018-08-03_IDS1.pdf	1035657 161b283ed91821fcac238c58a538c82c7db1a021	no	5
Warnings:					
Information:					
4	Specification	50468-US-PAT_APP.pdf	148801 ab3a631e68ab947eaed367e2631416b0db1f4645	no	26
Warnings:					
Information:					
5	Drawings-only black and white line drawings	50468-US-PAT_DRW.pdf	105239 5498372cbe02a60a077d724c0a07db513bdfa12f	no	5
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	36577 6986a90e791e9f1cae45e619800ce2eca763ec3e	no	2
Warnings:					
Information:					

Total Files Size (in bytes):	3347235

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES

FIELD

[0001] This relates to updating software and, more particularly, to initiating and controlling the application of updates for Internet-of-Things devices.

BACKGROUND

[0002] Software updates can be performed for a variety of reasons including, for example, to correct issues or defects or to provide new features or functionality.

[0003] In recent years, many conventional devices such as, for example, cars, washing machines, refrigerators, and the like, have been enhanced with the addition of embedded computing devices.

[0004] Software, including firmware, included in embedded computing devices may require periodic updates. Currently such updates may be provided by bringing updated software to a device such as by way of portable media. For example, an update may be written to a USB thumb drive using a desktop or laptop computer and then the USB thumb drive may be brought to the device to perform the update. In the case of consumer devices, for example, this can be cumbersome. Moreover, as Internet-of-Things devices continue to become more common, the need to visit and operate/interact with each such device in order to periodically update it becomes increasingly cumbersome. Furthermore, in some cases to apply those updates may require the use of a specialized hardware or even, potentially, the services of a specialized technician may be required.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] Reference will now be made, by way of example, to the accompanying drawings in which:

[0006] FIG. 1 illustrates a simplified schematic operation diagram illustrating an arrangement of computing devices in the operating environment of an example embodiment;

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0316

[0007] FIG. 2 illustrates another arrangement of the computing devices of FIG. 1;

[0008] FIG. 3 shows a simplified high-level block diagram of an example computing device;

[0009] FIG. 4 depicts a simplified software organization of the example computing device of FIG. 3;

[0010] FIG. 5 is a diagram illustrating communications between the computing devices of FIG. 1; and

[0011] FIG. 6 is a flow chart illustrating an example method of one of the computing devices of FIG. 1.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

[0012] Internet-of-Things (IoT) devices are devices including enhanced embedded computing devices featuring hardware and software allowing Internet connectivity. IoT devices may provide additional functionality as compared to similar non- IoT device such as, for example, similar devices including embedded computing devices. Additionally or alternatively, IoT devices may serve new or additional purposes not previously addressed by non-IoT devices.

[0013] Due to the availability of network connectivity in IoT devices, it is possible to update IoT devices online.

[0014] In one aspect, there is provided a computer system. The computer system includes a processor, a communications subsystem, and a non-transitory computer-readable storage medium. The non-transitory computer-readable storage medium stores instructions that when executed by the processor adapt the computer system to: receive, from a first device using the communications subsystem, an indication of a second device selected, at the first device, for update; send, to the second device using the communications subsystem, an indication signalling the second device to send state information about the second device; receive, from the second device using the communications subsystem, the state information about the second device; determine, by the processor based on the state information about the second device, that the

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0317

second device is ready to perform an update; send, to the first device using the communications subsystem, an indication that the second device is ready to perform an update; receive, from the first device using the communications subsystem, an indication to update the second device; and send, to the second device using the communications subsystem, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

[0015] In another aspect, there is provided a computer-implemented method. The method includes receiving, at a server from a first device, an indication of a second device selected, at the first device, for update; sending, by the server to the second device, an indication signalling the second device to send state information about the second device to the server; receiving, by the server from the second device, the state information about the second device; determining, by the server based on the received the state information about the second device, that the second device is ready to perform an update; sending, by the server to the first device, an indication that the second device is ready to perform the update; receiving, by the server from the first device, an indication to update the second device; and sending, by the server to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

[0016] In another aspect, there is provided a non-transitory computer-readable storage medium. The medium stores instructions that when executed by a processor of a computer system adapt the computer system to: receive, from a first device, an indication of a second device selected, at the first device, for update; send, to the second device, an indication signalling the second device to send state information about the second device; receive, from the second device, the state information about the second device; determine, by the processor based on the state information about the second device, that the second device is ready to perform an update; send, to the first device, an indication that the second device is ready to perform the update; receive, from the first device, an indication to update the second device; and send, to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0318

[0017] It may be that a user is only in a position to interact with the user-interface of a device (if any such UI exists) at times when they are intending to use it. For example, a user may only visit their washing machine when they have laundry to be done. In another example, a user may only get in her car if she is intending to take it for a ride. Conveniently, according to various embodiments, a user may initiate updating of a device such as, for example, an IoT device using a device remote from that device.

[0018] Additionally or alternatively, it may be that a device (such as an IoT device) is not capable of providing a rich user interface as would allow appropriate review and control of updating. For example, an IoT device may include no or only a small display screen on which information about an update can be reviewed. Additionally or alternatively, it may be that a user would prefer to be able to review such information using a more familiar device such as, for example, at a convenient time or place. Conveniently, according to various embodiments, a user may be able to remotely initiate and control updating of a device such as, for example, an IoT device.

