505330070 02/14/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5376851

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RYAN SCOTT HARADEN	04/06/2017
TOLGA OZGUNER	04/11/2017
ADAM JAMES MUFF	04/06/2017
JEFFREY POWERS BRADFORD	04/06/2017
CHRISTOPHER JON JOHNSON	04/07/2017
GENE LEUNG	04/07/2017
MIGUEL COMPARAN	04/07/2017

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:	16276255

CORRESPONDENCE DATA

Fax Number: (801)328-1707

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: 8015339800

Email: mstringham@wnlaw.com, usdocket@microsoft.com

Correspondent Name: WORKMAN NYDEGGER / MICROSOFT Address Line 1: 60 E. SOUTH TEMPLE, SUITE 1000

Address Line 4: SALT LAKE CITY, UNITED STATES 84111

ATTORNEY DOCKET NUMBER:	20844.45.1
NAME OF SUBMITTER:	JONATHAN W. RICHARDS
SIGNATURE:	/Jonathan W. Richards/
DATE SIGNED:	02/14/2019

PATENT REEL: 048338 FRAME: 0910

Total Attachments: 14 source=20844-45-1-Assignments#page1.tif source=20844-45-1-Assignments#page2.tif source=20844-45-1-Assignments#page3.tif source=20844-45-1-Assignments#page4.tif source=20844-45-1-Assignments#page5.tif source=20844-45-1-Assignments#page6.tif source=20844-45-1-Assignments#page7.tif source=20844-45-1-Assignments#page8.tif source=20844-45-1-Assignments#page9.tif source=20844-45-1-Assignments#page10.tif source=20844-45-1-Assignments#page11.tif source=20844-45-1-Assignments#page12.tif source=20844-45-1-Assignments#page13.tif source=20844-45-1-Assignments#page13.tif source=20844-45-1-Assignments#page14.tif

PATENT REEL: 048338 FRAME: 0911

16/276255

MS Docket No.: <u>362401.01</u> WN Docket No.: 20844.45

I Ryan Scott Haraden (".	ASSIGNOR") am the origin	nal inventor or an original joint
inventor of subject matter ("INV	ENTION") disclosed and/or	claimed in a patent application
entitled "No Miss Cache Structure		
Processing Engines" ("APPLICAT		*
<u> </u>	,,	
will be filed. ASSI	GNOR hereby authorizes, an	d requests, ASSIGNEE'S
legal representativ	e, Microsoft Technology	Licensing, LLC, One
	edmond, Washington 98052	
	ES), to insert here	
	and given Application N	
following Off		this
	application No., filing date, a	nd Office, when known:
	FF 111, 5 111, 5	
was filed on April 1 by the following Office	2, 2017 and was given Applic	cation No <u>15/485899</u>
by the following office	<u>-05110</u> ,	
Microsoft Technology Lic behalf of itself and its successors		n limited liability company, on is entitled to, and is desirous of
acquiring, the entire and exclusive		
INVENTION and the APPLICAT	•	
such as continuing applications, in		
and all foreign countries ("APPLIC		
8	,,,	
ASSIGNOR hereby	authorizes, and reques	sts, ASSIGNEE'S LEGAL
REPRESENTATIVES to insert th		
table for any APPLICATION DER		
Application No.	Filing Date	Office
16/276255	2019-02-14	USPTO

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

MS Docket No.: <u>362401.01</u> WN Docket No.: <u>20844.45</u>

continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

Rus St Ha	4/6/2017
Inventor's Signature	Daté /
Ryan Scott Haraden	
Printed Name in English	Printed Name in Native Language
	(if other than English)
<u> </u>	

I Tolga Ozguner ("ASSIG	NOR") am the original inven-	tor or an original joint inventor of
subject matter ("INVENTION") d	lisclosed and/or claimed in a	patent application entitled "No
Miss Cache Structure for Real-T	ime Image Transformations	with Multiple LSR Processing
Engines" ("APPLICATION"), whi		•
legal representativ	GNOR hereby authorizes, and te, Microsoft Technology edmond, Washington 98052	Licensing, LLC, One
	ES), to insert here	
	and given Application N	
following Off) this
	Application No., filing date, a	/
THI Element 51	rpprication 1 to., 11111g date, a	nd Office, when known,
by the following Office		
		n limited liability company, on
behalf of itself and its successors	O ,	*
acquiring, the entire and exclusive		
INVENTION and the APPLICAT		
such as continuing applications, in	A .	· · · · · · · · · · · · · · · · · · ·
and all foreign countries ("APPLIC	CATION DERIVATIVES"));	
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Application No.	Filing Date	Office
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continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

Inventor's signature	4/11/2017 Date
Tolga Ozguner	
Printed Name in English	Printed Name in Native Language (if other than English)

