503825707 05/13/2016

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3872357

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
AJAY A. DESHPANDE	05/12/2016
SAURABH GUPTA	05/11/2016
ARUN HAMPAPUR	05/12/2016
ALAN J. KING	05/11/2016
ALI KOC	05/12/2016
YINGJIE LI	05/12/2016
XUAN LIU	05/12/2016
CHRISTOPHER S. MILITE	05/11/2016
BRIAN L. QUANZ	05/12/2016
CHEK KEONG TAN	05/11/2016
DAHAI XING	05/12/2016
XIAOBO ZHENG	05/12/2016

#### **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:	15154119

#### **CORRESPONDENCE DATA**

**Fax Number:** (516)742-4366

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.

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Address Line 2: SUITE 300

503825707 REEL: 038698 FRAME: 0153

PATENT -

Address Line 4: GARDEN CITY, NEW YORK 11530		
ATTORNEY DOCKET NUMBER:	YOR920160391US1 (33323)	
NAME OF SUBMITTER:	PAUL J. ESATTO, JR.	
SIGNATURE:	/Paul J. Esatto, Jr./	
DATE SIGNED:	05/13/2016	
This document serves as an Oath/Declaration (37 CFR 1.63).		

#### **Total Attachments: 36**

source=YOR920160391US1\_Declaration\_Assignment#page1.tif source=YOR920160391US1\_Declaration\_Assignment#page2.tif source=YOR920160391US1 Declaration Assignment#page3.tif source=YOR920160391US1 Declaration Assignment#page4.tif source=YOR920160391US1 Declaration Assignment#page5.tif source=YOR920160391US1 Declaration Assignment#page6.tif source=YOR920160391US1 Declaration Assignment#page7.tif source=YOR920160391US1 Declaration Assignment#page8.tif source=YOR920160391US1 Declaration Assignment#page9.tif source=YOR920160391US1\_Declaration\_Assignment#page10.tif source=YOR920160391US1\_Declaration\_Assignment#page11.tif source=YOR920160391US1 Declaration Assignment#page12.tif source=YOR920160391US1 Declaration Assignment#page13.tif source=YOR920160391US1\_Declaration\_Assignment#page14.tif source=YOR920160391US1 Declaration Assignment#page15.tif source=YOR920160391US1 Declaration Assignment#page16.tif source=YOR920160391US1 Declaration Assignment#page17.tif source=YOR920160391US1\_Declaration\_Assignment#page18.tif source=YOR920160391US1 Declaration Assignment#page19.tif source=YOR920160391US1 Declaration Assignment#page20.tif source=YOR920160391US1 Declaration Assignment#page21.tif source=YOR920160391US1\_Declaration\_Assignment#page22.tif source=YOR920160391US1 Declaration Assignment#page23.tif source=YOR920160391US1 Declaration Assignment#page24.tif source=YOR920160391US1 Declaration Assignment#page25.tif source=YOR920160391US1 Declaration Assignment#page26.tif source=YOR920160391US1\_Declaration\_Assignment#page27.tif source=YOR920160391US1 Declaration Assignment#page28.tif source=YOR920160391US1 Declaration Assignment#page29.tif source=YOR920160391US1 Declaration Assignment#page30.tif source=YOR920160391US1\_Declaration\_Assignment#page31.tif source=YOR920160391US1 Declaration Assignment#page32.tif source=YOR920160391US1 Declaration Assignment#page33.tif source=YOR920160391US1 Declaration Assignment#page34.tif source=YOR920160391US1\_Declaration\_Assignment#page35.tif source=YOR920160391US1 Declaration Assignment#page36.tif

> PATENT REEL: 038698 FRAME: 0154

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT LOAD ACROSS RETAIL SUPPLY NETWORKS