[0019] Additionally or alternatively, update of a device may make it unusable for its usual or intended purposes for at least a portion of a period in which the update is being retrieved and applied to the device. Conveniently, according to various embodiments, a user may be able to control when updates are applied to prevent a device being unavailable at an inconvenient time due to an update. For example, a user may be able to control when an update is applied to a washing machine to avoid updating it if they have an urgent wash load. In another example, a user may be able to control an update of their vehicle to avoid updating it if they are planning to take it out to run an errand.

[0020] Other aspects and features of the present application will be understood by those of ordinary skill in the art from a review of the following description of examples in conjunction with the accompanying figures.

[0021] In the present application, the term "and/or" is intended to cover all possible combinations and sub-combinations of the listed elements, including any one of the listed elements alone, any sub-combination, or all of the elements, and without necessarily excluding additional elements.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0319

[0022] In the present application, the phrase "at least one of… or…" is intended to cover any one or more of the listed elements, including any one of the listed elements alone, any sub-combination, or all of the elements, without necessarily excluding any additional elements, and without necessarily requiring all of the elements.

[0023] FIG. 1 illustrates a simplified schematic operation diagram illustrating an arrangement of computing devices in the operating environment of an example embodiment.

[0024] As illustrated, a first device 100, a switchboard server 110, and a second device 120 are in communication via a network 130.

[0025] Each of the first device 100, the switchboard server 110, and the second device 120 may be in geographically disparate locations. Put differently, one of the first device 100, the switchboard server 110, and the second device 120 may be remote to others of the first device 100, the switchboard server 110, and the second device 120.

[0026] For example, it may be that first device is located in one part of a user's home or business, the second device 120 may be carried by a user from place to place, and the switchboard server 110 may be hosted in a data center.

[0027] The first device 100 is or includes a computing device. The first device 100 may, as illustrated, be a smartphone. However, the first device 100 may be a device of another type such as, for example, a personal computer, a laptop computer, a tablet computer, a notebook computer, a hand-held computer, a personal digital assistant, a wearable computing device (e.g., a smart watch, a wearable activity monitor, wearable smart jewelry, and glasses and other optical devices that include optical head-mounted displays), or any other type of computing device that may be configured to store data and software instructions, and execute software instructions to perform operations consistent with disclosed embodiments.

[0028] The switchboard server 110 is a server computer system adapted for providing services to various client devices including the first device 100 and the second device 120. Computer systems may include one or more computing devices. For example, a computer system may include multiple computing devices such as, for example, database servers, compute

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0320

servers, and the like. The multiple computing devices may be in communication using a computer network. For example, computing devices may communicate using a local-area network (LAN). Computer systems may include multiple computing devices organized in a tiered arrangement. For example, a computer system may include middle-tier and back-end computing devices. A computer system may be a cluster formed of a plurality of interoperating computing devices.

[0029] The second device 120 includes a computing device. It may be that the second device 120 is an IoT (Internet of Things) device such, for example, a vehicle, an appliance such as, for example, a washing machine or a refrigerator, a smart device, a connected device, a building such as, for example, a home, an Enterprise of Things (EoT) devices (*i.e.*, an IoT device in an enterprise) or a node or combination thereof. Vehicles includes motor vehicles (*e.g.*, automobiles, cars, trucks, buses, motorcycles, etc.), aircraft (*e.g.*, airplanes, unmanned aerial vehicles, unmanned aircraft systems, drones, helicopters, etc.), spacecraft (*e.g.*, spaceplanes, space shuttles, space capsules, space stations, satellites, etc.), watercraft (*e.g.*, ships, boats, hovercraft, submarines, etc.), railed vehicles (*e.g.*, trains and trams, etc.), and other types of vehicles including any combinations of any of the foregoing, whether currently existing or after arising. It may be that the second device 120 is a component of another device.

[0030] As further described below, the switchboard server 110 communicates with the first device 100 and the second device 120 to facilitate initiation and control update of the second device 120 as directed by the first device 100.

[0031] FIG. 2 illustrates another example arrangement of the computing devices of FIG. 1. In some embodiments, it may be that one or both of the first device 100 and the second device 120 is not directly addressable on the network 130. For example, one or both of the first device 100 and the second device 120 may have an address in a private address space not routable from the network 130. In a particular example, where the network 130 is the Internet, it may be that the Internet Protocol (IP) address(es) assigned to one or both of the first device 100 and the second device 120 is in a private address space. For example, it may, as illustrated, be that the IP address of the switchboard server 110 is a globally addressable IP address in an IP address space 200. By contrast, the IP addresses of the first device 100 and the second device 120 may be

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0321

private addresses in a private address space 210 and a private address space 220, respectively. For example, this may occur if a device is accessing the address via a router employing network address translation (NAT) techniques. Conveniently, in such a scenario, the switchboard server 110 is reachable / addressable directly by either of the first device 100 and the second device 120. Accordingly, it may be that the first device 100 and the second device 120 communicate via the switchboard server 110, which can act as a relay. Further, as described below, techniques may be employed that take advantage of the fact that the switchboard server 110 is directly addressable in order to facilitate communication between various of the first device 100, the switchboard server 110, and the second device 120.

