PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SENTHILNATHAN NATARAJAN	08/28/2018
CHANDER GOVINDARAJAN	08/28/2018
MANISH SETHI	08/28/2018
ADARSH SARAF	08/28/2018

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:	16116239

CORRESPONDENCE DATA

Fax Number: (866)415-0983

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: 972-849-1310

Email: mzarinelli@proactivepatents.com
Correspondent Name: PROACTIVE PATENTS LLC
Address Line 1: 955 GARDEN PARK DRIVE

Address Line 2: STE 230

Address Line 4: ALLEN, TEXAS 75013

ATTORNEY DOCKET NUMBER:	P201805500BUS01
NAME OF SUBMITTER:	RAFFI GOSTANIAN
SIGNATURE:	/Raffi Gostanian/
DATE SIGNED:	08/29/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).
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Total Attachments: 4

PATENT REEL: 046741 FRAME: 0686 source=P201805500BUS01_SignedDeclarationAssignment#page1.tif source=P201805500BUS01_SignedDeclarationAssignment#page2.tif source=P201805500BUS01_SignedDeclarationAssignment#page3.tif source=P201805500BUS01_SignedDeclarationAssignment#page4.tif

> PATENT REEL: 046741 FRAME: 0687

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

CHECKPOINTING FOR INCREASING EFFICIENCY OF A BLOCKCHAIN

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As a below named and undersigned inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following	g box is checked):
[X] United States application or PCT international application number	16116239
filed on August 29, 2018.	

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.

Page 1 of 2

Exercise Control of Proceedings

Sugranus N. Sand Lake	No. 28-AVA-2018
(1) Legal Name of Investor Seathfraction Saturation	
Service	Programme and the second
(2) Legal Name of Energies Chander Greindarapas	
	Date
Co. Legal National Consider Manage School	
	Dia
- Alexandra Sarah	

IBM DOCKET NUMBER: P201805500BUS01

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.

Signature:		Date:	
(1) Legal Name of Inventor	:: Senthilnathan Natarajan		
Signature:		Date:	
(2) Legal Name of Inventor			
Signature:	Janis L	Date:	12018
(3) Legal Name of Inventor			
Signature:		Date:	

(4) Legal Name of Inventor: Adarsh Saraf

IBM DOCKET NUMBER: P201805500BUS01

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: Senthiluathan Natarajan Signature: Date: 25 - AvG - 2018 (2) Legal Name of Inventor: Chander Govindarajan Signature: Date:	Signature:			Date:_	
(2) Legal Name of Inventor: Chander Govindarajan Signature: Date: (3) Legal Name of Inventor: Manish Sethi	(i) Legal Name of	Inventor: Senthilnathan Nata	rajan		
Signature: Date:	Signature:	100 de la companya della companya della companya della companya de la companya della companya de		Date:	28-AVG-2018
Signature: Date:	(2) Legal Name of	Inventor: Chander Govindar:	ijan		
(3) Legal Name of Inventor: Manish Sethi					
(3) Legal Name of Inventor: Manish Sethi					
	Signature:			Date:	
	(3) Legal Name of	Inventor: Manish Sethi			
ad at 2000					
Signature: Date:	Signature:	Adoush Yord		Date:	28 - AVG- 2018
(4) Legal Name of Inventor: Adarsh Saraf		Singaptor Adapsh Saraf			

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