505198543 11/20/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5245312

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CONRAD DELBERT SEAMAN	06/09/2010
EDWARD SNOW WILLIS	09/12/2018
DAVID ALAN INGLIS	09/19/2018
HASHIM MOHAMMAD QADERI	10/05/2018
SCOTT HUTCHENS	09/12/2018
CHRISTOPHER SCOTT TRAVERS	09/16/2018

RECEIVING PARTY DATA

Name:	BLACKBERRY LIMITED
Street Address:	2200 UNIVERSITY AVENUE EAST
City:	WATERLOO
State/Country:	CANADA
Postal Code:	N2K 0A7

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	16054004	

CORRESPONDENCE DATA

Fax Number: (416)363-8429

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 416 479 8647

Email: mailbox@rowandlaw.com

Correspondent Name: ROWAND LLP (BLACKBERRY)
Address Line 1: SUITE 2302, 401 BAY STREET

Address Line 2: PO BOX 56

Address Line 4: TORONTO, CANADA M5H 2Y4

ATTORNEY DOCKET NUMBER:	101-0393USP1
NAME OF SUBMITTER:	JEFFREY TRACEY
SIGNATURE:	/Jeffrey Tracey/
DATE SIGNED:	11/20/2018

PATENT 505198543 REEL: 047603 FRAME: 0849

Total Attachments: 47 source=50468_US-PAT_ASN_SIGNED_ALL#page1.tif source=50468 US-PAT_ASN_SIGNED_ALL#page2.tif source=50468 US-PAT ASN SIGNED ALL#page3.tif source=50468 US-PAT ASN SIGNED ALL#page4.tif source=50468 US-PAT ASN SIGNED ALL#page5.tif source=50468 US-PAT ASN SIGNED ALL#page6.tif source=50468 US-PAT ASN SIGNED ALL#page7.tif source=50468 US-PAT ASN SIGNED ALL#page8.tif source=50468 US-PAT ASN SIGNED ALL#page9.tif source=50468 US-PAT ASN SIGNED ALL#page10.tif source=50468 US-PAT ASN SIGNED ALL#page11.tif source=50468 US-PAT ASN SIGNED ALL#page12.tif source=50468 US-PAT ASN SIGNED ALL#page13.tif source=50468 US-PAT ASN SIGNED ALL#page14.tif source=50468_US-PAT_ASN_SIGNED_ALL#page15.tif source=50468 US-PAT_ASN_SIGNED_ALL#page16.tif source=50468 US-PAT ASN SIGNED ALL#page17.tif source=50468 US-PAT ASN SIGNED ALL#page18.tif source=50468 US-PAT ASN SIGNED ALL#page19.tif source=50468 US-PAT ASN SIGNED ALL#page20.tif source=50468 US-PAT ASN SIGNED ALL#page21.tif source=50468 US-PAT ASN SIGNED ALL#page22.tif source=50468 US-PAT ASN SIGNED ALL#page23.tif source=50468 US-PAT ASN SIGNED ALL#page24.tif source=50468 US-PAT ASN SIGNED ALL#page25.tif source=50468 US-PAT ASN SIGNED ALL#page26.tif source=50468 US-PAT ASN SIGNED ALL#page27.tif source=50468 US-PAT ASN SIGNED ALL#page28.tif source=50468 US-PAT ASN SIGNED ALL#page29.tif source=50468 US-PAT ASN SIGNED ALL#page30.tif source=50468 US-PAT ASN SIGNED ALL#page31.tif source=50468 US-PAT ASN SIGNED ALL#page32.tif source=50468_US-PAT_ASN_SIGNED_ALL#page33.tif source=50468 US-PAT ASN SIGNED ALL#page34.tif source=50468 US-PAT ASN SIGNED ALL#page35.tif source=50468_US-PAT_ASN_SIGNED_ALL#page36.tif source=50468_US-PAT_ASN_SIGNED_ALL#page37.tif source=50468 US-PAT ASN SIGNED ALL#page38.tif source=50468 US-PAT ASN SIGNED ALL#page39.tif source=50468_US-PAT_ASN_SIGNED_ALL#page40.tif source=50468 US-PAT ASN SIGNED ALL#page41.tif source=50468 US-PAT ASN SIGNED ALL#page42.tif source=50468_US-PAT_ASN_SIGNED_ALL#page43.tif source=50468 US-PAT_ASN_SIGNED_ALL#page44.tif source=50468 US-PAT ASN SIGNED ALL#page45.tif source=50468 US-PAT ASN SIGNED ALL#page46.tif source=50468 US-PAT ASN SIGNED ALL#page47.tif

PATENT REEL: 047603 FRAME: 0850



Employee Confidentiality and Intellectual Property Agreement

In consideration of my employment with or engagement by Research In Motion Limited or by a subsidiary or an affiliate of Research In Motion Limited (the appropriate entity called, "RIM") who is employing or engaging me, as set out in the corresponding offer letter to or agreement with me ("Offer Letter") and for other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged), I (Employee) hereby agree to the following, together with any addendum to this Agreement:

1. Definitions

- 1.1. In this Agreement "Confidential Information" means:
 - 1.1.1. all trade secrets, confidential, private or secret information, know how, or proprietary information (whether such is in writing, or in electronic, oral or any other form or medium) of RIM, or of entities affiliated, associated, or related to RIM (each a "RIM Group Member") including without limitation Research In Motion Limited, and their respective employees, consultants, sponsored researchers, suppliers, distributors, customers, and other business partners (together with RIM Group Members, "Associates");
 - 1.1.2. information that has been specifically identified or designated as confidential or proprietary by RIM or its Associates;
 - 1.1.3. information that is by its nature such that RIM or RIM Group Members would consider it to be confidential or the nature of which is such that it would generally be considered confidential in the industry in which RIM or RIM Group Members operate, or that RIM or a RIM Group Member is obligated to treat as confidential or proprietary such as, without limitation, financial, business, legal, and corporate information and information and materials otherwise relating in any manner to the business affairs of RIM or its Associates, marketing information, strategies and tactics, research, product, technical, and manufacturing information; personnel information, personal information, and customer, distributor, and supplier information and information about other commercial relationships, of or related to RIM or its Associates; and
 - 1.1.4. Developments.
- 1.2. "Developments" means all Intellectual Property that is created, developed, authored, conceived, reduced to practice or originated ("Developed") by Employee (whether wholly or partly and whether individually or in collaboration with others) in the course of Employee's employment with or engagement by RIM or in performing duties specifically assigned to Employee, whether during normal working hours or not. Developments exclude any Intellectual Property that Employee establishes in accordance with the provisions set out below (and at Section 6) meet all of the conditions set out in Subsections 1.2.1 to 1.2.5 below ("Excluded Developments"):
 - 1.2.1. was Developed entirely on Employee's own time:
 - 1.2.2. was Developed without the use of any RIM Property or Confidential Information;
 - 1.2.3. does not relate to the business or affairs of RIM or its Associates or to research or development activities of RIM or its Associates during the term of Employee's employment with or engagement by RIM or to the actual or reasonably anticipated business, research or development activities of RIM or its Associates during this period;

RIM CONFIDENTIAL	Company-wide Guideline	ODGP-GDL-0010 7	Page 1 of 6
Internal Use Ordy	Updated February 17, 2010	Owner Bruce Fraser	Approved by Elizabeth Roe Pfeifer

CONTROL CD DOCUMENT. Printed copies of this document are uncontrolled corresponding to the most recent version of this document in 2007 Research In Motion Lighter. All ratio reserved.