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

Page 1 of 3

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: AJAY A. DESHPANDE		
Signature: A Sept parale	_ Date:	2016-05-12
(2) Legal Name of Inventor: SAURABH GUPTA		
Signature:	Date:	
(3) Legal Name of Inventor: ARUN HAMPAPUR		
Signature:	_ Date:	
(4) Legal Name of Inventor: ALAN J. KING		
Signature:	_ Date:	
(5) Legal Name of Inventor: ALI KOC		
Signature:	_ Date:	
(6) Legal Name of Inventor: YINGJIE LI		
Signature	Date:	

(7) Legal Name of Inventor: XUAN LIU		
Signature:	Date:	_
(8) Legal Name of Inventor: CHRISTOPHER S. MILITE		
Signature:	Date:	
(9) Legal Name of Inventor: BRIAN L. QUANZ		
Signature:	Date:	_
(10) Legal Name of Inventor: CHEK KEONG TAN		
Signature:	Date:	_
(11) Legal Name of Inventor: <b>DAHAI XING</b>		
Signature:	Date:	_
(12) Legal Name of Inventor: XIAOBO ZHENG		
Signatura	Doto	

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT LOAD ACROSS RETAIL SUPPLY NETWORKS

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;

known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

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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.

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(1) Legal Name of Inventor: AJAY A. DESHPANDE		
Signature:	Dates	<del>- Talangara da da <u>da da ara</u> ara ara</del> ara
	Date:	05/11/10
(3) Legal Name of Inventor: ARUN HAMPAPUR	•	
Signature:	Date:	arteriario esta e secumental amb proposa de monte interpreta de la compania de la compania de la compania de l
(4) Legal Name of Inventor: ALAN J. KING		
Signature:	Dáte:	
(5) Legal Name of Inventor: ALI KOC		
Signature:	Date:	ngermannet mannet — erroll i mind alder hinds saktistik help fish der bestemme (
(6) Legal Name of Inventor: YINGJIE LI		
Signature:	Date:	

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Signatura	Dotor

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Signature:		Date:	
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Signature:	Arun' H	Date:	05/12/2016
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Signature:	Date:
(4) Legal Name of Inventor: ALAN J. KING	
Signature: Ala IV.	Date: 11 May 2016
(5) Legal Name of Inventor: ALI KOC	
Signature:	Date:
(6) Legal Name of Inventor: YINGJIE LI	
Signature:	Date:

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Signature	Doto

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT LOAD ACROSS RETAIL SUPPLY NETWORKS

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Signature:	Date:
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Signature:	Date:
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Signature:	Date:
(4) Legal Name of Inventor: ALAN J. KING	
Signature:	Date:
(5) Legal Name of Inventor: ALI KOC	
Signature: Al Keez	Date: May 12, 2016
(6) Legal Name of Inventor: YINGJIE LI	
Signature:	Date:

(7) Legal Name of Inventor: XUAN LIU	
Signature:	Date;
(8) Legal Name of Inventor: CHRISTOPHER S. MILITE	
Signature:	Date:
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Signature:	Date:
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Signature:	Date:
(11) Legal Name of Inventor: DAHAI XING	
Signature:	Date:
(12) Legal Name of Inventor: XIAOBO ZHENG	
Simmaton	<b></b> .

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED

CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT

LOAD ACROSS RETAIL SUPPLY NETWORKS

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Page 1 of 3

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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: AJA Y A. DESHPANDE	
Signature:	Date:
(2) Legal Name of Inventor: SAURABH GUPTA	,
Signature:	Date;
(3) Legal Name of Inventor: ARUN HAMPAPUR	
Signature:	Date:
(4) Legal Name of Inventor: ALAN J. KING	
Signature:	Date:
(5) Legal Name of Inventor: ALI KOC	
Signature:	Date:
(6) Legal Name of Inventor: YINGJIE LI	1 11.
Signature:	

