

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4165331

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
B. ANIL KUMAR	11/29/2016
WINSTON M. JOHNSTON	11/30/2016
OLOF L.E. MASES	11/30/2016
SHIR AHARON	11/30/2016
LIHUA ZHU	12/01/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MICROSOFT TECHNOLOGY LICENSING, LLC
<b>Street Address:</b>	ONE MICROSOFT WAY
<b>City:</b>	REDMOND
<b>State/Country:</b>	WASHINGTON
<b>Postal Code:</b>	98052
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15365927
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(503)595-5301
<i>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.</i>	
<b>Phone:</b>	503 595 5300
<b>Email:</b>	iris.rasanen@klarquist.com
<b>Correspondent Name:</b>	KYLE B. RINEHART, KLARQUIST SPARKMAN LLP
<b>Address Line 1:</b>	121 SW SALMON STREET, SUITE 1600
<b>Address Line 2:</b>	ONE WORLD TRADE CENTER
<b>Address Line 4:</b>	PORTLAND, OREGON 97204
<b>ATTORNEY DOCKET NUMBER:</b>	3382-97726-01
<b>NAME OF SUBMITTER:</b>	KYLE B. RINEHART
<b>SIGNATURE:</b>	/Kyle B. Rinehart/
<b>DATE SIGNED:</b>	12/01/2016
<b>Total Attachments: 9</b>	

source=3382-97726-01 - Assignment#page1.tif  
source=3382-97726-01 - Assignment#page2.tif  
source=3382-97726-01 - Assignment#page3.tif  
source=3382-97726-01 - Assignment#page4.tif  
source=3382-97726-01 - Assignment#page5.tif  
source=3382-97726-01 - Assignment#page6.tif  
source=3382-97726-01 - Assignment#page7.tif  
source=3382-97726-01 - Assignment#page8.tif  
source=3382-97726-01 - Assignment#page9.tif

## PATENT ASSIGNMENT

I, B. Anil Kumar ("ASSIGNOR"), am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "GLOBAL HASH BASED MOTION ESTIMATION FOR SCREEN REMOTING SCENARIOS" ("APPLICATION"), which:

☒ will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of Microsoft Technology Licensing, LLC, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES) to insert here in parentheses (filed on 11/30/2016, and given Application No. 15/365,927 by the following Office: United States Patent and Trademark Office) this APPLICATION's Application No. filing date, and Office, when known;

☐ was filed on \_\_\_\_\_ and was given Application No. \_\_\_\_\_ by the following Office "United States Patent and Trademark 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"));

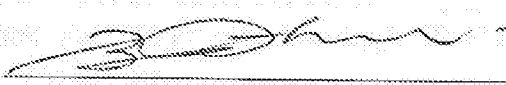
ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S LEGAL REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known;

Application No.	Filing Date	Office

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).

	<u>Nov 29, 2016</u>
Inventor's Signature	Date
<u>B. Anil Kumar</u>	
Printed Name in English	Printed Name in Native Language (if other than English)

## PATENT ASSIGNMENT

I, Winston M. Johnston ("ASSIGNOR"), am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "LOCAL HASH-BASED MOTION ESTIMATION FOR SCREEN REMOTING SCENARIOS" ("APPLICATION"), which:

☒ will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of Microsoft Technology Licensing, LLC, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES) to insert here in parentheses (filed on 11/30/2016, and given Application No. 15/365,927 by the United States Patent and Trademark Office) this APPLICATION's Application No. filing date, and Office, when known;

☐ was filed on \_\_\_\_\_ and was given Application No. \_\_\_\_\_ by the United States Patent and Trademark 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"));


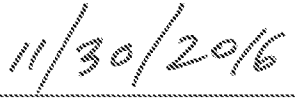
ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S LEGAL REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known;

Application No.	Filing Date	Office

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).

	
_____ Inventor's Signature	_____ Date
_____ Winston M. Johnston	_____ Printed Name in Native Language (if other than English)
_____ Printed Name in English	

## PATENT ASSIGNMENT

I, Olof L.E. Mases ("ASSIGNOR"), am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "LOCAL HASH-BASED MOTION ESTIMATION FOR SCREEN REMOTING SCENARIOS" ("APPLICATION"), which:

☒ will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of Microsoft Technology Licensing, LLC, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES) to insert here in parentheses (filed on 11/30/2016, and given Application No. 15/365,927 by the United States Patent and Trademark Office) this APPLICATION's Application No. filing date, and Office, when known;

☐ was filed on \_\_\_\_\_ and was given Application No. \_\_\_\_\_ by the United States Patent and Trademark 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"));

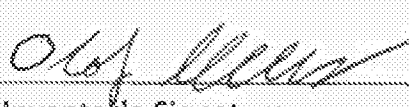
ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S LEGAL REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known;

Application No.	Filing Date	Office

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).

 Inventor's Signature	<u>11/30/16</u> Date
<u>Olof L.E. Mases</u> Printed Name in English	 Printed Name in Native Language (if other than English)



## PATENT ASSIGNMENT

I, Shir Aharon ("ASSIGNOR"), am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "LOCAL HASH-BASED MOTION ESTIMATION FOR SCREEN REMOTING SCENARIOS" ("APPLICATION"), which:

☒ will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of Microsoft Technology Licensing, LLC, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES) to insert here in parentheses (filed on 11/30/2016, and given Application No. 15/365,927 by the United States Patent and Trademark Office) this APPLICATION's Application No. filing date, and Office, when known;

☐ was filed on \_\_\_\_\_ and was given Application No. \_\_\_\_\_ by the United States Patent and Trademark 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

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).

	11-30-2016
Inventor's Signature	Date
Shir Aharon	
Printed Name in English	Printed Name in Native Language (if other than English)

## PATENT ASSIGNMENT

I, Lihua Zhu ("ASSIGNOR"), am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "LOCAL HASH-BASED MOTION ESTIMATION FOR SCREEN REMOTING SCENARIOS" ("APPLICATION"), which:

☒ will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of Microsoft Technology Licensing, LLC, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES) to insert here in parentheses (filed on 11/30/2016, and given Application No. 15/365,927 by the United States Patent and Trademark Office) this APPLICATION's Application No. filing date, and Office, when known;

☐ was filed on \_\_\_\_\_ and was given Application No. \_\_\_\_\_ by the United States Patent and Trademark 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

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).

  
Inventor's Signature

Date

12/01/10/6