[0032] As noted above, each of the first device 100, the switchboard server 110, and the second device 120 is or may include a computing device. FIG. 3 is a high-level operation diagram of an example computing device 300. Example computing device 300 may be an example of one or more of the switchboard server 110, the first device 100, and the second device 120. As will be discussed in greater detail below, each of the switchboard server 110, the first device 100, and the second device 120 includes software that adapts it to perform a particular function.

[0033] The example computing device 300 includes a variety of modules. For example, as illustrated, the example computing device 300 may include a processor 310, a memory 320, and a communications subsystem 330. As illustrated, the foregoing example modules of the example computing device 300 are in communication over a bus 340.

[0034] The processor 310 is or includes a hardware processor and may, for example, be or include one or more processors using ARM, x86, MIPS, or PowerPC (TM) instruction sets. For example, the processor 310 may be or include Intel (TM) Core (TM) processors, Qualcomm (TM) Snapdragon (TM) processors, or the like.

[0035] The memory 320 may include random access memory, read-only memory, persistent storage such as, for example, flash memory, a solid-state drive or the like. Read-only memory and persistent storage are a computer-readable medium. A computer-readable medium may be organized using a file system such as may be administered by an operating system governing overall operation of the first device 100.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0322

[0036] The communications subsystem 330 allows the example computing device 300 to communicate with other computing devices and/or various communications networks. For example, the communications subsystem 330 may allow the example computing device 300 to send or receive communications signals. Communications signals may be sent or received according to one or more protocols or according to one or more standards. For example, the communications subsystem 330 may allow the example computing device 300 to communicate via a cellular data network, such as for example, according to one or more standards such as, for example, Global System for Mobile Communications (GSM), Code Division Multiple Access (CDMA), Evolution Data Optimized (EVDO), Long-term Evolution (LTE) or the like. Additionally or alternatively, the communications subsystem 330 may allow the example computing device 300 to communicate via Wi-Fi (TM), using Bluetooth (TM) or via some combination of one or more networks or protocols. All or a portion of the communications subsystem 330 may be integrated into a component of the example computing device 300. For example, the communications subsystem may be integrated into a communications chipset.

[0037] Software comprising instructions is executed by the processor 310 from a computer-readable medium. For example, software may be loaded into random-access memory from persistent storage of the memory 320. Additionally or alternatively, instructions may be executed by the processor 310 directly from read-only memory of the memory 320.

[0038] FIG. 4 depicts a simplified organization of software components stored in the memory 320 of the first device 100. As illustrated these software components include an operating system 400 and an application 410.

[0039] The operating system 400 comprises software and may comprise, for example, software such as, for example, Android (TM), QNX (TM), Linux (TM), Apple(TM) iOS (TM), Microsoft (TM) Windows (TM), or the like. The operating system 400 controls the overall operation of the first device 100 and allows the application 410 to access the processor 310, the memory 320, and the communications subsystem 330.

[0040] The application 410, comprises software that, in combination with the operating system 400, adapts the first device 100 to operate as a device for various purposes. For example, the application 410 may cooperate with the operating system 400 to adapt a suitable instance of

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0323

the example computing device 300 to operate as the switchboard server 110, the first device 100, or the second device 120.

[0041] Referring to FIG. 5, the operation of each of the switchboard server 110, the first device 100, and the second device 120 will be described.

[0042] FIG. 5 illustrates a sequence diagram 500, similar to a Unified Modelling Language (UML) sequence diagram, that shows how the first device 100, the switchboard server 110, and the second device 120 may communicate. In particular, the sequence diagram 500 depicts messages exchanged between the first device 100, the switchboard server 110, and the second device 120 in initiating and controlling update of the second device 120.

[0043] In the following description of the sequence diagram 500, discussion is made of various messages being sent and received via a computer network such as, for example, network 130. The exchanged messages may be implemented as messages. However, it may be that some or all of the illustrated messages may not correspond to messages *per se* when sent over the computer network but may instead be implemented using techniques such as for example remote procedure calls (RPC) and/or web services application program interfaces (APIs).

[0044] The sequence diagram 500 presumes that bi-directional communication is available at least between the first device 100 and the switchboard server 110 and between the second device 120 and the switchboard server 110. Note, however, as further described below, it is not required that the first device 100 and the second device 120 can communicate with one another directly.

[0045] The sequence diagram 500 further presumes that an update is available for the second device 120 and that this availability is known to at least the first device 100. The availability of such an update may has been previously detected in a variety of manners such as, for example, by periodic polling by one or more of the first device 100, the switchboard server 110, or the second device 120. For example, one or more of the first device 100, the switchboard server 110, or the second device 120 may periodically poll an update server (not shown) such as may be provided, for example, by a manufacturer of the second device 120. In another example, it may be that a notification that an update is available is received by one or more of the first

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0324

device 100, the switchboard server 110, or the second device 120 such as for example from such an update server. In yet another example, it may be that updates for various devices including, for example, the second device 120 are maintained by the switchboard server 110 for distribution. The first device 100 may be provided with a notification that an update is available by another computer system such as, for example, from the switchboard server 110, further to the other computer system learning of the availability of the update. Put differently, another machine such as, for example, the switchboard server 110, may send a notification that an update is available for the second device 120 to the first device 100.