Employee Confidentiality and Intellectual Property Agreement

- 1.2.4. was not suggested by or resulted from matters which Employee was aware of as a result of Employee's employment with or engagement by RIM or any work performed by Employee for RIM or a RIM Group Member; and
- 1.2.5. was not within the scope and is unrelated to Employee's general, duties to RIM

For clarity, it is agreed that Developments include any Intellectual Property Developed by Employee that does not meet any one of the conditions set out in Subsections 1.2.1 to 1.2.5 above.

- 1.3. "Intellectual Property" means any and all intellectual and industrial property, whether recorded or not and regardless of form or method of recording, including without limitation all works in which copyright subsists or may subsist, such as computer software, systems, tools, data bases (whether or not protected by copyright), concepts, data, coding, images, designs, documentation, books and records, industrial designs, specifications, trade secrets, confidential information, ideas, concepts, know-how, trade marks, service marks, trade names, domain names, discoveries and inventions, improvements and modifications, integrated circuit topographies and mask works.
- 1.4. "Intellectual Property Rights" includes all intellectual, industrial and other proprietary rights in any Intellectual Property including without limitation all rights in trade marks, service marks, trade names, domain names, discoveries, inventions, patents, copyrights, designs, industrial designs, integrated circuit topographies, mask works, trade secrets, confidential information, and the right to apply for, and applications and registrations for, the foregoing.
- 1.5. "RIN Property" means any and all real or personal property including without limitation all tangible and intangible personal property (such as Intellectual Property or Intellectual Property Rights) equipment, hardware, supplies, facilities, materials, and services, of or belonging to, or lowned, licensed, provided, or used by, RIM or Associates in the conduct of its business.

Non-Disclosure And Restriction On Use And Reproduction Of Confidential Information And RIM Property

- 2.1. Employee shall keep, and shall take all necessary steps to keep all Confidential Information in strict confidence. Employee shall not, directly or indirectly, either during or subsequent to Employee's employment with or engagement by RIM, disclose, allow access to, use, or reproduce any Confidential Information except as required to perform Employee's duties for RIM, except to the extent expressly permitted herein.
- 2.2. Any disclosure, access, use or reproduction of Confidential Information either internally or, where expressly permitted herein, externally to RIM must be limited to those individuals who require the same for the proper performance of their duties to RIM (i.e. with the "need to know") and such disclosure, access, use or reproduction shall be in accordance with all procedures established by RIM for the protection of Confidential Information and in respect of any external party, only after the external party to whom the information is disclosed has entered into a written non-disclosure and confidentiality agreement approved by RIM which expressly extends to the purposes for which the disclosure is to be made.
- 2.3. Employee shall review and comply with RIM's Insider Trading Policy, as amended from time to time by RIM, and abide by any trading restrictions imposed by the RIM Corporate Disclosure Committee, including, without limitation, pursuant to the Insider Trading Policy.

PRINCOOMPROSESSES	E Corpodoy-wide Guidatire :	080P-60L 48 9LT	Page 2 of 5
- Interest Stay Only	Distance Receivery 17, 2000	Oytest, Brook Frankt	Approved by Etrabati Ree Pinder



Employee Confidentiality and Intellectual Property Agreement

3. Return Of RIM Property And Confidential Information

Upon request by RIM, and in any event upon conclusion of Employee's employment with or engagement by RIM, Employee shall immediately return to RIM all Confidential Information and RIM Property that is in Employee's possession, power, or control.

4. Ownership Of Developments And RIM Property

- 4.1. Employee shall promptly and fully disclose in writing to RIM any Developments developed by the Employee either solely or jointly with others.
- 4.2. It is agreed that all worldwide rights including all worldwide Intellectual Property Rights in the Developments shall automatically vest in and be the exclusive property of RIM immediately on its creation and regardless of the stage of its completion. To the extent that any such rights have not or do not automatically vest in RIM hereunder, (i) Employee hereby assigns and conveys (and if necessary, agrees to assign and convey) all such rights to RIM to the extent permissible by applicable law or otherwise, (ii) Employee holds them in trust for RIM to the extent and for the duration that they have not fully vested or transferred to RIM, and (iii) RIM may, at its discretion, take such steps as it deems reasonably appropriate to secure and perfect its Intellectual Property Rights in the Developments anywhere in the world.
- 4.3. Without limiting the forgoing, Employee hereby also acknowledges and agrees that RIM is and shall be the exclusive owner of all Confidential Information and RIM Property including all tangible personal property Developed by Employee (whether wholly or partly and whether individually or in collaboration with others) in the course of Employee's employment with or engagement by RIM or in performing duties specifically assigned to Employee, whether during normal working hours or not.

5. Waiver Of Moral Rights

Employee agrees to waive and hereby waives unconditionally and irrevocably any and all Employee's moral rights and rights of a similar nature which Employee now or in the future may have in the Confidential Information, RIM Property and Developments (including rights in existing works and works which may come into existence after the date hereof) in which copyright may subsist in any or all jurisdictions around the world, to the extent that such rights may be waived in each respective jurisdiction. Without limiting the generality of the foregoing, this waiver extends to any and all acts of RIM or its Associates and acts of third persons done with the authority of any of them and their successors and assigns.

