504346465 05/01/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4393153

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BRADFORD LAWRENCE SPENCER	03/28/2017
JANET KORI MACCARA	03/28/2017
SHILADITYA SIRCAR	03/28/2017
BORIS ROZINOV	03/29/2017
MARC-ANDRE VACHON	03/29/2017

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:	15467865

CORRESPONDENCE DATA

Fax Number: (778)329-0752

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.

Email: ipmailvancouver@blg.com

Correspondent Name: BORDEN LADNER GERVAIS LLP

Address Line 1: 1200 WATERFRONT CENTRE, 200 BURRARD STR.

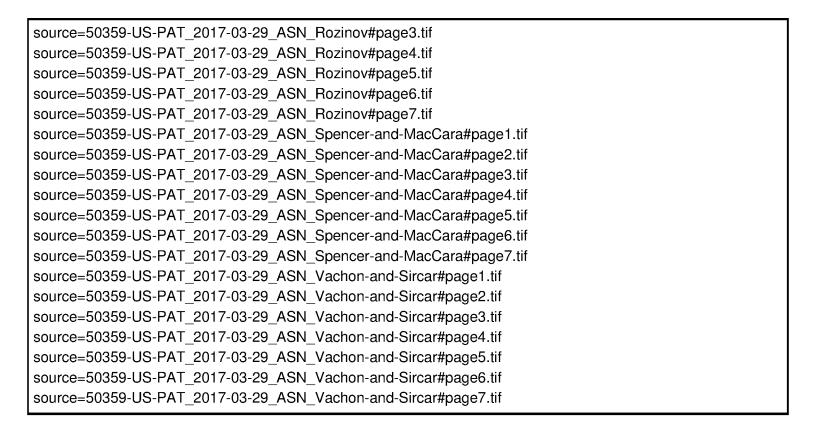
Address Line 4: VANCOUVER, CANADA V7X 1T2

ATTORNEY DOCKET NUMBER:	PAT 103990-2
NAME OF SUBMITTER:	ANETT FABIAN
SIGNATURE:	/Anett Fabian/
DATE SIGNED:	05/01/2017

Total Attachments: 21

source=50359-US-PAT_2017-03-29_ASN_Rozinov#page1.tif source=50359-US-PAT_2017-03-29_ASN_Rozinov#page2.tif

PATENT 504346465 REEL: 042381 FRAME: 0828



PATENT REEL: 042381 FRAME: 0829

WORLDWIDE ASSIGNMENT

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

Bradford Lawrence SPENCER, 79 Sheeba Drive, Hammonds Plains, Nova Scotia, B4B 0E3, Canada

Janet Kori MACCARA, 15 Western Parkway, Suite 100 E, Bedford, NS, B4B 0V1, Canada Shiladitya SIRCAR, 1001 Farrar Road, Kanata, ON, K2K 0B3, Canada Boris ROZINOV, 4701 Tahoe Blvd, Mississauga, ON, L4W 0B5, Canada Marc-Andre VACHON, 1001 Farrar Road, Kanata, ON K2K 0B3, Canada

am an/are inventor(s) of an invention entitled APPARATUS AND METHOD FOR MAINTAINING MESSAGE DATABASES IN EVENTUAL CONSISTENCY DISTRIBUTED DATABASE SYSTEMS ("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:

United States Application No. 15/467865 filed on March 23, 2017

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

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PATENT REEL: 042381 FRAME: 0830

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 7 V7.3

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
79 Sheeba Drive Hammonds Plains, Nova Scotia, B4B 0E3, 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 3 of 7

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Janet Kori MACCARA 15 Western Parkway, Suite 100 E Bedford, NS, B4B 0V1, Canada
STATEMENT BY WITNESS
I,, whose full Post Office address is
(Address of Witness)
(Address of wimess)
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 7

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
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 5 of 7

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date: 03/29/2017 Boris ROZINOV 4701 Tahoe Blvd Mississauga, ON, L4W 0B5, Canada
STATEMENT BY WITNESS
I, <u>Elena boroo</u> , whose full Post Office address is
61A Drewry Ave, Toronto, ON, M2 M 409 (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: <u>03/29/20/</u> (Signature of Witness)

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
Marc-Andre VACHON 1001 Farrar Road Kanata, ON 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)

