## 504091303 11/10/2016

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4137971

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
ZHICHENG YIN	09/22/2016
JIN SUN	09/22/2016
MING LI	09/23/2016
JALIYA NISHANTHA EKANAYAKE	09/23/2016
YONGCHUL KWON	09/25/2016
JOSE A. BLAKELEY	09/22/2016
MARC T. FRIEDMAN	11/08/2016
HAIBO LIN	10/17/2016
RAGHUNATH RAMAKRISHNAN	11/08/2016
TAO GUAN	10/26/2016

#### **RECEIVING PARTY DATA**

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

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15267115

#### **CORRESPONDENCE DATA**

**Fax Number:** (425)707-9382

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:** 4257079382

**Email:** usdocket@microsoft.com

Correspondent Name: MICROSOFT CORPORATION

Address Line 1: ONE MICROSOFT WAY

Address Line 2:PATENT DOCKETING GROUP DEPTAddress Line 4:REDMOND, WASHINGTON 98052

**ATTORNEY DOCKET NUMBER:** | 360515-US-NP

504091303 REEL: 040281 FRAME: 0008

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NAME OF SUBMITTER:	MICHAEL B. DODD
SIGNATURE:	/Michael B. Dodd/
DATE SIGNED:	11/10/2016
Total Attachments: 20	

Total Attachments: 20
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PATENT REEL: 040281 FRAME: 0009

I <u>Zhicheng Yin</u> ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "<u>OPTIMIZING PIPELINING RESULT SETS WITH FAULT TOLERANCE IN DISTRIBUTED QUERY EXECUTION</u>" ("APPLICATION"), which:

MS Docket No.: 360515-US-NP

	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
	APPLICATION's Application No., filing date, and Office, when known
X	was filed on September 15, 2016 and was given Application
	No. <u>15/267,115</u> by the following Office " <u>U.S. Patent Office</u> ";

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;

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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).

Inventor's Signature

Zhicheng Yin

Printed Name in English

Date

Printed Name in Native Language

22/2016

(if other than English)

	PATENT ASS	SIGNMENT		MS Docket	t No.: <u>360515</u>	<u>s-US-NP</u>
subject matt " <u>OPTIMIZIN</u> (	oun ("ASSIGNOR") a er ("INVENTION") a G PIPELINING RES CUTION" ("APPLICA	disclosed and SULT SETS V	d/or clair <u>VITH FAL</u>	ned in a pate	ent applicati	on entitled
	will be filed.  ASSIGNEE'S legal LLC., One Microso LEGAL REPRESENT and given Applica ) this APPLICATIO known;	representat oft Way, Redi TATIVES), to ation No	ive, Micr mond, Wa insert h	osoft Techno shington 980 ere in paren by the	ology Licens 052 (ASSIGN theses (filed following O	ing, EE'S I on ffice
X	was filed on <u>Sept</u>					

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the state of the s	
7m2	2016-9-22
Inventor's Signature	Date
Jin Sun	<b>私 进</b>
Printed Name in English	Printed Name in Native Language
	(if other than English)

PATENT ASSIGNMENT MS Docket No.: <u>360515-US-NP</u> I Ming Li ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "OPTIMIZING PIPELINING RESULT SETS WITH FAULT TOLERANCE IN DISTRIBUTED QUERY EXECUTION" ("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 September 15, 2016 and was given Application No. 15/267,115 by the following Office "U.S. Patent Office"; 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.	Filing Date	Office	***************************************
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Ming Li	9/23/2016
Inventor's Signature	Date
Ming Li	
Printed Name in English	Printed Name in Native Language
	(if other than English)

MS Docket No.: 360515-US-NP

I Jaliya Nishantha Ekanayake ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "OPTIMIZING PIPELINING RESULT SETS WITH FAULT TOLERANCE IN DISTRIBUTED QUERY EXECUTION" ("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 <u>September 15, 2016</u> and was given Application No. 15/267,115 by the following Office "U.S. Patent Office"; 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. Filing Date Office

Page 1 of 2

PATENT REEL: 040281 FRAME: 0016

MS Docket No.: 360515-US-NP

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Jej	09/23/2016
Inventor's signature	Date
Jaliya Nishantha Ekanayake	ර ලිග නිගාත්ත එකතායක
Printed Name in English	Printed Name in Native Language
	(if other than English)

known:

RI Yongchul Kwon ("ASSIGNOR") am the original inventor or an original joint
inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent
application entitled "OPTIMIZING PIPELINING RESULT SETS WITH FAULT TOLERANCE
IN DISTRIBUTED QUERY EXECUTION" ("APPLICATION"), which:
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MS Docket No.: 360515-US-NP

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MS Docket No.: 360515-US-NP

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Sep 25 2016
Intentor's Signature

Yongchul Kwon
Printed Name in English

Printed Name in Native Language (if other than English)

	PATENT ASS	IGNMENT	]	MS Docket	No.: <u>360</u> 5	515-US-N	<u>P</u>
inventor of so application ent	<u>a. Blakeley</u> ("ASS ubject matter ( itled " <u>OPTIMIZIN</u> ED QUERY EXEC	"INVENTION" IG PIPELININ	') disclose IG RESULT	d and/or SETS WIT	claimed	in a pa	aten
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behalf of itself of acquiring, t priority, in the	ft Technology Lic and its successor he entire and ex INVENTION and om, such as cor	rs and assigr cclusive righ the APPLICA	is ("ASSIGN ts, title and TION (and a	EE"), is enti d interest, all other ap	tled to, an including oplications	nd is desi I the righ Is and pat	rous nt of tents