(7) Legal Name of Inventor: XUAN LIU	
Signature:	Date:
(8) Legal Name of Inventor: CHRISTOPHER S. MILITE	
Signature:	Date:
(9) Legal Name of Inventor: BRIAN L. QUANZ	
Signature:	Date:
(10) Legal Name of Inventor: CHEK KEONG TAN	
Signature:	Date:
(11) Legal Name of Inventor: DAHAI XING	
Signature:	Date:
(12) Legal Name of Inventor: XIAOBO ZHENG	
Signature	Dates

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT LOAD ACROSS RETAIL SUPPLY NETWORKS

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 numberfiled 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.
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Signature: Mi	Date:	05/12/16
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Signature:	Date:	<del></del> .
(11) Legal Name of Inventor: DAHAI XING		
Signature:	Date:	
(12) Legal Name of Inventor: XIAOBO ZHENG		
Signatura	Dota	

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT LOAD ACROSS RETAIL SUPPLY NETWORKS

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Signature:	Date:	. <del></del>
(2) Legal Name of Inventor: SAURABH GUPTA		
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(6) Legal Name of Inventor: YINGJIE LI		
Signature:	Date:	

(7) Longil Name of Inventor, XUAN LIU	
8) gnature:	Date:
(8) Legal Name of Inventor: CHRISTOPHER S. MILITE  Signature: Mustyle & Milks	Date: 5/37/20/6
(9) Legal Name of Inventor: BRIAN L. QUANZ	
Signature:	Date!
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Signature:	Date: 3
(11) Legal Name of Inventor: DAHAI XING	
Signature:	Date:
(12) Legal Name of Inventor: XIAOBO ZHENG	
*Signature:	Date:

Page 3 of 3

PATENT

REEL: 038698 FRAME: 0178

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT LOAD ACROSS RETAIL SUPPLY NETWORKS

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
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;
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Signature:	Date:
(2) Legal Name of Inventor: SAURABH GUPTA	
Signature:	Date:
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Signature:	Date:
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Signature	Date

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Signature;	Date:
(8) Legal Name of Inventor: CHRISTOPHER S. MILITE	
Signature:	Date:
(9) Legal Name of Inventor: BRIAN L. QUANZ	~11.3 % A
Signature: Buy Juan	$\sum_{\text{Date:}} \frac{5/12/2016}{5}$
(10) Legal Name of Inventor: CHEK KEONG TAN	
Signature:	Date:
(11) Legal Name of Inventor: DAHAI XING	
Signature:	Date:
(12) Legal Name of Inventor: XIAOBO ZHENG	
Signature	Dates

Page 3 of 3

PATENT REEL: 038698 FRAME: 0181

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED

CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT
LOAD ACROSS RETAIL SUPPLY NETWORKS

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;

known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

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Signature: San Chele Means	Date:	05/11/2016
(11) Legal Name of Inventor: <b>DAHAI XING</b>		
Signature:	Date:	
(12) Legal Name of Inventor: XIAOBO ZHENG		
Signature	Date	

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED
CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT
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Signature:	Date:	<u>-</u>
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Signature:		Date:	
(10) Legal Name of Inventor: CHEK K	CEONG TAN		
Signature:		Date:	
(11) Legal Name of Inventor: <b>DAHAI</b>	YTNC		
Signature:		D. O. O. /	12/2016
		Date: S O f	<u>'                                    </u>
(12) Legal Name of Inventor: XIAOBO	VZERAC		
(12) Logar Ivalie of Inventor, AIAOBO	LILING		
Signature:		Date	

Title of Invention: A SYSTEM AND METHOD TO INCORPORATE CUSTOMIZED CAPACITY UTILIZATION COST IN BALANCING FULFILLMENT LOAD ACROSS RETAIL SUPPLY NETWORKS

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(1) I and Name of Inventors A TAX A DECITE ANDE

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(7) Legal Name of Inventor: XUAN LIU	
Signature:	Date:
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(10) Legal Name of Inventor: CHEK KEONG TAN	
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(11) Legal Name of Inventor: <b>DAHAI XING</b>	•
Signature:	Date:
(12) Legal Name of Inventor: XIAOBO ZHENG	
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