6. Disclosure Of Excluded Developments

To avoid any disputes regarding ownership of Excluded Developments, the Employee shall, subject to Section 8 (the Prior Employer and Third Party Information section) below, within five days following execution of this Agreement and, throughout the term of employment/engagement, within five days of having Developed any Intellectual Property that Employee believes to be an Excluded Development, provide RIM with a non-confidential general written description of any Excluded Developments specifying the reasons why such development (if any) is excluded. If the Employee fails to make this disclosure within the time specified, the Employee is deemed to have

Contraction and the contraction of the contraction			
 Electrical del dispersion del description del del description del del del del del del del del del del	The first control of the first control of the contr	TO THE PARTY OF TH	A. Maria A. and S
 Statistica businessassassas assess. Sura 	56 00 GO 60 ACTO 51 TO GO 601160 1	1 Maximum Collab. Addition 1	1 2000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	1 St. 30 St. 12 (1.15) St. 10 (1.15) St. 10 (1.15)	A. 10 M. 1. 10 M.	. i i i
		N. APPROCESS 134 N.O. 185 C. A. ASSACA	

CONTROLLER CONTROLLER. Presind report of the focusion on integrities organized a antimies focusion. Similarities of the most remot secretarial Handorisaan, 2006 Formerina to Motiva Lattica. His typis technique.



Employee Confidentiality and Intellectual Property Agreement

represented that any disclosure of Excluded Development within that time (if any) comprises the full extent of Employee's disclosure of Excluded Developments. No disclosure made under this Section 6 shall be binding on RIM and no action or inaction by RIM following receipt of such disclosure or becoming aware of any such developments shall waive limit, or release any rights that RIM may have in or to any such developments.

Employee Owned Excluded Developments

Employee agrees that Employee shall only use or incorporate or permit any other person to use or incorporate any Excluded Development into a RIM process, product, system, machine, service, Development or other RIM Property if Employee owns all Intellectual Property Rights in the Excluded Development, obtains RIM's prior written approval from a Vice President of RIM and waives all of Employee's moral rights and rights of a similar nature which Employee now or in the future may have in the Excluded Development in each jurisdiction around the world, to the extent that such rights may be waived. For any Excluded Development incorporated into any RIM process, product, system, machine, service, Development or other RIM Property Employee hereby grants at no charge to RIM and its Associates, a non-exclusive, irrevocable, non-terminable, perpetual, transferable, royalty-free, world-wide license, with the right to sublicense, to use, distribute, transmit, broadcast, produce, reproduce, perform including perform in public, communicate in or to the public, publish, practice, make, have made, self, offer to self, modify and made derivative works of, the Excluded Development and to otherwise exercise any Intellectual Property Right in the Excluded Development.

8. Prior Employer And Third Party Information

- 8.1. Employee agrees that during Employee's employment with or engagement by RIM:
 - 8.1.1. Employee will not use or disclose any trade secrets, confidential or proprietary information or works in which copyright subsists of any third party including any of Employee's former or current employers, partners, customers, or other business associates except as permitted by law or contract; and
 - 8.1.2. Employee will not, without RIM's prior written approval, bring onto RIM's premises unpublished documents (in print, electronic or any other recorded form) or any property belonging to any persons or entitles identified in clause 8.1.1 above except as permitted by law or contract.
- 8.2. Employee represents, warrants and covenants to RIM that any offer, acceptance and/or performance of employment/consultancy does not and shall not violate any agreement between Employee and any third party, including, without limitation, any employment/consulting agreement, non-competition agreement, non-solicitation agreement, or confidentiality agreement and that in hiring Employee RIM is not inducing Employee to breach any agreement between Employee and any such third party.

9. Further Acts

Employee hereby agrees to assist and to co-operate fully with RIM, both during and after Employee's employment with or engagement by RIM, and will, at RIM's expense, sign further documents and do such acts and other things reasonably requested by RIM to confirm and record (i) RIM's ownership of Developments and Confidential Information and RIM Property and (ii) the waiver of Employee's moral and other rights therein and to otherwise confirm Employee's obligations to RIM, and assist RIM to obtain registration or protection of, to enforce its rights in, and to enjoy the full and exclusive benefit of, the Confidential Information, Developments and RIM Property.

RIM CONFIDENTIAL	Company wide Gurárine	OBGP 6.51. 48.63.7	Prege diopio
- intensi tise Oray	Digitate d' Enternacy (C. 2016)	Owaec, Brace Frence	Approved by Ethabath Roy Platter

- COM (RCL), if C. CCROSE M. Surjed opper of the viographs are mandation of opies as a complete viscount. See Epistein for the main reservations of this discussed could? Secretar to Million Louise. All egits before it



Employee Confidentiality and Intellectual Property Agreement

10. Enforcement

- 10.1. Employee acknowledges and agrees that damages may not be an adequate remedy to compansate RIM for any breach of Employee's obligations under this Agreement, and accordingly agrees that in addition to any and all other remedies available, RIM shall be entitled to obtain relief by way of a temporary or permanent injunction or through other equitable relief to enforce these obligations without the requirement of posting a bond or other security or the requirement of providing proof of irreparable harm. Employee acknowledges the importance to RIM of the strict compliance with the terms of this Agreement and acknowledges that RIM's interest in the strict enforcement thereof will outweigh the balance of convenience or harm which Employee may suffer as a result of the strict enforcement of its obligations hereunder.
- 10.2. The Employee shall fully indemnify and hold harmless RIM in respect of any loss or damage cause by any breach of the terms of this Agreement by the Employee.
- 10.3. The Employee agrees that RIM Group Members are an intended third party beneficiary of this Agreement. Accordingly, Employee agrees that any RIM Group Member may enforce the terms of this Agreement against Employee and obtain any relief that may be available for the breach hereof including injunctive relief, damages, and an accounting of profits, but this Agreement shall not convey any Intellectual Property rights on any other third party.

11. Severability

In the event any or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement but (i) if permitted by applicable law, there shall be deemed substituted for the provision at issue a valid, legal and enforceable provision as similar as possible to the provision at issue, and (ii) if substitution is not permitted by applicable law, this Agreement shall be construed as if such invalid, illegal or unenforceable provision hed never been set forth herein, and the Agreement shall be carried out as nearly as possible according to its original terms and intent, and (iii) if and to the extent this Agreement is held to be invalid, illegal or unenforceable, or if this Agreement is construed as if such invalid, illegal or unenforceable, or if this Agreement or such provisions of any previous employee confidentiality and intellectual property agreement or agreements between RIM and Employee shall continue to apply with respect to the Agreement or such portions thereof that are held to be invalid, illegal or unenforceable, subject to the provisions of Section 14.2.

12. Counterparts

This Agreement may be executed by facsimile and in any number of counterparts, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same instrument.

13. Choice Of Law And Jurisdiction

13.1. The choice of law and jurisdiction provisions set out in the Offer Letter shall apply to this Agreement and shall prevail without regards to conflict of laws principles.