[0046] A user of the first device 100 may select to initiate the update of the second device 120. For example, a notification of the availability of the update of the second device 120 may be provided to the user by a notification such as by way of, for example, a visual indication (*e.g.* via the Android (TM) notification tray), an email, etc.. A user may then select to perform such an update of the second device 120. Responsive to such a selection, the first device may send a message 510 indicating that the second device 120 has been selected (at the first device 100) for update to the switchboard server 110. As such, the switchboard server 110 may receive the message 510 from the first device 100. For example, where the switchboard server 110 is or includes a suitably configured instance of the example computing device 300, it may receive an indication of the second device 120 being selected, at the first device 100, for update by way of the communications subsystem 330.

[0047] Next, responsive to the message 510, the switchboard server 110 may, as illustrated, send a message 520 to the second device 120. The message 520 may signal the second device 120 to send state information about itself.

[0048] State information about the second device 120 may take a variety of forms and may be specific to the nature of the second device. For example, where the second device 120 is a refrigerator, it may indicate whether the compressor is currently running. In another example, where the second device 120 is a washer or a dryer, it may indicate whether a cycle is currently running. In yet another example, where the second device 120 is a vehicle the information may include, for example, whether the car is in motion, whether it is fueled, a battery charge level, and/or whether the engine is running.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0325

[0049] The second device 120 may send one or more messages 530 including state information about itself to the switchboard server 110. As such, it may be that the switchboard server 110 may receive state information one or more times from the second device 120. Such state information may, for example, be received by way of the communications subsystem 330 where the switchboard server 110 is or includes a suitably configured instance of the example computing device 300 as suggested above.

[0050] It may be that each of the one or more messages 530 is sent responsive to the message 520. For example, the second device 120 may periodically transmit state information to the switchboard server 110. Additionally or alternatively, the switchboard server 110 may periodically send one or more further requests (not shown) akin to the message 520 triggering sending of one or more of the messages 530.

[0051] The switchboard server 110 may determine, based on the received state information about the second device 120 that the second device 120 is in a state where it may be considered ready to perform an update. For example, where the switchboard server is or includes a suitably configured instance of the example computing device 300, a determination may be made by the processor 310.

[0052] For example, where the second device is a washer/dryer, determining that it is ready for update may include detecting that no cycle is currently underway.

[0053] In another example, where the second device is a refrigerator, determining that it is ready for update may include detecting that the compressor is not currently running or that a frost-free freezer is not currently performing a de-icing operation.

[0054] In another example, where the second device 120 includes a battery, determining that it is ready for update may include detecting that the battery is of a sufficient charge level or that the device has been connected to mains power. For example, connection of the second device 120 to a charger may be required to ready it for update.

[0055] In another example, determining that the second device 120 is ready for update may include a determination that the second device 120 is in a suitable location. For example,

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0326

where the second device 120 is a vehicle, determining that it is ready for update may include determining that it is parked in a suitable location such as, for example, a lot, a garage, or an owned parking spot.

[0056] In another example, where the second device 120 is a component of another device, determining that the second device 120 is ready to perform an update may include determining that that device is not in use. For example, where the second device 120 is a component of a vehicle, determining that the second device 120 is ready to perform an update may include determining that the vehicle is not in use.

[0057] It may, as noted above, be the case that the second device 120 is not directly addressable by the switchboard server 110. As such, it may be that the second device 120 communicates periodically with the switchboard server 110 (*i.e.*, polls) to determine whether any messages are pending for it. Accordingly, the message 520 may be sent responsive to such a poll. Additionally or alternatively, the second device 120 may maintain an open connection stream with the switchboard server 110 for use in communicating therebetween. For example, where the switchboard server 110 provides a web services API, the second device 120 may make an HTTP GET request to which the switchboard server 110 later responds when it has a message to communicate to the second device 120. For example, the message 520 may correspond to a response to a such a "hanging GET".

[0058] Responsive to the determination that the second device 120 is ready for update, the switchboard server 110 may send a message 540 to the first device 100 indicating that the second device 120 is ready to perform the update. For example, where the switchboard server 110 is or includes a suitably configured instance of the example computing device 300, it may send such an indication using the communications subsystem 330.

[0059] Further to the message 540, the first device 100 may determine that the second device 120 should begin performing the update.

[0060] For example, the first device 100 may provide a user interface responsive to the message 540 allowing a user to start the update of the second device 120. As such, the first device 100 may determine that the second device 120 should begin performing the update

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0327

responsive to initiation of the update via such as user interface. Conveniently, in this way, a user may initiate update of the second device 120 without the need to visiting or, potentially, even entering into physical proximity with the second device 120. Instead, the user needs only use the first device 100. Notably, where the first device 100 is a mobile device with wireless connectivity such as, for example, a smartphone, this may even mean that the user can initiate update of the second device 120 from practically any location of their choosing. More particularly, update of the second device 120 is initiated by way of the first device 100, no direction interaction with the second device 120 such by way of any physical interface elements (*e.g.*, buttons, keys, display mounted on the second device 120, etc.) is required to update the second device 120. In other words, as further described below, after update of the second device 120 is initiated as a consequence of an indication sent from the first device 100 to the switchboard server 110, update of the second device 120 will be performed without any direct interaction with the second device 120 (*e.g.* interaction controls provided on / by the second device 120, etc.). Put differently, the second device 120 is configured to begin performing the update responsive to a corresponding indication without any interaction requiring an operator to attend the second device 120. For example, the update will be triggered without an operator providing any input to the second device 120 by way of a control panel, button, and/or user interface, etc. thereof.

