504435544 06/28/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4482245

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SK KAJAL AREFIN IMON	06/22/2017
NAVID JALALI HERAVI	06/23/2017
IVAN MICHAEL BERG	06/27/2017
CONG CHEN	06/20/2017
FENG LIANG	06/20/2017
MICHAEL D. MOSHOFSKY	06/27/2017
DAVID GREGORY GRANT	06/23/2017

RECEIVING PARTY DATA

Name:	MICROSOFT TECHNOLOGY LICENSING, LLC	
Street Address:	ONE MICROSOFT WAY	
City:	REDMOND	
State/Country:	WASHINGTON	
Postal Code:	98052	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15621891

CORRESPONDENCE DATA

Fax Number: (509)755-7252

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.

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Email: usdocket@microsoft.com

Correspondent Name: WOLFE-SBMC

Address Line 1: 116 W. PACIFIC AVENUE

Address Line 2: SUITE 300

Address Line 4: SPOKANE, WASHINGTON 99201

ATTORNEY DOCKET NUMBER:	401550-US-NP	
NAME OF SUBMITTER:	CHRISTOPHER J. CULBERSON	
SIGNATURE:	/Christopher J. Culberson, Reg# 59136/	
DATE SIGNED:	06/28/2017	

504435544 PATENT REEL: 042850 FRAME: 0869

Total Attachments: 14 source=401550-US-NP Executed Assignments#page1.tif source=401550-US-NP Executed Assignments#page2.tif source=401550-US-NP Executed Assignments#page3.tif source=401550-US-NP Executed Assignments#page4.tif source=401550-US-NP Executed Assignments#page5.tif source=401550-US-NP Executed Assignments#page6.tif source=401550-US-NP Executed Assignments#page7.tif source=401550-US-NP Executed Assignments#page8.tif source=401550-US-NP Executed Assignments#page9.tif source=401550-US-NP Executed Assignments#page10.tif source=401550-US-NP Executed Assignments#page11.tif source=401550-US-NP Executed Assignments#page12.tif source=401550-US-NP Executed Assignments#page13.tif source=401550-US-NP Executed Assignments#page13.tif source=401550-US-NP Executed Assignments#page13.tif

PATENT REEL: 042850 FRAME: 0870

PATENT ASSIGNMENT		MS Docket No.: 401330-US-N
inventor of subject ma	tter ("INVENTION") disc	e original inventor or an original joir closed and/or claimed in a pater e responsible for Resource Usage
ASSIGNEE'S LLC., One M LEGAL REPI on the followi	legal representative, Mi icrosoft Way, Redmond, \ RESENTATIVES), to inser and given App ng Office	y authorizes, and requests, icrosoft Technology Licensing, Washington 98052 (ASSIGNEE'S rt here in parentheses (filed plication No by) this g date, and Office, when known;
	June 13, 2017 and was one by the following Office '	
behalf of itself and its suc of acquiring, the entire a priority, in the INVENTION derived therefrom, such a	cessors and assigns ("ASS and exclusive rights, title I and the APPLICATION (a as continuing application	shington limited liability company, or SIGNEE"), is entitled to, and is desirouse and interest, including the right or and all other applications and patents, in whole or in part, in and for the ries ("APPLICATION DERIVATIVES"));
•	•	, ASSIGNEE'S LEGAL REPRESENTATIVE
to insert the Application APPLICATION DERIVATIVE	•	ffice into the following table for ar
Application No.	Filing Date	Office

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

ZA . A 1	8 8
KA-	06/22/17
Inventor's Signature	Date
Sk Kajal Arefin IMON	(अध्य कावन कालिक देशन
Printed Name in English	Printed Name in Native Language
	(if other than English)

subject matter	("INVENTION") disclo		ntor or an original joint inventor of it application entitled " <u>Identifying a</u> h:
	representative, Micr Redmond, Washingto here in parenthese by th	NOR hereby authorizes, and osoft Technology Licensing, on 98052 (ASSIGNEE'S LEGAL Results of the control of the	LLC., One Microsoft Way, EPRESENTATIVES), to insert and given Application No
	was filed on <u>June 13, 2017</u> and was given Application No <u>15/621,891</u> by the following Office " <u>US</u> ";		
and its success exclusive rights (and all other a	ors and assigns ("ASS s, title and interest, inc pplications and patent for the United Sta	IGNEE"), is entitled to, and is of cluding the right of priority, in t its derived therefrom, such as co	liability company, on behalf of itself desirous of acquiring, the entire and he INVENTION and the APPLICATION ontinuing applications, in whole or in foreign countries ("APPLICATION
	., filing date, and Offic	•	GAL REPRESENTATIVES to insert the any APPLICATION DERIVATIVES after
Application No.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Filing Date	Office

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and

MS Docket No.: 401550-US-NP

APPLICATION DERIVATIVES).

