505210220 11/29/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date 11/27/2018
RICHARD CLIVE IRELAND	11/27/2018

RECEIVING PARTY DATA

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16202697

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ATTORNEY DOCKET NUMBER:	405069-US-NP/1777.A04US1
NAME OF SUBMITTER:	TYLYN MOORE
SIGNATURE:	/tylyn moore/
DATE SIGNED:	11/29/2018

Total Attachments: 3

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PATENT 505210220 REEL: 047617 FRAME: 0046

Atty Ref/Docket No.: 405069-US-NP (1777.A04US1)

Patent and Trademark Office

To the Director of the U.S. Patent and Trademark Office: Plea	
1. Name of conveying party(ies):	2. Name and address of receiving party(ies):
Richard Clive Ireland	Name: Microsoft Technology Licensing, LLC
Additional name(s) of conveying party(ies) attached?	Street Address: 5600 148th Ave NE
[]Yes [X]No	City: <u>Redmond</u> State: <u>WA</u> Zip: <u>98052</u> Country: <u>United States of America</u>
3. Nature of conveyance:	Additional name(s) & address(es) attached? []Yes [X]No
[X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other	
Execution Date: November 27, 2018	
4. Application number(s) or patent number(s):	
If this document is being filed together with a new application	n, the execution date of the application is:
A. Patent Application No.(s)	B. Patent No.(s)
Serial No. 16/202,697	
Additional numbers attached? []Yes [X]No	
	6. Total number of applications and patents involved: 1
5. Name and address of party to whom correspondence concerning document should be mailed:	7. Total fee (37 CFR 3.41):\$ <u>0.00</u>
Name: Kenneth N. Nigon	[]Enclosed []Authorized to be charged to deposit account 19-
Address: Schwegman Lundberg & Woessner, P.A.	0743
P.O. Box 2938 Minneapolis, Minnesota 55402	8. Please charge any additional fees or credit any over payments to our Deposit Account No.: 19-0743
DO NOT USE	THIS SPACE
9. Statement and signature. To the best of my knowledge and belief, the foregoing inform of the original document. Kenneth N. Nigon/Reg. No. 31,549	November 28, 2018
Name of Person Signing	Signature Date
Tota	al number of pages including cover sheet: 3
Mail documents to be recorded with required cover sheet info	rmation to:

Commissioner of Patents and Trademarks Mail Stop Assignment Recordation Services P.O. Box 1450 Alexandria, VA 22313-1450 I Richard Clive Ireland ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "EFFICIENT METRIC CALCULATION WITH RECURSIVE DATA PROCESSING", which

Ø	will be filed.	ASSIGNOR	hereby a	authorize	s, and	requests
	ASSIGNEE'S leg					
	LLC, One Micro	soft Way, Red	lmond, Was	hington S)8052 (A	SSIGNEE'S
	LEGAL REPRES	ENTATIVES).	to insert I	iere in i	parenthe	ses (filec
	on 28 Novembe					
	the following	Office U	nited States P	atent Offi	ce) this
	APPLICATION'S	Application N	io., filing da	te, and O	ffice, who	en known
	was filed on	and w	/as given Ap	plication	NoI	y the
	following Office	2" P	atent Office	<u>.</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;

	***************************************	Filing Date	Office
5,,,,,,,,			
2			

MS Docket No.: 405069-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"));

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).

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Richard Clive Ireland

Printed Name in English

Date

Printed Name in Native Language

(if other than English)