[0061] Furthermore, since, as noted above, providing such a user interface may allow a user to initiate an update at a time of their choosing, such a user interface can also allow a user to defer update of the second device 120 until a time the user finds convenient for update, even if the switchboard server 110 considers it ready for update at an earlier time. Allowing a user to deter update of the second device 120 until a time the user finds convenient for update may allow initiation of the update to take into account information unknown to or not considered by the switchboard server 110 such as, for example, that the user intends to use the second device 120 soon and that, therefore, update should be deferred. For example, where the second device 120 is a washer or a dryer, the user may be planning to run a load and may, therefore, want to wait to update the second device 120. In another example, where the second device 120 is a vehicle, the user may be planning to take it out for a drive and may, therefore, want to defer update.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0328

[0062] Such a user interface may be the same user interface as was provided to allow the user to select the second device 120 for update. For example, it may be that the user is provided a list of devices available for update via the user interface. The user may then select a device for update and be provided with a visual indication of whether the device is ready for update. Then, upon receipt of the message 540 the user interface may be updated such as, for example, by making an update control such as, for example, a button available such as, for example, by adding such a control available in the user interface or by making an existing update control active (*e.g.*, not "greyed out"). Alternatively, such an update control may be made available in advance but if a user attempts to activate it prematurely they may be provided with an appropriate error and/or other feedback.

[0063] As noted above, it may be that the first device 100 is not directly addressable by the switchboard server 110. Accordingly, it may be that techniques similar to those described above in the context of the message 520 are employed. For example, it may be that a connection to the switchboard server 110 is maintained. For example, the message 540 may correspond to a communication over a channel that was opened between the first device 100 and the switchboard server 110 to send communications corresponding to the message 510. In a particular example, the message 510 may correspond to an HTTP GET that is then left hanging until a reply (corresponding to the message 540) is sent.

[0064] Upon determining that the second device 120 should begin performing the update, the first device 100 may send a message 550 to the switchboard server 110 indicating that the second device 120 should be updated. As such, the switchboard server 110 may receive the message 550 from the first device 100. For example, where the switchboard server 110 is or includes a suitably configured instance of the example computing device 300, such an indication may be received using the communications subsystem 330.

[0065] Responsive to the message 550, the switchboard server 110 may send a message 560 to the second device 120 indicating that the second device 120 should begin performing the update.

[0066] Responsive to the message 560, the second device 120 may begin performing the update.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0329

[0067] The second device 120 may download the update responsive to the message 560. For example, the second device 120 may download the update from an update server (not shown), either directly or through a relay. For example, the switchboard server 110 may act as a relay. In another example, it may be that the second device 120 will download the update from the switchboard server 110 responsive to the message 560. Alternatively, the second device 120 may have previously downloaded the update. For example, it may be that the second device 120 is configured to automatically download updates such as, for example, during idle periods. It may be that the state information provided by the second device 120 (*e.g.* in the messages 530) includes a status of any such download. Further, it may be that a determination that the second device 120 is ready for update requires detecting or determining that any pending update has been downloaded.

[0068] During the update, the second device 120 may send one or more messages (not shown) indicating one or more of the initiation of the updating process, the progress of the updating process (*e.g.*, periodically),, and the completion thereof. Notably, responsive to such messages, the switchboard server 110 may send one or more messages to the first device 100 (not shown) indicating initiation of the updating process, progress of the updating progress (*e.g.*, periodically), and/or completion of the updating progress. Responsive to receiving such messages may provide a user interface indication corresponding to the message. As such, a user may monitor the status of an initiated update including to determine whether such an update has been started, how quickly it is proceeding, and whether it is completed. Conveniently, in this way, a user may determine whether the second device 120 is available for use after update thereof has been initiated without the need to visit or attend the second device 120.

[0069] In some embodiments, the first device 100 may also receive an estimate of how long the update will take to complete and/or may determine such an estimate based on received information (*e.g.*, based on progress updates). Conveniently, in this way, a user may determine (by way of the first device 100) when a second device 120 will again be available for use after update thereof has been initiated without the need to attend or visit the second device 120.

[0070] In some embodiments, user interface provided by the first device 100 may allow a user to cancel update of the second device 120 after initiation. For example, it may be that update

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0330

of the second device 120 can be canceled after initiation by way of user interface provided by the first device 100 if the update of the second device 120 not yet started. Additionally or alternatively, it may be that update of the second device 120 can canceled by way of such user interface even after starting such as, for example, where the update process supports rollback of partial updates.

[0071] It may be that the update cannot be performed by the second device 120 for various reasons. For example, a failure may occur during applying the update. Additionally or alternatively, it may be that following the second device 120 being determined to be ready to perform the update and before the receipt and handling of the message 560, the second device 120 experiences a state change such that it is no longer ready to perform the update. Accordingly, it may be that a message (not shown) indicating that the update cannot be performed or that the update has failed is sent to the switchboard server 110 responsive to the message 560 and the switchboard server 110 may, in turn, send a corresponding message to the first device 100. A corresponding notification may then be provided to a user by the first device 100. Conveniently, in this way, a user may be informed by way of the first device 100 if update of the second device 120 has failed without the need to attend or visit the second device 120.