RMI COMPLEMENT Company and Guidewy	SOUP COLUMN 7	Flage 5 dFS
Historia Stan Cots Codated Estermey 17, 2016	Gwest Stoke States	Lagrance by Estapeth the Pfetter



Employee Confidentiality

and Intellectual Property Agreement

- 13.2. In the event that there is no choice of law provision set out in the Offer Letter or in the event there is no Offer Letter, this Agreement shall be governed by the laws of the place of incorporation of the RIM entity to whom the Employee is providing Employee's services.
- 13.3. In the event that there is no jurisdiction clause set out in the Offer Letter, or in the event there is no Offer Letter the parties hereto agree to submit all disputes arising out of or in connection with this Agreement to the Court located in the jurisdiction of place of domicile of the Employee.

14. Entire Agreement

- 14.1. This Agreement and Employee's Offer Letter set forth the entire agreement relating to the subject-matter hereof, and any other representations, promises, or conditions that are not in writing and accepted by both parties (electronically or by signing below) shall not be binding on either party. The terms and conditions of this Agreement shall survive termination of the employment or consulting relationship giving rise to this Agreement. The provisions of this Agreement shall be binding on Employee and his/her legal representative and on RIM and its successors and assigns. For clarity, nothing herein is intended to limit or derogate from any other obligation that Employee may owe to RIM under applicable law including under common law, equity, or contract.
- 14.2. Unless otherwise agreed in writing by both parties, to the extent of any conflicting provisions between this Agreement and (i) an Offer Letter, the terms of the Offer Letter shall prevail, and (ii) the provisions of any subsisting employee confidentiality and intellectual property agreement, the provisions of this Agreement shall prevail, in each case only to the extent of the conflict.

I acknowledge that, before signing this agreement (whether by indicating my acceptance electronically or by signing below), I was given an opportunity to read, evaluate, and discuss this Agreement with my counsel and personal advisors and with representatives of RIM. Having read and fully understood this agreement, I have executed this Agreement on the _____ day of _____, 20___.

SIGNED, SEALED AND DELIVERED on the 9	
day of, 20(<u>()</u> in the presence	/
Hacked /	(Seal)
Signature di Witness Signature d	i Employee
Bethany Maclead Cou	IND SEAMAN
Name of Witness (Print) Name of E	nployee (Print)
1-201 Queen St. F. Toronto, ON, MSA Address of Witness (Print)	1 52

\$35.00 \$ \$5.00 \$5.00 \$5.00 \$1.	1 - 15-25-27-35-25-25-35-35-35-35-35-35-35-35-35-35-35-35-35	F. 23. June A. 112.2
PORTURE DESCRIPTION Company progressions	\$ ARMONERSONS A	1 2,5385 0 05 at
- South the State Colly - Exposurer Exercises (7, 2019)	Cliveer Brade Fessel	Adjanished by Elicusosti Ride Printer

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)"):

WILLIS, Edward Snow, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada INGLIS, David Alan, 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada QADERI, Hashim Mohammad, 2200 University Ave. East, Waterloo, Ontario, N2K 0A7, Canada

HUTCHENS, Scott, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada TRAVERS, Christopher Scott, 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada SEAMAN, Conrad Delbert, 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada

am an/are inventor(s) of an invention entitled SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES ("Invention") for which one or more applications for patent, design registration, utility model registration, or other form of protection, rights, or title have been or will be made in certain countries ("Applications"), as further described below:

US Application # 16/054,004 filed 3 August 2018

AND WHEREAS, **BLACKBERRY LIMITED**, (hereinafter referred to as the "ASSIGNEE"), a company organized under the laws of the Province of Ontario, Canada, having a place of business at 2200 University Avenue East, Waterloo, Ontario, N2K 0A7, Canada, is desirous of acquiring the full and exclusive right, title and interest in and to said Invention, said Applications inclusive of all ancillary rights relating thereto, any and all priority rights derived from said Applications, and all patents, design registrations, utility model registrations and other forms of protection, rights and titles relating to said Invention, in any country or countries and in respect of the whole or any part or parts of or improvements to the Invention;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR(S) does/do hereby confirm that ASSIGNOR(S) has/have transferred, conveyed and assigned, and by way of further assurance does/do hereby transfer, convey and assign, any and all of ASSIGNOR(S)'s respective rights, title and interest in and to: the Invention; the Applications; inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patent, design registration, utility model registration or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Invention in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications

Page 1 of 8 V7.3

PATENT REEL: 047603 FRAME: 0857

("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Invention; the right in and to any patent or reissue patent relating to the Applications, Further Applications and Divisionals ("Grants"); and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Invention, Applications, Grants, Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this Worldwide Assignment; with the intent that the Invention, Applications, Grants, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR(S) does/do hereby agree, upon request, to provide assistance and to execute any and all further documents, at the expense of ASSIGNEE and/or its successors and assigns (as applicable), which may be necessary or desirable to enable ASSIGNEE, and/or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Invention, Applications, Further Applications, Divisionals, Grants and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR(S) further agrees/agree to execute, upon request and at the expense of ASSIGNEE and/or its successors and assigns (as applicable), any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR(S) does/do hereby authorize ASSIGNEE or its patent agents or attorneys to insert, above, the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

ASSIGNOR(S) does/do hereby authorize and request The Commissioner of Patents or any equivalent authority to issue to ASSIGNEE each and every patent, registration and other form of protection, right, and title granted upon the Applications, Further Applications, Divisionals and Extensions.

THIS WORLDWIDE ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns, and shall be binding upon ASSIGNOR(S) and their successors and permitted assigns.

DELIVERY of this Worldwide Assignment by copy, however transmitted, constitutes valid and effective delivery. This Worldwide Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

BlackBerry	Family	Ref. No.:	50468

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
WILLIS, Edward Snow 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada
STATEMENT BY WITNESS
I, whose full Post Office address is
(Address of Witness)
hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.
Date:(Signature of Witness)

Page 3 of 8

	Date:
INGLIS, David Alan 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada	
S	STATEMENT BY WITNESS
$I_{\bullet_{constraint}}$, whose full Post Office address is
I,	, whose full Post Office address is (Address of Witness)
hereby declare that I was personall	

Date: 0cf.5, 2018

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:

QAIJERI, Hashim Mohammad 2200 University Ave. East,

Waterloo, Ontario,

N2K 0A7, Canada

STATEMENT BY WITNESS

I, Evgueni Markine, whose full Post Office address is

163 Baldwin Dr. Cambridge, ON N3COB3

(Address of Witness)

hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.