I Adam James Muff ("A inventor of subject matter ("INVentitled "No Miss Cache Structure Processing Engines" ("APPLICAT	ENTION") disclosed and/or re for Real-Time Image Tra	
<u> </u>		
legal representativ	GNOR hereby authorizes, an e, Microsoft Technology edmond, Washington 98052	Licensing, LLC, One
	ES), to insert here	· ·
	and given Application N	•
following Off		this
\mathcal{L}	Application No., filing date, a	
	-rr,, <u>8</u> ,	
was filed on April 1 by the following Office	2, 2017 and was given Applie "USPTO";	cation No <u>15/485899</u>
Microsoft Technology Lic behalf of itself and its successors acquiring, the entire and exclusive INVENTION and the APPLICATI such as continuing applications, in and all foreign countries ("APPLICATION")	and assigns ("ASSIGNEE"), rights, title and interest, incl ION (and all other application whole or in part, in and for	uding the right of priority, in the ns and patents derived therefrom, the United States, its territories,
ASSIGNOR hereby	authorizes, and reques	sts, ASSIGNEE'S LEGAL
REPRESENTATIVES to insert th		,
table for any APPLICATION DER		
Application No.	Filing Date	Office
16/276255	2019-02-14	USPTO

MS Docket No.: <u>362401.01</u> WN Docket No.: <u>20844.45</u>

continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

Alma M	4/4/2017
Inventor's Signature	Date
Adam James Muff	
Printed Name in English	Printed Name in Native Language (if other than English)

16/276255

MS Docket No.: <u>362401.01</u> WN Docket No.: <u>20844.45</u>

I <u>Jeffrey Powers Bradford</u> ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "No Miss Cache Structure for Real-Time Image Transformations with Multiple LSR
<u>Processing Engines</u> " ("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>April 12, 2017</u> and was given Application No <u>15/485899</u> by the following Office " <u>USPTO</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;
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

2019-02-14

USPTO

MS Docket No.: <u>362401.01</u> WN Docket No.: 20844.45

continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

Inventor's Signature	6 April 2017 Date
_Jeffrey Powers Bradford	
Printed Name in English	Printed Name in Native Language (if other than English)

I <u>Christopher Jon Johnson</u> inventor of subject matter ("INV entitled " <u>No Miss Cache Structure</u> Processing Engines" ("APPLICAT	ENTION") disclosed and/or re for Real-Time Image Tra	
legal representativ Microsoft Way, Re REPRESENTATIV on	GNOR hereby authorizes, and e, Microsoft Technology edmond, Washington 98052 ES), to insert here and given Application Nice Application No., filing date, a	Licensing, LLC, One (ASSIGNEE'S LEGAL in parentheses (filed to by the
was filed on April 1 by the following Office	2, 2017 and was given Appli "USPTO";	cation No <u>15/485899</u>
Microsoft Technology Licensing, LLC, a Washington limited liability company, or behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous or 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
16/276255	2019-02-14	USPTO

MS Docket No.: <u>362401.01</u> WN Docket No.: <u>20844.45</u>

continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

aff	4/7/2017
Inventor's Signature	Date
Christopher Jon Johnson Printed Name in English	Printed Name in Native Language (if other than English)

		or or an original joint inventor of
subject matter ("INVENTION") dis		
Miss Cache Structure for Real-Tin	ne Image Transformations	with Multiple LSR Processing
Engines" ("APPLICATION"), which		-
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☐ will be filed. ASSIG	NOR hereby authorizes, an	d requests, ASSIGNEE'S
legal representative,	, Microsoft Technology	Licensing, LLC, One
•	lmond, Washington 98052	9,
	S), to insert here	
	and given Application N	
following Offic) this
	oplication No., filing date, an	
THI Element 5 mp	prication ivo., ining date, as	nd Office, when known,
was filed on April 12. by the following Office "_	<u>, 2017</u> and was given Applic USPTO_";	cation No <u>15/485899</u>
Microsoft Technology Lice	nsing IIC a Washington	n 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	•	
such as continuing applications, in v		
and all foreign countries ("APPLICA	ATION DERIVATIVES)),	
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ASSIGNOR hereby at		
REPRESENTATIVES to insert the Application No., filing date, and Office into the following		
table for any APPLICATION DERIV	-	
	Filing Date	Office
16/276255	2019-02-14	USPTO

MS Docket No.: <u>362401.01</u> WN Docket No.: <u>20844.45</u>

continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

The has	4/7/17
Inventor's Signature	Date
Gene Leung	
Printed Name in English	Printed Name in Native Language
	(if other than English)

I <u>Miguel Comparan</u> ("As inventor of subject matter ("INV entitled " <u>No Miss Cache Structure</u> Processing Engines" ("APPLICAT	ENTION") disclosed and/or re for Real-Time Image Tra	
legal representative Microsoft Way, Research REPRESENTATIVE on	GNOR hereby authorizes, and e, Microsoft Technology edmond, Washington 98052 ES), to insert here and given Application No., filing date, a 2, 2017 and was given Application "USPTO";	Licensing, LLC, One (ASSIGNEE'S LEGAL in parentheses (filed lo by the) this nd Office, when known;
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 REPRESENTATIVES to insert th table for any APPLICATION DER		te, and Office into the following
Application No.	Filing Date	Office
16/276255	2019-02-14	USPTO
	2010-02-17	33.13

MS Docket No.: <u>362401.01</u> WN Docket No.: <u>20844.45</u>

continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

Win al Computa-	4/7/17
Inventor's Signature	Date
Miguel Comparan	
Printed Name in English	Printed Name in Native Language (if other than English)