[0072] It may be that the state information sent by the second device 120 to the switchboard server 110 includes information about whether the second device 120 considers itself to be in a state ready for update. The switchboard server 110 may then defer to the determination of the second device 120 in making its determination as to whether the second device is ready for update or, alternatively, may rely both on that state information and other state information provided by the second device 120 is combination to determine whether the second device 120 is in a condition ready for update based the state information. Conveniently, in this way, considerations ignored by the second device 120 in making its determination may be incorporated into the determination of its readiness for update by the switchboard server 110 while still leveraging the information about whether the second device 120 considers itself to be in a state ready for update. Additionally, it may be that further information is received from other sources that is factored into the determination. For example, it may be that information is received indicating that maintenance has been scheduled for power or communications systems affecting one or more of the first device 100, the switchboard server 110, and second device 120

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0331

and that, therefore, it may be necessary or desirable to defer update being as readiness for update may be impacted. Additionally or alternatively, it may be that information is received or obtained indicating that an outage such as, for example, a communications outage is underway. Such an interruption may impact readiness for update. For example, it may be that the update cannot be accessed such as, for example, where it is to be downloaded subsequent to initiation of updating.

[0073] It may be that the first device 100 is authenticated by the switchboard server 110 as being authorized to update the second device 120. Authentication information may be sent by the first device 100 to the switchboard server 110. For example, an indication that the second device 120 has been selected for update (*e.g.* the message 510) may further indicate the authentication information. The switchboard server 110 may condition sending any indication signalling the second device 120 to send state information about the second device 120 to the switchboard server 110 (*e.g.*, the message 520) on the switchboard server 110 determining that the authentication information indicates authorization to update the second device 120. For example, the switchboard server 110 may determine based on the authentication information whether a user associated with the authentication information is authorized to update the second device 120. The switchboard server 110 may communicate with another server such as, for example, an authentication server (not shown) to confirm such authorization.

[0074] As noted above, it may be that the first device 100 may provide a user interface whereby a user could attempt to prematurely initiate an update and may receive a corresponding error or explanation. For example, the user may receive an explanation as to why the device is not available for update yet. It may, therefore, be that the switchboard server 110 may transmit one or more periodic updates to the first device 100 following selection of the second device 120 for update and prior to it becoming ready for update providing an explanation and / or allowing determination of an explanation of why the second device 120 may not be considered ready for update.

[0075] The operation of the switchboard server 110 in initiating an update of the second device 120 is described with reference to a flowchart 600 of FIG. 6. Operations 610 and onward are performed by one or more processors of a computing device, such as for example the

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0332

processor 310 of a suitably configured instance of the example computing device 300, executing software such as, for example, a suitable instance of the application 410.

[0076] At the operation 610, the switchboard server 110 receives an indication of a device selected for update. For example, it may be that the first device 100 may select from amongst a variety of devices for which it may initiate an update. As such, the switchboard server 110 may receive a message indicating that a particular device to be considered the second device 120. Put differently, the switchboard server 110 may receive an indication such as, for example, the message 510 described above and/or may handle such an indication in manners consistent with the description of the handling of the message 510 above.

[0077] From the operation 610, control flow advances to an operation 620. At the operation 620, the switchboard server 110 sends an indication to the selected device—*i.e.*, the second device 120—that it should send state information to the switchboard server 110. For example, the switchboard server may send a message like the message 520 and/or consistent with the description of the sending thereof above.

[0078] From the operation 620, control flow advances to an operation 630. At the operation 630, the switchboard server 110 processes an indication of state information received from the selected device. For example, the switchboard server 110 may receive and process a message like one of the messages 530 and/or consistent with the description of the handling thereof above.

[0079] From the operation 630, control flow advances to an operation 640. At the operation 640 it is determined whether the selected device is ready for update consistent with manners for determining whether the second device 120 is ready for update as described above.

[0080] From the operation 640, if it is determined that the selected device is ready for update, control flow proceeds to an operation 650. Alternatively, if it is determined that the selected device is not ready, control flow returns to the operation 630 to receive and process further state information. For example, control flow may return to process a message like another of the messages 530.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0333

[0081] At the operation 650, the switchboard server 110 sends an indication that the selected device is ready to the device from which the indication was received at the operation 610. For example, it may be that the switchboard server 110 sends an indication to the first device 100 such as, for example, a message as may be akin to the message 540 and/or may be generated in manners consistent with the description of the sending of the message 540 above.

[0082] From the operation 650, control flow proceeds to an operation 660. Consistent with the description above, it is the selecting device (*e.g.* the first device 100) that determines when the update of the selected device should be initiated. As described above, this may, for example, allow a user of the selecting device to identify an opportune time for update. Once a determination that the second device should be updated is made, an indication thereof may be sent to the switchboard server 110. Such an indication may then, for example, be received such as by way of a message akin to the message 550 and/or may be processed consistent with the description of handling of the message 550 above.

[0083] From the operation 660, control flow proceeds to an operation 670. At the operation 670, the switchboard server 110 sends an indication to the device that it is to begin updating itself consistent with the description of the message 560 (FIG. 5). Such an indication may be, for example, be sent by way of a message akin to the message 560 and/or may be generated in manners consistent with the description of the sending of the message 560 above.