(Signature of Witness)

Date: Oct 05, 2018

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
HUTCHENS, Scott 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada
STATEMENT BY WITNESS
I,, whose full Post Office address is
(Address of Witness)
hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.
Date: (Signature of Witness)

TNESS
TNESS
whose full Post Office address is
38)
he above named person, personally ignment, duly sign and execute same

	Date:
SEAMAN, Conrac 2115 Chalmers Ro Ottawa, Ontario, K1H 6K4, Canada	
	STATEMENT BY WITNESS
Ι,	whose full Post Office address is
Ι,	, whose full Post Office address is (Address of Witness)
nereby declare that	

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the

Page 8 of 8

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)"):

WILLIS, Edward Snow, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada INGLIS, David Alan, 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada QADERI, Hashim Mohammad, 2200 University Ave. East, Waterloo, Ontario, N2K 0A7, Canada

HUTCHENS, Scott, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada TRAVERS, Christopher Scott, 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada SEAMAN, Conrad Delbert, 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada

am an/are inventor(s) of an invention entitled SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES ("Invention") for which one or more applications for patent, design registration, utility model registration, or other form of protection, rights, or title have been or will be made in certain countries ("Applications"), as further described below:

US Application # 16/054,004 filed 3 August 2018

AND WHEREAS, BLACKBERRY LIMITED, (hereinafter referred to as the "ASSIGNEE"), a company organized under the laws of the Province of Ontario, Canada, having a place of business at 2200 University Avenue East, Waterloo, Ontario, N2K 0A7, Canada, is desirous of acquiring the full and exclusive right, title and interest in and to said Invention, said Applications inclusive of all ancillary rights relating thereto, any and all priority rights derived from said Applications, and all patents, design registrations, utility model registrations and other forms of protection, rights and titles relating to said Invention, in any country or countries and in respect of the whole or any part or parts of or improvements to the Invention;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR(S) does/do hereby confirm that ASSIGNOR(S) has/have transferred, conveyed and assigned, and by way of further assurance does/do hereby transfer, convey and assign, any and all of ASSIGNOR(S)'s respective rights, title and interest in and to: the Invention; the Applications; inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patent, design registration, utility model registration or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Invention in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications

Page 1 of 8 V7.3

PATENT REEL: 047603 FRAME: 0865

("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Invention; the right in and to any patent or reissue patent relating to the Applications, Further Applications and Divisionals ("Grants"); and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Invention, Applications, Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this Worldwide Assignment; with the intent that the Invention, Applications, Grants, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR(S) does/do hereby agree, upon request, to provide assistance and to execute any and all further documents, at the expense of ASSIGNEE and/or its successors and assigns (as applicable), which may be necessary or desirable to enable ASSIGNEE, and/or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Invention, Applications, Further Applications, Divisionals, Grants and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR(S) further agrees/agree to execute, upon request and at the expense of ASSIGNEE and/or its successors and assigns (as applicable), any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR(S) does/do hereby authorize ASSIGNEE or its patent agents or attorneys to insert, above, the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

ASSIGNOR(S) does/do hereby authorize and request The Commissioner of Patents or any equivalent authority to issue to ASSIGNEE each and every patent, registration and other form of protection, right, and title granted upon the Applications, Further Applications, Divisionals and Extensions.

THIS WORLDWIDE ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns, and shall be binding upon ASSIGNOR(S) and their successors and permitted assigns.

DELIVERY of this Worldwide Assignment by copy, however transmitted, constitutes valid and effective delivery. This Worldwide Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

Page 2 of 8

undersigned:	this Worldwide Assignme	nt has been e	executed be	low by the
WILLIS, Edward Snow	Date:			
WILLIS, Edward Snow 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada				
	fatement by witne		ost Office a	ddress is
	(Address of Witness)			* * * * * ****************************
hereby declare that I was personally known to me to be a person named	y present and did see the a in the Worldwide Assigni	bove named nent, duly si	person, per	sonally
herehy declare that I was nersonally	y present and did see the a in the Worldwide Assigni	bove named	person, per	sonally

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:

INGLIS, David Alan 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada Date: 5 19 2018

STATEMENT BY WITNESS

I, Lesley Inglis , whose full Post Office address is

493 Landswood (204 5) House of Witness)

hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.

(Signature of Witness)

Date: <u>Supt 19 2018</u>

Page 4 of 8

	BlackBerry	Family	Ref. No.:	50468
--	------------	--------	-----------	-------

IN WITNESS WHEREOF, this Worldwide Assignment undersigned:	ment has been executed below by the
*	
Date: QADERI, Hashim Mohammad	
2200 University Ave. East, Waterloo, Ontario, N2K 0A7, Canada	
STATEMENT BY	Y WITNESS
I ,	, whose full Post Office address is
(Address of V	Vitness)
hereby declare that I was personally present and dicknown to me to be a person named in the Worldwick	I see the above named person, personally le Assignment, duly sign and execute same.
(Signature of Witness)	Date:

373.5 V 3856			
BlackBerry	Marina Ixy	Dat Blas	Z11/12/0
131666 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 GHHILV	1 C1. 1 VV	JU408

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:	e
HUTCHENS, Scott 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada	
STATEMENT BY WITNESS I,, whose full Post Office address is	
(Address of Witness) hereby declare that I was personally present and did see the above named person, personally	
known to me to be a person named in the Worldwide Assignment, duly sign and execute same. Date: (Signature of Witness)	

Page 6 of 8

	Date:
TRAVERS, Christopher Scott 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada	
STATEMEN	NT BY WITNESS
, I,	, whose full Post Office address is
	whose full Post Office address is
(Address that I was personally present a	

IN WITNESS WHEREOF, undersigned:	, this Worldwide Assignment has been	executed below by the
	Date:	
SEAMAN, Conrad Delbert 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada		
S [*]	TATEMENT BY WITNESS	
Ĭ _s	whose full Po	ost Office address is
	(Address of Witness)	
hereby declare that I was personally known to me to be a person named i	present and did see the above named present and did see the above named print the Worldwide Assignment, duly sig	person, personally gn and execute same.
(Signature of Witness)	Date:	

Page 8 of 8

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)"):

WILLIS, Edward Snow, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada INGLIS, David Alan, 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada QADERI, Hashim Mohammad, 2200 University Ave. East, Waterloo, Ontario, N2K 0A7, Canada

HUTCHENS, Scott, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada TRAVERS, Christopher Scott, 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada SEAMAN, Conrad Delbert, 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada

am an/are inventor(s) of an invention entitled SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES ("Invention") for which one or more applications for patent, design registration, utility model registration, or other form of protection, rights, or title have been or will be made in certain countries ("Applications"), as further described below:

US Application # 16/054,004 filed 3 August 2018

AND WHEREAS, **BLACKBERRY LIMITED**, (hereinafter referred to as the "ASSIGNEE"), a company organized under the laws of the Province of Ontario, Canada, having a place of business at 2200 University Avenue East, Waterloo, Ontario, N2K 0A7, Canada, is desirous of acquiring the full and exclusive right, title and interest in and to said Invention, said Applications inclusive of all ancillary rights relating thereto, any and all priority rights derived from said Applications, and all patents, design registrations, utility model registrations and other forms of protection, rights and titles relating to said Invention, in any country or countries and in respect of the whole or any part or parts of or improvements to the Invention;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR(S) does/do hereby confirm that ASSIGNOR(S) has/have transferred, conveyed and assigned, and by way of further assurance does/do hereby transfer, convey and assign, any and all of ASSIGNOR(S)'s respective rights, title and interest in and to: the Invention; the Applications; inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patent, design registration, utility model registration or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Invention in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications

("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Invention; the right in and to any patent or reissue patent relating to the Applications, Further Applications and Divisionals ("Grants"); and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Invention, Applications, Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this Worldwide Assignment; with the intent that the Invention, Applications, Grants, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR(S) does/do hereby agree, upon request, to provide assistance and to execute any and all further documents, at the expense of ASSIGNEE and/or its successors and assigns (as applicable), which may be necessary or desirable to enable ASSIGNEE, and/or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Invention, Applications, Further Applications, Divisionals, Grants and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR(S) further agrees/agree to execute, upon request and at the expense of ASSIGNEE and/or its successors and assigns (as applicable), any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR(S) does/do hereby authorize ASSIGNEE or its patent agents or attorneys to insert, above, the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

ASSIGNOR(S) does/do hereby authorize and request The Commissioner of Patents or any equivalent authority to issue to ASSIGNEE each and every patent, registration and other form of protection, right, and title granted upon the Applications, Further Applications, Divisionals and Extensions.

THIS WORLDWIDE ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns, and shall be binding upon ASSIGNOR(S) and their successors and permitted assigns.

DELIVERY of this Worldwide Assignment by copy, however transmitted, constitutes valid and effective delivery. This Worldwide Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:

Date: 12 Sear 2018

WILLIS, Edward Snow

1001 Farrar Road,

Kanata, Ontario,

K2K 0B3. Canada

STATEMENT BY WITNESS

hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.

	s Worldwide Assignment l	nas been executed below by the
undersigned:		
(o.)		
	Date:	· · · · · · · · · · · · · · · · · · ·
INGLIS, David Alan 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada		
	STATEMENT BY WIT	NESS
I,		, whose full Post Office address is
	(Address of Witnes	e)
	(riddress of Willies	3)
		ne above named person, personally ignment, duly sign and execute same.
(Signature of Witness)	Date:	

IN WITNESS WHEREOF, this undersigned:	Worldwide Assignment has been executed below by the
8	
	Date:
QADERI, Hashim Mohamma 2200 University Ave. East, Waterloo, Ontario, N2K 0A7, Canada	* ** ** ** ** ** ** ** ** ** ** ** ** *
	STATEMENT BY WITNESS
Ι,	, whose full Post Office address is
	(Address of Witness)
hereby declare that I was person known to me to be a person name	nally present and did see the above named person, personally ned in the Worldwide Assignment, duly sign and execute same.
*	Date:
(Signature of Witness)	

IN WITNESS WH undersigned:	EREOF, this Worldwide Assignment has been execu	ted below by the
	Date:	
HUTCHENS, Scott 1001 Farrar Road,		
Kanata, Ontario, K2K 0B3, Canada		,
	STATEMENT BY WITNESS	
. I.,	, whose full Post Of	fice address is
	(Address of Witness)	
	personally present and did see the above named person n named in the Worldwide Assignment, duly sign and	
(Floretheo of Witness)	Date:	
(Signature of Witness)		

Page 6 of 8

	, this Worldwide Assignment has been executed below by t
undersigned:	
	Date:
TRAVERS, Christopher Scott	
868 Rob Roy Avenue, Ottawa, Ontario,	
K2B 8S6,	
Canada	

· · · · · · · · · · · · · · · · · · ·	STATEMENT BY WITNESS
~	
*	
*	whose full Post Office address is
*	
*	whose full Post Office address is
*	, whose full Post Office address is
I,	whose full Post Office address is (Address of Witness)
l,hereby declare that I was personali	whose full Post Office address is (Address of Witness) ly present and did see the above named person, personally
l,hereby declare that I was personali	whose full Post Office address is (Address of Witness)
l,hereby declare that I was personali	whose full Post Office address is (Address of Witness) ly present and did see the above named person, personally
hereby declare that I was personall known to me to be a person named	whose full Post Office address is (Address of Witness) ly present and did see the above named person, personally
hereby declare that I was personall known to me to be a person named	, whose full Post Office address is (Address of Witness) ly present and did see the above named person, personally 1 in the Worldwide Assignment, duly sign and execute same
hereby declare that I was personall known to me to be a person named	whose full Post Office address is (Address of Witness) ly present and did see the above named person, personally lin the Worldwide Assignment, duly sign and execute same
hereby declare that I was personall known to me to be a person named	whose full Post Office address is (Address of Witness) ly present and did see the above named person, personally l in the Worldwide Assignment, duly sign and execute same

IN WITNESS WHEREOF, this undersigned:	Worldwide Assignment has been executed below by the
	Date:
SEAMAN, Conrad Delbert 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada	
	e e
STAT	EMENT BY WITNESS
I,	, whose full Post Office address is
	· · · · · · · · · · · · · · · · · · ·
(2	Address of Witness)
	esent and did see the above named person, personally he Worldwide Assignment, duly sign and execute same.
(Signature of Witness)	Date:
ä	

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)"):

WILLIS, Edward Snow, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada INGLIS, David Alan, 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada QADERI, Hashim Mohammad, 2200 University Ave. East, Waterloo, Ontario, N2K 0A7, Canada

HUTCHENS, Scott, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada TRAVERS, Christopher Scott, 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada SEAMAN, Conrad Delbert, 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada

am an/are inventor(s) of an invention entitled SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES ("Invention") for which one or more applications for patent, design registration, utility model registration, or other form of protection, rights, or title have been or will be made in certain countries ("Applications"), as further described below:

