PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5925103

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DAN FILE	07/16/2019
HAO LIU	07/16/2019
RAJESH KANNA DURAIRAJ	07/16/2019
PETER TERRANA	07/16/2019

RECEIVING PARTY DATA

Name:	CAPITAL ONE SERVICES, LLC
Street Address:	1680 CAPITAL ONE DRIVE
City:	MCLEAN
State/Country:	VIRGINIA
Postal Code:	22102

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16750245

CORRESPONDENCE DATA

Fax Number: (312)463-5001

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: (312) 463-5000

Email: bwptopat@bannerwitcoff.com BANNER & WITCOFF, LTD. **Correspondent Name:** Address Line 1: 71 SOUTH WACKER DRIVE

Address Line 2: **SUITE 3600**

Address Line 4: CHICAGO, ILLINOIS 60606

ATTORNEY DOCKET NUMBER:	009033.00162
NAME OF SUBMITTER:	ANTONIETTA ANDERSON
SIGNATURE:	/Antonietta Anderson/
DATE SIGNED:	01/23/2020
	This document serves as an Oath/Declaration (37 CFR 1.63).
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Total Attachments: 4

source=Combined Declaration and Assignment - Terrana#page1.tif source=Combined Declaration and Assignment - Liu#page1.tif source=Combined Declaration and Assignment - File#page1.tif source=Combined Declaration and Assignment - Durairaj#page1.tif

Attorney Docket No. 009033.00045 (Client Ref.: IDF4448)

COMBINED PATENT DECLARATION AND ASSIGNMENT

TITLE OF INVENTION:	CHANGE N ENVIRONN		DETECTION F	FOR A CLOUD COMPUTING
		DECLARATI	ON	
As the below named invent	or, I hereby de			
 This declaration is directed to: 	⊠ Th	ne attached application	, or	
		nited States application		tional application n
I believe that I am fI hereby acknowled	ed application the original inv dge that any w	was made or authoriz ventor or an original jo	ed to be made loint inventor of made in this dec	
		ASSIGNME	NT	
WHEREAS, I, the below nam application number and filir		Assignor, have invente	d the above inv	ention, having the following
U.S. Applic	cation No	16/514,406	, filed	July 17, 2019
If the above lines are blank, number immediately above				ert the filing date and application is document.
WHEREAS, Capital One Services, LLC ("Assignee"), a Corporation having offices and a place of business at 1680 Capital One Drive, McLean, Virginia 22102, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:				
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary and/or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions.				
I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment.				
I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.				
INVENTOR/ASSIGNOR:				
Legal Name: P	eter Terrana		l One Drive, M	IcLean, Virginia 22102
Signature:	Peter	Signed by:	Dat	re:7/16/2019

Attorney Docket No. 009033.00045 (Client Ref.: IDF4448)

COMBINED PATENT DECLARATION AND ASSIGNMENT

TITLE OF INVENTION:	CHANGE MONITORIN ENVIRONMENT	G AND DETECTION FO	OR A CLOUD COMPUTING
	DEC	LARATION	
As the below named invent	or, I hereby declare that:		
 This declaration is directed to: 	oxtimes The attached ap	plication, or	
		plication or PCT internat	ional application
 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 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. 			
	ASS	IGNMENT	
WHEREAS , I, the below nan application number and filir	-	invented the above inve	ntion, having the following
U.S. Appli	cation No16/514,	406, filed	July 17, 2019
If the above lines are blank, number immediately above			ert the filing date and application s document.
WHEREAS, Capital One Services, LLC ("Assignee"), a Corporation having offices and a place of business at 1680 Capital One Drive, McLean, Virginia 22102, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:			
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary and/or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions.			
I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment.			
I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.			
INVENTOR/ASSIGNOR			
Legal Name: Hao Liu Hao Liu			
Address: c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102			
	DoSi		
Signature:	Hao Liu	Date	7/16/2019 e:

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Attorney Docket No. 009033.00045 (Client Ref.: IDF4448)

COMBINED PATENT DECLARATION AND ASSIGNMENT

TITLE OF INVENTION:	CHANGE MONITORING AND DETECTION FOR A CLOUD COMPUTING ENVIRONMENT	
	DECLARATION	
As the below named invento	or, I hereby declare that:	
 This declaration is directed to: 		
	United States application or PCT international application number	
I believe that I am tI hereby acknowled	d application was made or authorized to be made by me. he original inventor or an original joint inventor of a claimed invention in the application. ge that any willful false statement made in this declaration is punishable under 18 U.S.C. risonment of not more than five (5) years, or both.	
	ASSIGNMENT	
WHEREAS , I, the below nam application number and filin	ed Inventor/Assignor, have invented the above invention, having the following g date:	
U.S. Applic	ation No16/514,406, filedJuly 17, 2019	
	I hereby authorize the attorneys for Assignee to insert the filing date and application after they become known and prior to recording this document.	
One Drive, McLean, Virginia	ices, LLC ("Assignee"), a Corporation having offices and a place of business at 1680 Capital 22102, is desirous of acquiring the entire right, title and interest in and to the aforesaid applications and Letters Patent therefor granted in the United States of America, and in thereto:	
salary and/or payment for the hereby acknowledged, I said assigns and legal representa America and all countries for Letters Patent in foreign countries such applications are and in and to all applications reexaminations, continuations.	MIT MAY CONCERN, be it known that, for good and valuable consideration, including the making of inventions, or employee benefits, the receipt and sufficiency of which is Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, tives, the full and exclusive right, title and interest for the territory of the United States of reign thereto, and throughout the world and in space, (including the right to apply for intries in its own name and to claim any priority rights for such foreign applications to entitled under international conventions, treaties, or otherwise), in and to said inventions and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, ins, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks ill, trade secrets, confidential information, and compilations, necessary or useful to make,	
issue all Letters Patent on sa	est the Commissioner of Patents, and any official whose duty it is to issue patents, to id inventions or resulting therefrom to said Assignee, or its successors and assigns, as title and interest. I represent and warrant that I have full right to agree to, execute, and	
I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.		
INVENTOR/ASSIGNOR:		
Legal Name: D	an File al One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102	
Signature:	DocuSigned by: 7/16/2019 Date: 7/16/2019	

RECORDED: 01/23/2020

Attorney Docket No. 009033.00045 (Client Ref.: IDF4448)

COMBINED PATENT DECLARATION AND ASSIGNMENT

TITLE OF INVENTION:	CHANGE MONITORING AND DETECTION FOR A CLOUD COMPUTING ENVIRONMENT		
	DECLARATION		
As the below named invento			
 This declaration is directed to: 			
	☐ 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 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. 			
	ASSIGNMENT		
WHEREAS , I, the below namapplication number and filing	ed Inventor/Assignor, have invented the above invention, having the following g date:		
U.S. Applic	ation No16/514,406, filedJuly 17, 2019		
	l hereby authorize the attorneys for Assignee to insert the filing date and application after they become known and prior to recording this document.		
WHEREAS, Capital One Services, LLC ("Assignee"), a Corporation having offices and a place of business at 1680 Capital One Drive, McLean, Virginia 22102, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:			
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary and/or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions.			
I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment.			
I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.			
INVENTOR/ASSIGNOR:			
Legal Name: R	ajesh Kanna Durairaj al One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102		
Signature:	DocuSigned by: 7/16/2019 Date:		