[0084] It may be that additional or alternative operations to those illustrated in FIG. 2 are performed by the switchboard server 110. For example, additional or alternative operations may be performed consistent one or more of the variations discussed above as regards FIG. 5.

[0085] Further, as discussed above it may be that the first device 100 and the second device 120 are not able to communicate directly via the network 130. A particular example of such a scenario is shown in FIG. 2.

[0086] Example embodiments of the present application are not limited to any particular operating system, system architecture, mobile device architecture, server architecture, or computer programming language.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0334

[0087] The various embodiments presented above are merely examples and are in no way meant to limit the scope of this application. Variations of the innovations described herein will be apparent to persons of ordinary skill in the art, such variations being within the intended scope of the present application. In particular, features from one or more of the above-described example embodiments may be selected to create alternative example embodiments including a sub-combination of features which may not be explicitly described above. In addition, features from one or more of the above-described example embodiments may be selected and combined to create alternative example embodiments including a combination of features which may not be explicitly described above. Features suitable for such combinations and sub-combinations would be readily apparent to persons skilled in the art upon review of the present application as a whole. The subject matter described herein and in the recited claims intends to cover and embrace all suitable changes in technology.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0335

What is claimed is:

1. A computer system comprising:

a processor;

a communications subsystem; and

a non-transitory computer-readable storage medium storing instructions that when executed by the processor adapt the computer system to:

receive, from a first device using the communications subsystem, an indication of a second device selected, at the first device, for update;

send, to the second device using the communications subsystem, an indication signalling the second device to send state information about the second device;

receive, from the second device using the communications subsystem, the state information about the second device;

determine, by the processor based on the state information about the second device, that the second device is ready to perform an update;

send, to the first device using the communications subsystem, an indication that the second device is ready to perform the update;

receive, from the first device using the communications subsystem, an indication to update the second device; and

send, to the second device using the communications subsystem, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

2. The computer system of claim 1, wherein the instructions, when executed by the processor, further adapt the computer system to:

receive, from the second device, one or more indications as to a status of the performing of the update; and

send, to the first device, information about the performing of the update based on the one or more indications.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0336

3. The computer system of claim 1, wherein the state information about the second device indicates whether the second device is ready to perform the update.

4. The computer system of claim 1, wherein the state information about the second device indicates whether the second device has downloaded the update.

5. The computer system of claim 1, wherein the second device is configured to download the update responsive to the indication to begin performing the update.

6. The computer system of claim 1, wherein the computer system communicates with each of the first and second devices via a network, wherein the first and second devices cannot communicate directly with each other via the network.

7. The computer system of claim 1, wherein the indication of the second device selected for update further indicates authentication information and wherein the instructions, when executed by the processor, further adapt the computer system to:

prior to sending the indication signalling the second device to send the state information about the second device, determine based on the authentication information that a user associated with the authentication information is authorized to update the second device.

8. The computer system of claim 1, wherein the first device is configured to provide a user interface, responsive to the indication that the second device is ready to perform the update, for initiating the update of the second device and wherein the first device is configured to send the indication to update the second device responsive to initiation of the update via the user interface.

9. The computer system of claim 1, wherein the second device is a component of another device and wherein determining that the second device is ready to perform the update comprises determining that the another device is not in use.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0337

10. The computer system of claim 1, wherein the instructions that when executed by the processor further adapt the computer system to, prior to receiving from the indication of the second device selected for update, send, to the first device using the communications subsystem, a notification that the update is available for the second device.

11. The computer system of claim 10 further comprising sending an indication to the second device using the communications subsystem, a notification that the update is available for the second device.

12. The computer system of claim 11 wherein the second device is configured to download the update responsive to the notification that the update is available for the second device.

13. The computer system of claim 1, wherein the first device is a smartphone.

14. The computer system of claim 1, wherein the second device is included in an Internet-of-Things connected device.

15. A computer-implemented method comprising:

receiving, at a server from a first device, an indication of a second device selected, at the first device, for update;

sending, by the server to the second device, an indication signalling the second device to send state information about the second device to the server;

receiving, by the server from the second device, the state information about the second device;

determining, by the server based on the received the state information about the second device, that the second device is ready to perform an update;

sending, by the server to the first device, an indication that the second device is ready to perform the update;

receiving, by the server from the first device, an indication to update the second device; and

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0338

sending, by the server to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

16. The computer-implemented method of claim 15, further comprising:

receiving, by the server from the second device, one or more indications as to a status of the performing of the update; and

sending, by the server to the first device, information about the performing of the update based on the one or more indications.

17. The computer-implemented method of claim 15, wherein the state information about the second device indicates at least one of whether the second device is ready to perform the update and whether the second device has downloaded the update.

18. The computer-implemented method of claim 15, wherein the second device is configured to download the update responsive to the indication to begin performing the update.

19. The computer-implemented method of claim 15, wherein the indication of the second device selected for update further indicates authentication information, the method further comprising:

prior to sending the indication signalling the second device to send the state information about the second device to the server, determining by the server based on the authentication information that a user associated with the authentication information is authorized to update the second device.