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MS Docket No.: 360515-US-NP

José A. Blakeley	09/22/2016
Inventor's Signature	Date
José A. Blakeley	
Printed Name in English	Printed Name in Native Language
	(if other than English)

	PATENT ASSI	GNMENI	MS.	Docket No.: <u>360515-US-NP</u>
inventor of application e	subject matter ("	INVENTION") disc G PIPELINING RES	closed a	inventor or an original joir nd/or claimed in a pater <u>FS WITH FAULT TOLERANC</u> vhich:
	will be filed.	ASSIGNOR hereb	y autho	orizes, and requests,
	LLC., One Microsof LEGAL REPRESENTA and given Applicat	t Way, Redmond, ATIVES), to insert ion No.	Washing here in	Technology Licensing, ton 98052 (ASSIGNEE'S parentheses (filed on by the following Office date, and Office, when
X	was filed on <u>Septer</u>	<u>mber 15, 2016</u> an	d was giv	ven Application No.
	15/267,115 by th	e following Office	e " <u>U.S. P</u>	atent Office ";
behalf of itse of acquiring priority, in the derived there	elf and its successors, the entire and exc ne INVENTION and the efrom, such as cont	s and assigns ("AS clusive rights, titl he APPLICATION ( cinuing application	SIGNEE"), e and in and all o ns, in wh	limited liability company, o , is entitled to, and is desirou terest, including the right o ther applications and patent nole or in part, in and for th PLICATION DERIVATIVES"));
ASSIG	NOR hereby authori	zes, and requests	, ASSIGN	EE'S LEGAL REPRESENTATIVE
		_	ffice into	o the following table for an
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Application	NU.	Filing Date		Office

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Application No.	Filing Date	Office

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Mant Jail	B-NOV-2016
Inventor's Signature	Date
Marc T. Friedman	
Printed Name in English	Printed Name in Native Language
	(if other than English)

I <u>Haibo Lin</u> ("ASSIGNOR") am the original inventor or an original joint inventor of
subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled
" <u>OPTIMIZING PIPELINING RESULT SETS WITH FAULT TOLERANCE IN DISTRIBUTED</u>
QUERY EXECUTION" ("APPLICATION"), which:

MS Docket No.: <u>360515-US-NP</u>

Ш	will	be	filed.	ASSIGNOR	hereby	authorizes	, and	requests,
	ASSI	GNEI	E'S legal	representat	ive, Micr	osoft Tech	nology	Licensing,
	LLC.	, One	e Microso	oft Way, Redi	nond, Wa	ashington 9	8052 (/	ASSIGNEE'S
	LEG/	AL R	EPRESEN <sup>®</sup>	TATIVES), to	insert h	ere in pare	nthese	s (filed on
	and	give	n Applica	ation No		by th	e follov	wing Office
	) thi	s AP	PLICATIO	N's Applicat	ion No.,	filing date,	and O	ffice, when
	knov	vn;						

was filed on <u>September 15, 2016</u> and was given Application No. <u>15/267,115</u> by the following Office "<u>U.S. Patent Office</u>";

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| Maibo Lin | Printed Name in English | Printed Name in Native Language (if other than English)

MS Docket No.: 360515-US-NP

joint invento application e	r of subj ntitled " <u>O</u>	ect matt <u>PTIMIZIN</u>	i <u>an</u> ("ASSIGNOR") a er ("INVENTION") i NG PIPELINING RE <u>"UTION</u> " ("APPLICA	disclosed a <u>SULT SETS</u>	nd/or clair <u>WITH FAU</u>	med in a patent
	ASSIGNEE	E'S legal	ASSIGNOR herei	licrosoft Te	chnology I	Licensing,
	LEGAL RI	EPRESEN <sup>°</sup> n Applica	oft Way, Redmond, FATIVES), to inser ation No N's Application N	t here in p	arentheses the follow	(filed on ing Office
×	was filed	on <u>Sept</u>	<u>ember 15, 2016</u> ar	nd was give	n Applicati	on No.
	15/267,	<u>l15</u> by	the following Offic	e " <u>U.S. Pat</u>	ent Office "	) . 9
behalf of itse of acquiring priority, in the derived ther United State ASSIC to insert the	elf and its : , the entione INVENT efrom, su s, its terrione NOR here Applicat	successore and e TON and the as co tories, ar by autho ion No.,	censing, LLC, a Wirs and assigns ("A! xclusive rights, tit the APPLICATION ntinuing application all foreign coun rizes, and request filing date, and (	SSIGNEE"), including the second secon	s entitled to rest, includ er applicat le or in par ICATION DI	o, and is desirous ding the right of ions and patents rt, in and for the ERIVATIVES"));
APPLICATION Application		IVES are	er they are known; Filing Date		Office	

Page 1 of 2

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Muse	11/8/2016
Inventor's Signature	Date
Raghunath Ramakrishnan	
Printed Name in English	Printed Name in Native Language
	(if other than English)

	PATEN	T ASSIGNMENT	MS Docket No	o.: <u>360515-US-NP</u>
subject matt " <u>OPTIMIZIN</u> (	er ("INVENTI G PIPELININ	ION") disclosed and	inal inventor or an origi I/or claimed in a patent <u>/ITH FAULT TOLERANC</u> :h:	application entitled
	ASSIGNEE'S LLC., One M LEGAL REP and given A	legal representati Microsoft Way, Redn RESENTATIVES), to Application No.	hereby authorizes, arve, Microsoft Technolog nond, Washington 98052 insert here in parenthe by the fol ion No., filing date, and	gy Licensing, 2 (ASSIGNEE'S ses (filed on lowing Office
X			016 and was given Applic Office " <u>U.S. Patent Offic</u>	
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PATENT REEL: 040281 FRAME: 0029

RECORDED: 11/10/2016