US Application # 16/054,004 filed 3 August 2018

AND WHEREAS, BLACKBERRY LIMITED, (hereinafter referred to as the "ASSIGNEE"), a company organized under the laws of the Province of Ontario, Canada, having a place of business at 2200 University Avenue East, Waterloo, Ontario, N2K 0A7, Canada, is desirous of acquiring the full and exclusive right, title and interest in and to said Invention, said Applications inclusive of all ancillary rights relating thereto, any and all priority rights derived from said Applications, and all patents, design registrations, utility model registrations and other forms of protection, rights and titles relating to said Invention, in any country or countries and in respect of the whole or any part or parts of or improvements to the Invention;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR(S) does/do hereby confirm that ASSIGNOR(S) has/have transferred, conveyed and assigned, and by way of further assurance does/do hereby transfer, convey and assign, any and all of ASSIGNOR(S)'s respective rights, title and interest in and to: the Invention; the Applications; inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patent, design registration, utility model registration or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Invention in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications

Page 1 of 8 V7.3

PATENT REEL: 047603 FRAME: 0881

("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Invention; the right in and to any patent or reissue patent relating to the Applications, Further Applications and Divisionals ("Grants"); and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Invention, Applications, Grants, Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this Worldwide Assignment; with the intent that the Invention, Applications, Grants, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR(S) does/do hereby agree, upon request, to provide assistance and to execute any and all further documents, at the expense of ASSIGNEE and/or its successors and assigns (as applicable), which may be necessary or desirable to enable ASSIGNEE, and/or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Invention, Applications, Further Applications, Divisionals, Grants and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR(S) further agrees/agree to execute, upon request and at the expense of ASSIGNEE and/or its successors and assigns (as applicable), any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR(S) does/do hereby authorize ASSIGNEE or its patent agents or attorneys to insert, above, the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

ASSIGNOR(S) does/do hereby authorize and request The Commissioner of Patents or any equivalent authority to issue to ASSIGNEE each and every patent, registration and other form of protection, right, and title granted upon the Applications, Further Applications, Divisionals and Extensions.

THIS WORLDWIDE ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns, and shall be binding upon ASSIGNOR(S) and their successors and permitted assigns.

DELIVERY of this Worldwide Assignment by copy, however transmitted, constitutes valid and effective delivery. This Worldwide Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

Page 2 of 8

IN WITNESS WHEREOF, this undersigned:	Worldwide Assignm	ent has been executed below	by the
	Date:		
WILLIS, Edward Snow 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada			
STAT	TEMENT BY WITNE	SS	
I,		whose full Post Office addres	ssis
(Address of Witness)		
hereby declare that I was personally proknown to me to be a person named in the			
(Signature of Witness)	Date:		

BlackBerry	Family	Ref	No.	50468
	A STATE OF THE PERSON OF	1. 6 6 1. 1		

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
INGLIS, David Alan 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada
STATEMENT BY WITNESS
I,, whose full Post Office address is
(Address of Witness)
hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.
(Signature of Witness)

Page 4 of 8

BlackBerry Family Ref. No.: 5	50468
-------------------------------	-------

ADERI, Hashim Mohai	Date:nmad
0 University Ave. East terloo, Ontario, K 0A7, nada	
	STATEMENT BY WITNESS
I,	, whose full Post Office address is
	(Address of Witness)
	ersonally present and did see the above named person, personally named in the Worldwide Assignment, duly sign and execute same.

IN undersigne	WITNESS WHEREOF, this Worldwide Assignment has been executed below by the
HUTCHE	NS, Scott
1001 Farr Kanata, O K2K 0B3, Canada	ntario,
	STATEMENT BY WITNESS
Į,	whose full Post Office address is
-tunnin	(Address of Witness)
hereby decl known to n	are that I was personally present and did see the above named person, personally see to be a person named in the Worldwide Assignment, duly sign and execute same.
(Signature)	Date:
tosemento,	4 TV ALLEGES ;

Page 6 of 8

Date: 5ept 16,2016

IN WITNESS WHERI	EOF, this Worldwi	de Assignment has	been executed	below by the
undersigned:				

TRAVERS, Christopher Scott 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada

STATEMENT BY WITNESS

Ι,	Aide	Keough	, whose full Post Office address is
		010	
<u></u>	866	Kdo Koy	Avenue (Address of Witness)

hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.

(Signature of Witness)

Date: 16th Sept. 2018

IN WITNESS WHEREOF, this Worl undersigned:	dwide Assignment has been executed below by the
	Date:
SEAMAN, Conrad Delbert 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada	
STATEME	NT BY WITNESS
I,	, whose full Post Office address is
(Addres	ss of Witness)
	so or without
hereby declare that I was personally present a known to me to be a person named in the Wo	and did see the above named person, personally rldwide Assignment, duly sign and execute same.
	Date:
(Signature of Witness)	

Page 8 of 8

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)"):

WILLIS, Edward Snow, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada INGLIS, David Alan, 492 Landswood Way, Stittsville, Ontario, K2S 0A5, Canada QADERI, Hashim Mohammad, 2200 University Ave. East, Waterloo, Ontario, N2K 0A7, Canada

HUTCHENS, Scott, 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada TRAVERS, Christopher Scott, 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada SEAMAN, Conrad Delbert, 2115 Chalmers Road, Ottawa, Ontario, K1H 6K4, Canada

am an/are inventor(s) of an invention entitled **SYSTEM AND METHOD FOR CONTROLLING UPDATES TO INTERNET-OF-THINGS DEVICES** ("Invention") for which one or more applications for patent, design registration, utility model registration, or other form of protection, rights, or title have been or will be made in certain countries ("Applications"), as further described below:

US Application # 16/054,004 filed 3 August 2018

AND WHEREAS, **BLACKBERRY LIMITED**, (hereinafter referred to as the "ASSIGNEE"), a company organized under the laws of the Province of Ontario, Canada, having a place of business at 2200 University Avenue East, Waterloo, Ontario, N2K 0A7, Canada, is desirous of acquiring the full and exclusive right, title and interest in and to said Invention, said Applications inclusive of all ancillary rights relating thereto, any and all priority rights derived from said Applications, and all patents, design registrations, utility model registrations and other forms of protection, rights and titles relating to said Invention, in any country or countries and in respect of the whole or any part or parts of or improvements to the Invention;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR(S) does/do hereby confirm that ASSIGNOR(S) has/have transferred, conveyed and assigned, and by way of further assurance does/do hereby transfer, convey and assign, any and all of ASSIGNOR(S)'s respective rights, title and interest in and to:

Page 1 of 9

the Invention; the Applications; inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patent, design registration, utility model registration or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Invention in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications ("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Invention; the right in and to any patent or reissue patent relating to the Applications, Further Applications and Divisionals ("Grants"); and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Invention, Applications, Grants, Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this Worldwide Assignment; with the intent that the Invention, Applications, Grants, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR(S) does/do hereby agree, upon request, to provide assistance and to execute any and all further documents, at the expense of ASSIGNEE and/or its successors and assigns (as applicable), which may be necessary or desirable to enable ASSIGNEE, and/or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Invention, Applications, Further Applications, Divisionals, Grants and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR(S) further agrees/agree to execute, upon request and at the expense of ASSIGNEE and/or its successors and assigns (as applicable), any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR(S) does/do hereby authorize ASSIGNEE or its patent agents or attorneys to insert, above, the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

ASSIGNOR(S) does/do hereby authorize and request The Commissioner of Patents or any equivalent authority to issue to ASSIGNEE each and every patent, registration and other form of protection, right, and title granted upon the Applications, Further Applications, Divisionals and Extensions.