06/23/2017

Inventor's Signature

·

نوید جلالی هروی

MS Docket No.: 401550-US-NP

Navid JALALI HERAVI
Printed Name in English

Printed Name in Native Language (if other than English)

PATENT ASSIGNMENT

PATENT ASSIGNMI	ENT	MS Dock	cet No.: <u>401550-US-NP</u>
inventor of subject	matter ("INVENTION") "Identifying a Stack	disclosed and/or	tor or an original joint claimed in a patent <u>for Resource Usage"</u>
ASSIGNE LLC., Or LEGAL on the fol	filed. ASSIGNOR EE'S legal representation NE Microsoft Way, Redman REPRESENTATIVES), to mand give Mowing Office TION's Application No.	ve, Microsoft Technolond, Washington 98 insert here in pa en Application No.	ology Licensing, 052 (ASSIGNEE'S rentheses (filedby
	d on <u>June 13, 2017</u> and <u>891</u> by the following C		on No
behalf of itself and its of acquiring, the ent priority, in the INVEN derived therefrom, su United States, its terri	successors and assign: ire and exclusive right TION and the APPLICAT Ich as continuing appli itories, and all foreign o	s ("ASSIGNEE"), is ent s, title and interest, TON (and all other ap ications, in whole or countries ("APPLICAT	
to insert the Applica	tion No., filing date, a	ınd Office into the f	GAL REPRESENTATIVES following table for any
APPLICATION DERIVA	TIVES after they are known		3

PATENT ASSIGNMENT

MS Docket No.: 401550-US-NP

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

	6/27/2017
Inventor's Signature	Date
Ivan Michael BERG	
Printed Name in English	Printed Name in Native Language
	(if other than English)

I Cong CHEN ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "Identifying a Stack Frame responsible for Resource Usage" ("APPLICATION"), which: □ will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representative, Microsoft Technology Licensing, LLC., One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES), to insert here in parentheses (filed on and given Application No. ______ by the following Office) this APPLICATION's Application No., filing date, and Office, when known; was filed on June 13, 2017 and was given Application No. 15/621,891 by the following Office "US"; Microsoft Technology Licensing, LLC, a Washington limited liability company, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")); ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S LEGAL REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known; Application No. Eiling Date Office

Application No.	riiing Date	Office

I	J	L

MS Docket No.: <u>401550-US-NP</u>

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

PGW	6/20/2017
Inventor's Signature	Date 陈聪
Cong CHEN	1245 C Ptd
Printed Name in English	Printed Name in Native Language
	(if other than English)

PATENT ASSIGNMENT	171	5 Docker 190.: 401330-05-19F		
I <u>Feng LIANG</u> ("ASSIGNOR of subject matter ("INVENTION") "Identifying a Stack Frame respo	disclosed and/or claimed i			
ASSIGNEE'S legal in LLC., One Microsof LEGAL REPRESENT on the following O	ASSIGNOR hereby authorepresentative, Microsoft tway, Redmond, Washing ATIVES), to insert here and given Application ffice olication No., filing date, as	Technology Licensing, ton 98052 (ASSIGNEE'S in parentheses (filed Noby) this		
	3, 2017 and was given Ape following Office " <u>US</u> ";	plication No		
Microsoft Technology Licensing, LLC, a Washington limited liability company, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));				
ASSIGNOR hereby authori	zes, and requests, ASSIGN	EE'S LEGAL REPRESENTATIVES		
to insert the Application No., f				
APPLICATION DERIVATIVES after	they are known;			
Application No.	Filing Date	Office		
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For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

fong ling	6/20/2017
Inventor's Signature	Date
Feng LIANG	梁峰
Printed Name in English	Printed Name in Native Language
	(if other than English)

inventor of	subject matter (" entitled " <u>identifvin</u>	INVENTION") disclosed a	nal inventor or an original join und/or claimed in a patent unsible for Resource Usage
	ASSIGNEE'S legal in LLC., One Microsof LEGAL REPRESENT onthe following O	ASSIGNOR hereby authorepresentative, Microsoft tway, Redmond, Washing ATIVES), to insert here and given Application ffice	Technology Licensing, ton 98052 (ASSIGNEE'S in parentheses (filed Noby) this
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For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

Ínventor's Signatúre

Michael D. MOSHOFSKY

Printed Name in English

Date

Printed Name in Native Language

(if other than English)

I <u>David Gregory GRANT</u> ("inventor of subject matter ("application entitled " <u>Identifyin</u> ("APPLICATION"), which:	'INVENTION") disclosed a	
ASSIGNEE'S legal LLC., One Microsol LEGAL REPRESENT on the following O APPLICATION's Ap	ASSIGNOR hereby authorepresentative, Microsoft It Way, Redmond, Washing ATIVES), to insert here and given Application ffice glication No., filing date, and It was given Application Office "US";	Technology Licensing, ton 98052 (ASSIGNEE'S in parentheses (filed Noby) this and Office, when known;
behalf of itself and its successor of acquiring, the entire and expriority, in the INVENTION and to derived therefrom, such as confunited States, its territories, and	s and assigns ("ASSIGNEE") clusive rights, title and in he APPLICATION (and all c tinuing applications, in wh I all foreign countries ("AP	iterest, including the right of other applications and patents nole or in part, in and for the PLICATION DERIVATIVES"));
ASSIGNOR hereby authori to insert the Application No., f APPLICATION DERIVATIVES after	iling date, and Office into	IEE'S LEGAL REPRESENTATIVES o the following table for any
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Page 1 of 2

PATENT REEL: 042850 FRAME: 0883

PATENT ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

Mol. La	(/23/2012
Inventor's Signature	Date
David Gregory GRANT	
Printed Name in English	Printed Name in Native Language (if other than English)