

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT3749297

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
RAZIK S. AHMED	12/14/2015
TIMOTHY J. FISHER	12/14/2015
AARON D. FRY	12/14/2015
NIKOLAS IOANNOU	12/14/2015
JASON MA	12/11/2015
MATTHEW R. ORR	12/11/2015
ROMAN A. PLETKA	12/11/2015
LINCOLN T. SIMMONS	12/11/2015
SASA TOMIC	12/11/2015
RECEIVING PARTY DATA	
Name:	INTERNATIONAL BUSINESS MACHINES CORPORATION
Street Address:	NEW ORCHARD ROAD
City:	ARMONK
State/Country:	NEW YORK
Postal Code:	10504
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15047942
CORRESPONDENCE DATA	
Fax Number:	
<i>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.</i>	
Phone:	512-343-6116
Email:	stephanie@russellnglaw.com
Correspondent Name:	RUSSELL NG PLLC
Address Line 1:	8729 SHOAL CREEK BLVD., SUITE 100
Address Line 4:	AUSTIN, TEXAS 78757
ATTORNEY DOCKET NUMBER:	SJO920150089US1
NAME OF SUBMITTER:	MICHAEL R. LONG

SIGNATURE:	/Michael R. Long/
DATE SIGNED:	02/22/2016
Total Attachments: 5 source=SJO920150089US1_Assignment-Declaration_executed#page1.tif source=SJO920150089US1_Assignment-Declaration_executed#page2.tif source=SJO920150089US1_Assignment-Declaration_executed#page3.tif source=SJO920150089US1_Assignment-Declaration_executed#page4.tif source=SJO920150089US1_Assignment-Declaration_executed#page5.tif	

**DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN
APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT**

TITLE: GARBAGE COLLECTION TECHNIQUES FOR A DATA STORAGE SYSTEM

As a below named inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☐ United States application or PCT international application number _____ filed
on _____.

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 have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

Whereas, the undersigned inventor(s) has/have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation, a corporation of New York having a place of business at Armonk, New York (herein referred to as "IBM"), desires to acquire, and each undersigned inventor desires to grant to IBM, the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor ("ASSIGNOR") hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to IBM (the "ASSIGNEE"), its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, each undersigned inventor hereby authorizes and requests the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to IBM, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by IBM, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by

the undersigned had this Assignment not been made; and each undersigned inventor agrees to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, in IBM, its successors, legal representatives, and assigns, whenever requested by IBM, its successors, legal representatives, or assigns.

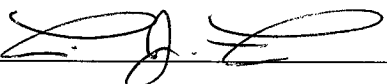
Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to IBM and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants IBM, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

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.

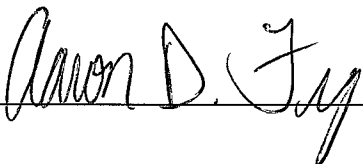
(1) Legal Name of Inventor: **RAZIK S. AHMED**

Signature:  Date: 12/14/15

(2) Legal Name of Inventor: **TIMOTHY J. FISHER**

Signature:  Date: 12-14-15

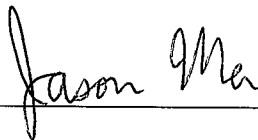
(3) Legal Name of Inventor: **AARON D. FRY**

Signature:  Date: 12-14-15

(4) Legal Name of Inventor: **NIKOLAS IOANNOU**

Signature: _____ Date: _____

(5) Legal Name of Inventor: **JASON MA**

Signature:  Date: 12/11/15

(6) Legal Name of Inventor: **MATTHEW R. ORR**

Signature:  Date: 12/11/15

(7) Legal Name of Inventor: **ROMAN A. PLETKA**

Signature: _____ Date: _____

(8) Legal Name of Inventor: **LINCOLN T. SIMMONS**

Signature:  Date: 12/11/15

(9) Legal Name of Inventor: **SASA TOMIC**

Signature: _____ Date: _____

IBM DOCKET NUMBER: **SJ0920150089US1**

the undersigned had this Assignment not been made; and each undersigned inventor agrees to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the invention and all related patents and applications, in IBM, its successors, legal representatives, and assigns, whenever requested by IBM, its successors, legal representatives, or assigns.

Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to IBM and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants IBM, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

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.

(1) Legal Name of Inventor: **RAZIK S. AHMED**

Signature: _____ Date: _____

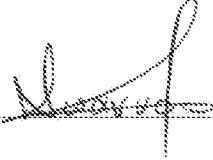
(2) Legal Name of Inventor: **TIMOTHY J. FISHER**

Signature: _____ Date: _____

(3) Legal Name of Inventor: **AARON D. FRY**

Signature: _____ Date: _____

(4) Legal Name of Inventor: **NIKOLAS IOANNOU**

Signature:  _____ Date: 12/11/2015

(5) Legal Name of Inventor: JASON MA

Signature: _____ Date: _____

(6) Legal Name of Inventor: MATTHEW R. ORR

Signature: _____ Date: _____

(7) Legal Name of Inventor: ROMAN A. PLETKA

Signature: Roman A. Pletka Date: 12/11/2015

(8) Legal Name of Inventor: LINCOLN T. SIMMONS

Signature: _____ Date: _____

(9) Legal Name of Inventor: SASA TOMIC

Signature: Sasa Tomic Date: 12/11/2015