Page 2 of 9

THIS WORLDWIDE ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns, and shall be binding upon ASSIGNOR(S) and their successors and permitted assigns.

DELIVERY of this Worldwide Assignment by copy, however transmitted, constitutes valid and effective delivery. This Worldwide Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

Page 3 of 9

	Date:	
VILLIS, Edward Snow	5	
101 Farrar Road, anata, Ontario,		
2K 0B3,		
nada		
	STATEMENT BY WITNESS	
I ₂ ,	, whose fu	ıll Post Office addres
***************************************	(Address of Witness)	
reby declare that I was perso		ned person, personal
reby declare that I was pers	(Address of Witness) onally present and did see the above na	ned person, personal y sign and execute sa
reby declare that I was pers	(Address of Witness) onally present and did see the above na	ned person, personal
reby declare that I was pers	(Address of Witness) onally present and did see the above na	ned person, personal y sign and execute sa
reby declare that I was pers	(Address of Witness) onally present and did see the above nanned in the Worldwide Assignment, dul	ned person, personal y sign and execute sa
reby declare that I was perso	(Address of Witness) onally present and did see the above na	ned person, personal y sign and execute sa
reby declare that I was person na	(Address of Witness) onally present and did see the above nanned in the Worldwide Assignment, dul	ned person, personal y sign and execute sa
reby declare that I was person na	(Address of Witness) onally present and did see the above nanned in the Worldwide Assignment, dul	ned person, personal y sign and execute sa
reby declare that I was person na	(Address of Witness) onally present and did see the above nanned in the Worldwide Assignment, dul	ned person, personal y sign and execute sa

	Date:
NGLIS, David Alan	
92 Landswood Way, tittsville, Ontario,	
2S 0A5,	
anada	
	STATEMENT BY WITNESS
	STATEMENT DI WITINESS
Ť	, whose full Post Office address
8	
	(Address of Witness)
ereby declare that I was	
	(Address of Witness)
	(Address of Witness) s personally present and did see the above named person, personally
nown to me to be a per	(Address of Witness) s personally present and did see the above named person, personally
nown to me to be a per	(Address of Witness) s personally present and did see the above named person, personally son named in the Worldwide Assignment, duly sign and execute sar
nown to me to be a per	(Address of Witness) s personally present and did see the above named person, personally
nown to me to be a per	(Address of Witness) s personally present and did see the above named person, personally son named in the Worldwide Assignment, duly sign and execute sar
nown to me to be a per	(Address of Witness) s personally present and did see the above named person, personally son named in the Worldwide Assignment, duly sign and execute sar

	Date:
ADERI, Hashim Mo 200 University Ave. I Vaterloo, Ontario, I2K 0A7, Canada	ohammad
	STATEMENT BY WITNESS
Ĩ, <u></u>	, whose full Post Office address is
	(Address of Witness)
,	(Address of Witness)
	(Address of Witness) Tas personally present and did see the above named person, personally erson named in the Worldwide Assignment, duly sign and execute sam
	as personally present and did see the above named person, personally
nown to me to be a ρε	as personally present and did see the above named person, personally erson named in the Worldwide Assignment, duly sign and execute sam Date:
	as personally present and did see the above named person, personally erson named in the Worldwide Assignment, duly sign and execute sam Date:

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date: Scott
HUTCHENS, Scott 1001 Farrar Road, Kanata, Ontario, K2K 0B3, Canada
STATEMENT BY WITNESS
I, Davie Rivera , whose full Post Office address is
44 of Fraser, Galinau 37 H 2 H / (Address of Witness)
(Address of Witness)
hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.
Date: Sept 12 2018 (Signature of Witness)

IN WITNESS WHEREO undersigned:	F, this Worldwide Assignr	nent has been executed below by the
	Date:	
TRAVERS, Christopher Scott 868 Rob Roy Avenue, Ottawa, Ontario, K2B 8S6, Canada		::
	STATEMENT BY WITN	NESS
J.,	3	_, whose full Post Office address is
	(Address of Witness)
		e above named person, personally gnment, duly sign and execute same.
(Signature of Witness)	*	
Page 8 of 9		
V7:3		

TT 3 3 6 6 5 7 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3	Date:	
SEAMAN, Conrad Delbert 1115 Chalmers Road,	*	
Ottawa, Ontario,		
K1H 6K4,		
Canada		
K)	STATEMENT BY WITNESS	
	ner men verbrussen och men kristiske i sem i der i 1000 derbiske billiotek billiotek billiotek	
3	5	
l,	, whose fi	ull Post Office address is
l,	whose fi	ull Post Office address is
1,		ull Post Office address is
l,	(Address of Witness)	ull Post Office address is
l,		ull Post Office address is
	(Address of Witness)	** */
ereby declare that I was person.		med person, personally
ereby declare that I was person.	(Address of Witness) ally present and did see the above na	med person, personally
ereby declare that I was person.	(Address of Witness) ally present and did see the above na	med person, personally ly sign and execute sam
ereby declare that I was person.	(Address of Witness) ally present and did see the above na	med person, personally ly sign and execute sam
ereby declare that I was person.	(Address of Witness) ally present and did see the above na ed in the Worldwide Assignment, du	med person, personally ly sign and execute sam
ereby declare that I was persona nown to me to be a person nam	(Address of Witness) ally present and did see the above na	med person, personally ly sign and execute sam
ereby declare that I was persona nown to me to be a person nam	(Address of Witness) ally present and did see the above na ed in the Worldwide Assignment, du Date:	med person, personally ly sign and execute sam
ereby declare that I was persona nown to me to be a person nam	(Address of Witness) ally present and did see the above na ed in the Worldwide Assignment, du Date:	med person, personally ly sign and execute sam
ereby declare that I was personant nown to me to be a person name so be a person name for the second	(Address of Witness) ally present and did see the above na ed in the Worldwide Assignment, du Date:	med person, personally ly sign and execute sam

PATENT REEL: 047603 FRAME: 0897

RECORDED: 11/20/2018