PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3792091

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SHAWN D LUNDVALL	11/01/2013
ERIC M SCHWARZ	10/31/2013
RONALD M SMITH SR	11/06/2013
PHIL C YEH	11/03/2013

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:	15075355		

CORRESPONDENCE DATA

Fax Number: (845)432-9601

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: 845-433-1175

Email: poiplaw2@us.ibm.com

Correspondent Name: INTERNATIONAL BUSINESS MACHINES CORPORAT

Address Line 1: IPLAW DEPARTMENT / BLDG 008-2
Address Line 2: 2455 SOUTH ROAD - MS P386

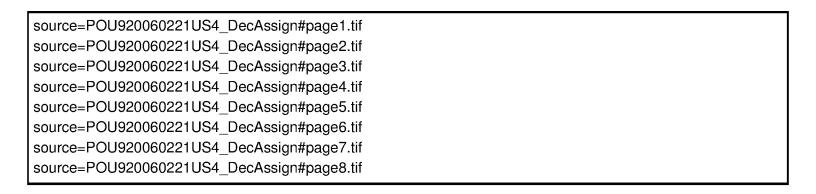
Address Line 4: POUGHKEEPSIE, NEW YORK 12601

NAME OF SUBMITTER: WILLIAM A. KINNAMAN, JR. SIGNATURE: /William A. Kinnaman, Jr./ DATE SIGNED: 03/21/2016	
, ,	
DATE SIGNED: 03/21/2016	
This document serves as an Oath/Declaration (37 CFR 1.63).	

Total Attachments: 8

PATENT REEL: 038047 FRAME: 0333

503745446



PATENT REEL: 038047 FRAME: 0334

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 of Shift Significand of Decimal Floating Point Data

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 _____ 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

Page 1 of 2

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.

(i) Legal Name of Inventor: Shawn D. Lundvall	
Signature: 1900 O. Royald	Date: _//// 3 p l3
(2) Legal Name of Inventor: Eric M. Schwarz	
Signature:	Date:
(3) Legal Name of Inventor: Ronald M. Smith Sr.	
Signature: (see attached Substitute Statement	Date:
(2) Legal Name of Inventor: Phil C. Yeh	
Signature:	Date:

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 of Shift Significand of Decimal Floating Point Data

As a below named inventor, I hereby declare that:

en de la company

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

[] United States application or PCT international application number _____
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

Page 1 of 2

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: Shawn D. Lundvall	
Signature:	Date:
(2) Legal Name of Inventor: Eric M. Schwarz	·
Signature:	Date: 10/3//13
(3) Legal Name of Inventor: Ronald M. Smith Sr.	
Signature: (see attached Substitute Statement	Date:
(2) Legal Name of Inventor: Phil C. Yeh	
Signature:	Date:

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 of Shift Significand of Decimal Floating Point Data

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 ______
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, recxaminations, 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

Page 1 of 2

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.

Signature:	Date:
(2) Legal Name of Inventor: Eric M. Schwarz	
Signature:	Date:
(3) Legal Name of Inventor: Ronald M. Smith Sr.	
Signature: (see attached Substitute Statement	Date:
(2) Legal Name of Inventor. Phil C. Ych	
Signature: Ail C. Joh	

Doc code: Oath

Document Description: Oath or declaration filed

PTC/AIA/02 (07-13)

Approved for use through 01/31/2014. OM8 0851-0032

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid DMB confrol number. U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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

Title of Invention	Shift Significand of De	cimal Floating F	Point Data		
1	nt is directed to:		***************************************		
OR	The second secon				
United S	tates application or PCT intern	national application nu	ımber	filed or	1
LEGAL NAM	ME of inventor to whom the	is substitute state	anilane trame		***************************************
Ronald	Name (first and middle (if any)) M. Smith Sr.	and Family Name or	Sumame)		
Residence (ex	cept for a deceased or legally	incapacitated invento	or):	***************************************	00000 Termo000000000000000000000000000000000000
Zity	(except for a deceased or legally	State	Cre	iotry	
ity		State		Zip	Country
believe the at in the applic	oove-named inventor or joint in ation.	The state of the s			THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE OWN
te above-ider	ntified application was made or	authorized to be ma	de by me.		
nereby acknow imprisonmer	wledge that any willful false sta nt of not more than five (5) yea	itement made in this : irs, or both.	statement is pun	ishable under 18 U.S.	C. 1001 by fine or
lelationship to	the inventor to whom this sub	estitute statement app	lies:		Managara da managara da a sa da da
Legal	Representative (for deceased	or legally incapacitat	ed inventor only	ki	
Assign				•	
- consideration	n to whom the inventor is unde				
Person	n who otherwise shows a suffi nventor.	cient proprietary inter	est in the matter	(petition under 37 CFI	R 1.46 is required), or
***************************************	***************************************	(Dona 1 n	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		

[Page 1 of 2]

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

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

U.S. Palent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:					
Inventor is deceased,					
Inventor is under legal incapacity,					
Inventor cannot be found or reached	after diligent effort, or				
Inventor has refused to execute the o	ath or declaration unde	er 37 CFR 1.63.			
If there are joint inventors, please check the a	ppropriate box below:				
An application data sheet under 37 C or is currently submitted.	:FR 1.76 (PTO/AIA/14 c	r equivalent) naming the entli	re inventive entity has been		
OR An application data sheet under 37 C Statement Supplemental Sheet (PTC information is attached. See 37 CFR	D/AIA/11 or equivalent)				
	WARNING:	**************************************	Pospalabosececoceccinosacocecececececentiivitacocentenentanana		
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.					
PERSON EXECUTING THIS SUBSTITUTE STATEMENT:					
Pryor A. Garnett, Reg. 32136 Date (Optional): 2013-11-06					
Signature: Pu A Ga-					
APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:					
If the applicant is a juristic entity, list the applicant name and the title of the signer: International Business Machines Corporation Applicant Name:					
Title of Person Executing This Substitute Statement: Senior Counsel The signer, whose title is supplied above, is authorized to act on behalf of the applicant.					
The signer, whose title is supplied above, is aut Residence of the signer (unless provided in	horized to act on benar an application data st	of the applicant. set. PTO/AIA/14 or equivals	ent):		
City Portland	State OR	Country US			
Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent) 1385 Amberglen Parkway					
	State OR	_{Zip} 97006	Country US		
Note: Use an additional PTO/AIA/02 form for ea			annot be found or reached		

[Page 2 of 2]

REEL: 038047 FRAME: 0342