

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5421996

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
BRIAN D. BARRICK	03/28/2016
JAMES W. BISHOP	03/29/2016
MARCY E. BYERS	03/29/2016
SUNDEEP CHADHA	03/28/2016
CLIFF KUCHARSKI	03/28/2016
DUNG Q. NGUYEN	03/29/2016
DAVID R. TERRY	03/28/2016
JING ZHANG	03/03/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	INTERNATIONAL BUSINESS MACHINES CORPORATION
<b>Street Address:</b>	NEW ORCHARD ROAD
<b>City:</b>	ARMONK
<b>State/Country:</b>	NEW YORK
<b>Postal Code:</b>	10504
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16353398
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(512)472-9887
<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>	
<b>Phone:</b>	512-472-9881
<b>Email:</b>	hanna@klspatents.com
<b>Correspondent Name:</b>	IBM (ROC-KLS)
<b>Address Line 1:</b>	301 CONGRESS AVENUE
<b>Address Line 2:</b>	SUITE 1350
<b>Address Line 4:</b>	AUSTIN, TEXAS 78701
<b>ATTORNEY DOCKET NUMBER:</b>	ROC920150369US02
<b>NAME OF SUBMITTER:</b>	HANNA KIM/13540/
<b>SIGNATURE:</b>	/13540/

PATENT

<b>DATE SIGNED:</b>	03/14/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).
<b>Total Attachments: 12</b> source=ROC920150369US02_Assign-Dec#page1.tif source=ROC920150369US02_Assign-Dec#page2.tif source=ROC920150369US02_Assign-Dec#page3.tif source=ROC920150369US02_Assign-Dec#page4.tif source=ROC920150369US02_Assign-Dec#page5.tif source=ROC920150369US02_Assign-Dec#page6.tif source=ROC920150369US02_Assign-Dec#page7.tif source=ROC920150369US02_Assign-Dec#page8.tif source=ROC920150369US02_Assign-Dec#page9.tif source=ROC920150369US02_Assign-Dec#page10.tif source=ROC920150369US02_Assign-Dec#page11.tif source=ROC920150369US02_Assign-Dec#page12.tif	

IBM DOCKET NUMBER: ROC920150369US1

DECLARATION (37 C.F.R. § 1.63) FOR UTILITY PATENT APPLICATION USING AN  
APPLICATION DATA SHEET (37 C.F.R. § 1.76) AND ASSIGNMENTTitle of Invention: OPERATION OF A MULTI-SLICE PROCESSOR IMPLEMENTING A  
HARDWARE LEVEL TRANSFER OF AN EXECUTION THREAD

As a below named and undersigned 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 C.F.R. § 1.56.Whereas, I ("ASSIGNOR") 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 (herein referred to as the "ASSIGNEE"), a  
corporation of New York having a place of business at Armonk, New York, desires to acquire, and I  
desire to grant to the ASSIGNEE, my 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, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have  
transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my 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, I hereby authorize and request 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 the ASSIGNEE, its successors, legal representatives, and assigns, my  
entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, 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 me had this  
Assignment not been made; and I agree 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 the ASSIGNEE, its successors, legal representatives, and assigns,  
whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

IBM DOCKET NUMBER: ROC930150369US1

I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, his 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 recitation 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: BRIAN D. BARRICK

Signature:  Date: 3/29/2016


(2) Legal Name of Inventor: JAMES W. BISHOP

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(3) Legal Name of Inventor: MARCY E. BYERS

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

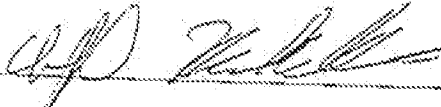
(4) Legal Name of Inventor: SUNDEEP CHADHA

Signature:  Date: 3/28/2016


[IF MORE INVENTORS, ADDITIONAL SIGNATURE PAGE(S) FOLLOWS]

ISM DOCKET NUMBER: ROC930150369US1

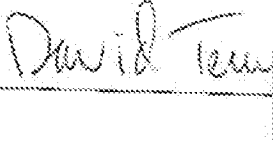
(5) Legal Name of Inventor: CLIFF KUCHARSKI

Signature:  Date: 3/28/16

(6) Legal Name of Inventor: DUNG Q. NGUYEN

Signature:  Date: 3/29/2016

(7) Legal Name of Inventor: DAVID R. TERRY

Signature:  Date: 3-28-2016

(8) Legal Name of Inventor: JING ZHANG

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

IBM DOCKET NUMBER: ROC920150369US1

**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 invention: **OPERATION OF A MULTI-SLICE PROCESSOR IMPLEMENTING A  
HARDWARE LEVEL TRANSFER OF AN EXECUTION THREAD**

As a below named and undersigned 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 C.F.R. § 1.56.