20. A non-transitory computer-readable storage medium storing instructions that when executed by a processor of a computer system adapt the computer system to:

receive, from a first device, an indication of a second device selected, at the first device, for update;

send, to the second device, an indication signalling the second device to send state information about the second device;

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0339

receive, from the second device, the state information about the second device;

determine, by the processor based on the state information about the second device, that the second device is ready to perform an update;

send, to the first device, an indication that the second device is ready to perform the update;

receive, from the first device, an indication to update the second device; and

send, to the second device, an indication to begin performing the update, wherein the second device is configured to begin updating responsive to such an indication without any direct interaction with the second device.

Exhibit 1002
NRG Energy, Inc. et al. v. Malikie Innovations Limited
0340

Abstract

A computer system includes a processor, a communications subsystem, and a non-transitory computer-readable storage medium. The computer-readable medium stores instructions that when executed by the processor adapt the computer system to receive an indication of a second device selected, at a first device, for update; send an indication signalling the second device to send state information about the second device; receive state information about the second device; determine, based on the state information, that the second device is ready to perform an update; send, to the first device, an indication that the second device is ready to perform the update; receive, from the first device, an indication to update the second device; and, send a corresponding indication to the second device. The second device is configured to begin updating in response to such an indication without any direct interaction with it. Related methods and computer-readable media are also described.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	
Filing Date	
First Named Inventor	WILLIS, Edward Snow
Title	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES
Art Unit	
Examiner Name	
Attorney Docket Number	101-0393USP1

SIGNATURE of Applicant or Patent Practitioner

Signature	/Jeffrey Tracey/	Date (Optional)	
Name	Jeffrey Tracey	Registration Number	63,848
Title (if Applicant is a juristic entity)	Patent Agent		
Applicant Name (if Applicant is a juristic entity)	BlackBerry Limited		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 14551

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name	Rowand Intellectual Property Law				
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

BlackBerry Limited

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	Dec. 19, 2014
Name	Roger Cockerell		
Title	Executive President, Taxation		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Legal OK
Julia Pasch

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Edward	Snow	WILLIS	

Residence Information (Select One) US Residency ● Non US Residency Active US Military Service

City	Country of Residence [i]
Ottawa	CA

Mailing Address of Inventor:

Address 1	1001 Farrar Road
Address 2	
City	Kanata
State/Province	ON
Postal Code	K2K 0B3
Country [i]	CA

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	David	Alan	NGLIS	

Residence Information (Select One) US Residency ◉ Non US Residency Active US Military Service

City	Country of Residence [i]
Stittsville	CA

Mailing Address of Inventor:

Address 1	492 Landswood Way
Address 2	
City	Stittsville
State/Province	ON
Postal Code	K2S 0A5
Country [i]	CA

Inventor 3 Remove

Legal Name

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Prefix	Given Name	Middle Name	Family Name	Suffix
	Hashim	Mohammad	QADERI	

Residence Information (Select One) US Residency ◉ Non US Residency Active US Military Service

City	Country of Residence [i]
Kitchener	CA

Mailing Address of Inventor:

Address 1	2200 University Avenue East
Address 2	
City	Waterloo
State/Province	ON
Postal Code	N2K 0A7
Country [i]	CA

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Scott		HUTCHENS	

Residence Information (Select One) US Residency ◉ Non US Residency Active US Military Service

City	Country of Residence [i]
Ottawa	CA

Mailing Address of Inventor:

Address 1	1001 Farrar Road
Address 2	
City	Kanata
State/Province	ON
Postal Code	K2K 0B3
Country [i]	CA

Inventor 5 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Christopher	Scott	TRAVERS	

Residence Information (Select One) US Residency ◉ Non US Residency Active US Military Service

City	Country of Residence [i]
Ottawa	CA

Mailing Address of Inventor:

Address 1	868 Rob Roy Avenue
Address 2	
City	Ottawa
State/Province	ON
Postal Code	K2B 8S6
Country [i]	CA

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Inventor 6 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Conrad	Delbert	SEAMAN	

Residence Information (Select One) US Residency ◉ Non US Residency Active US Military Service

City	Ottawa	Country of Residence [i]	CA

Mailing Address of Inventor:

Address 1	2115 Chalmers Road		
Address 2			
City	Ottawa	**State/Province**	ON
Postal Code	K1H 6K4	**Country** [i]	CA

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	14551		
Email Address	mailbox@rowandlaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES		
Attorney Docket Number	101-0393USP1	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	5	**Suggested Figure for Publication (if any)**	1

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	◯ Limited Recognition (37 CFR 11.9)
Customer Number	14551		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
● Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	BlackBerry Limited		
Mailing Address Information For Applicant:			
Address 1	2200 University Avenue East		
Address 2			
City	Waterloo	**State/Province**	ON
Country	CA	Postal Code	N2K 0A7
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	BlackBerry Limited

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	2200 University Avenue East		
Address 2			
City	Waterloo	**State/Province**	ON
Country i	CA	Postal Code	N2K 0A7
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Jeffrey Tracey/			Date (YYYY-MM-DD)	2018-08-03
First Name	Jeffrey	Last Name	Tracey	Registration Number	63,848

Additional Signature may be generated within this form by selecting the Add button. Add

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	101-0393USP1
	Application Number	
Title of Invention	SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.