WORLDWIDE ASSIGNMENT

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

Bradford Lawrence SPENCER, 79 Sheeba Drive, Hammonds Plains, Nova Scotia, B4B 0E3, Canada

Janet Kori MACCARA, 15 Western Parkway, Suite 100 E, Bedford, NS, B4B 0V1, Canada Shiladitya SIRCAR, 1001 Farrar Road, Kanata, ON, K2K 0B3, Canada Boris ROZINOV, 4701 Tahoe Blvd, Mississauga, ON, L4W 0B5, Canada Marc-Andre VACHON, 1001 Farrar Road, Kanata, ON K2K 0B3, Canada

am an/are inventor(s) of an invention entitled APPARATUS AND METHOD FOR MAINTAINING MESSAGE DATABASES IN EVENTUAL CONSISTENCY DISTRIBUTED DATABASE SYSTEMS ("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:

United States Application No. 15/467865 filed on March 23, 2017

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

Page 1 of 7 V7.3

PATENT REEL: 042381 FRAME: 0837 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.

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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:

Byadford/Lawrqqce/SPENCER

Date: MARCH 28,2017

pyanioro/Lawrence Sr.c.N 79 Sheeba Drive//

Hammonds Plains, Nova Scotia, B4B 0E3, Canada

STATEMENT BY WITNESS

I, Pail Medinski, whose full Post Office address is

269 Starboard Or. Halifax, NS B3M 4V4
(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: 2017/03/28

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

Janet Kori MACCARA

15 Western Parkway, Suite 100 E Bedford, NS, B4B 0V1, Canada

Date: March 28, 2017

STATEMENT BY WITNESS

I, Paul Medynsk', whose full Post Office address is 269 Starboard O. Halifax, NS B3M 4V4
(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: $\frac{2017/03/28}{}$

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
Shiladitya SIRCAR 1001 Farrar Road Kanata, ON, 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:

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
Boris ROZINOV 4701 Tahoe Blvd Mississauga, ON, L4W 0B5, 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:

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Marc-Andre VACHON 1001 Farrar Road Kanata, ON K2K 0B3, Canada
STATEMENT BY WITNESS
I,
(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)

WORLDWIDE ASSIGNMENT

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

Bradford Lawrence SPENCER, 79 Sheeba Drive, Hammonds Plains, Nova Scotia, B4B 0E3, Canada

Janet Kori MACCARA, 15 Western Parkway, Suite 100 E, Bedford, NS, B4B 0V1, Canada Shiladitya SIRCAR, 1001 Farrar Road, Kanata, ON, K2K 0B3, Canada Boris ROZINOV, 4701 Tahoe Blvd, Mississauga, ON, L4W 0B5, Canada Marc-Andre VACHON, 1001 Farrar Road, Kanata, ON K2K 0B3, Canada

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Page 1 of 7 V7.3

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.

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Page 2 of 7 V7.3

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date:
Bradford Lawrence SPENCER 79 Sheeba Drive Hammonds Plains, Nova Scotia, B4B 0E3, 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 3 of 7

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Janet Kori MACCARA 15 Western Parkway, Suite 100 E Bedford, NS, B4B 0V1, 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 4 of 7 V7.3

IN WITNESS WHEREOF, this Worldwide undersigned:	Assignment has been executed below by the
Shiladitya SIRCAR 1001 Farrar Road Kanata, ON, K2K 0B3, Canada	Date: March 28th 2017
STATEM	ENT BY WITNESS
I. Any Adems	, whose full Post Office address is
loui Faren Road, Karate (Add	100 K2K OB3 , CANADA ress of Witness)
	t and did see the above named person, personally forldwide Assignment, duly sign and execute same.
(Signature of Witness)	Date: <u>Morch</u> 28 114

Page 5 of 7

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date: Boris ROZINOV 4701 Tahoe Blvd Mississauga, ON, L4W 0B5, 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 7

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:
Date: Mar 29, 2017 Marc-Andre VACHON 1001 Farrar Road Kanata, ON K2K 0B3, Canada
STATEMENT BY WITNESS
I,whose full Post Office address is
138 Spiritwood Drive, KIMBAZ, OHRWG
(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: Mar 29, 2017
(Signature of witness)

Page 7 of 7

RECORDED: 05/01/2017