Whereas, I ("ASSIGNOR") 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 (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed therefor;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my 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, I hereby authorize and request 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 the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, 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 me had this Assignment not been made; and I agree 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 the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

IBM DOCKET NUMBER: ROC920150369US1

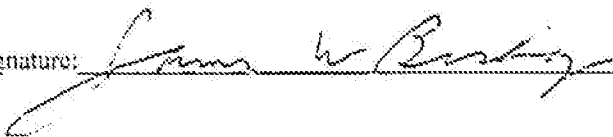
I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, 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: BRIAN D. BARRICK

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(2) Legal Name of Inventor: JAMES W. BISHOP

Signature:  \_\_\_\_\_ Date: 3-27-2016

(3) Legal Name of Inventor: MARCY E. BYERS

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(4) Legal Name of Inventor: SUNDEEP CHADHA

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

[IF MORE INVENTORS, ADDITIONAL SIGNATURE PAGE(S) FOLLOWS]

IBM DOCKET NUMBER: ROC920150369US1

(5) Legal Name of Inventor: CLIFF KUCHARSKI

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(6) Legal Name of Inventor: DUNG Q. NGUYEN

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(7) Legal Name of Inventor: DAVID R. TERRY

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(8) Legal Name of Inventor: JING ZHANG

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 Invention: **OPERATION OF A MULTI-SLICE PROCESSOR IMPLEMENTING A  
HARDWARE LEVEL TRANSFER OF AN EXECUTION THREAD**

As a below named and undersigned 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 C.F.R. § 1.56.

Whereas, I ("ASSIGNOR") 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 (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my 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, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my 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, I hereby authorize and request 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 the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, 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 me had this Assignment not been made; and I agree 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 the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, 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: **BRIAN D. BARRICK**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(2) Legal Name of Inventor: **JAMES W. BISHOP**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(3) Legal Name of Inventor: **MARCY E. BYERS**

Signature: Marcy Byers Date: 3/29/10

(4) Legal Name of Inventor: **SUNDEEP CHADHA**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**[IF MORE INVENTORS, ADDITIONAL SIGNATURE PAGE(S) FOLLOWS]**

(5) Legal Name of Inventor: **CLIFF KUCHARSKI**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(6) Legal Name of Inventor: **DUNG Q. NGUYEN**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(7) Legal Name of Inventor: **DAVID R. TERRY**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(8) Legal Name of Inventor: **JING ZHANG**

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 Invention: **OPERATION OF A MULTI-SLICE PROCESSOR IMPLEMENTING A  
HARDWARE LEVEL TRANSFER OF AN EXECUTION THREAD**

As a below named and undersigned 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 C.F.R. § 1.56.

Whereas, I ("ASSIGNOR") 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 (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my 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, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my 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, I hereby authorize and request 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 the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, 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 me had this Assignment not been made; and I agree 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 the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, 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: **BRIAN D. BARRICK**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(2) Legal Name of Inventor: **JAMES W. BISHOP**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(3) Legal Name of Inventor: **MARCY E. BYERS**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(4) Legal Name of Inventor: **SUNDEEP CHADHA**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**[IF MORE INVENTORS, ADDITIONAL SIGNATURE PAGE(S) FOLLOWS]**

(5) Legal Name of Inventor: CLIFF KUCHARSKI

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(6) Legal Name of Inventor: DUNG Q. NGUYEN

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(7) Legal Name of Inventor: DAVID R. TERRY

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(8) Legal Name of Inventor: JING ZHANG

Signature:  \_\_\_\_\_ Date: 3/30/16