504435545 06/28/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4482246

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JONATHAN M. LUK	12/12/2013
ARIEL N. GORDON	11/20/2013
RAMAN N. CHIKKAMAGALUR	01/10/2014
SERGII GUBENKO	01/09/2014
GIRISH CHANDER	11/21/2013
ANANDHI SOMASEKARAN	11/22/2013
MURLI D. SATAGOPAN	01/09/2014
ZIAD ELMALKI	01/07/2014
MICROSOFT CORPORATION	10/14/2014

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:	15635799

CORRESPONDENCE DATA

Fax Number: (248)641-0270

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: 2486411600

Email: usdocket@microsoft.com

Correspondent Name: HARNESS, DICKEY & PIERCE, P.L.C.

Address Line 1: P.O. BOX 828

Address Line 4: BLOOMFIELD HILLS, MICHIGAN 48303

ATTORNEY DOCKET NUMBER: 98052-58-COC/339078-CNT2

NAME OF SUBMITTER: HOLLY NOWICKI

PATENT 504435545 REEL: 042850 FRAME: 0885

SIGNATURE:	/Holly Nowicki/
DATE SIGNED:	06/28/2017
Total Attachments: 19	
source=339078_CNT2_Assignment_FIL	E#page1.tif
source=339078_CNT2_Assignment_FIL	E#page2.tif
source=339078_CNT2_Assignment_FIL	E#page3.tif
source=339078_CNT2_Assignment_FIL	E#page4.tif
source=339078_CNT2_Assignment_FIL	E#page5.tif
source=339078_CNT2_Assignment_FIL	E#page6.tif
source=339078_CNT2_Assignment_FIL	E#page7.tif
source=339078_CNT2_Assignment_FIL	E#page8.tif
source=339078_CNT2_Assignment_FIL	E#page9.tif
source=339078_CNT2_Assignment_FIL	E#page10.tif
source=339078_CNT2_Assignment_FIL	E#page11.tif
source=339078_CNT2_Assignment_FIL	E#page12.tif
source=339078_CNT2_Assignment_FIL	E#page13.tif
source=339078_CNT2_Assignment_FIL	E#page14.tif
source=339078_CNT2_Assignment_FIL	E#page15.tif
source=339078_CNT2_Assignment_FIL	E#page16.tif
source=339078_CNT2_Assignment_FIL	E#page17.tif
source=339078_CNT2_Assignment_FIL	E#page18.tif
source=339078 CNT2 Assignment FIL	E#page19.tif

PATENT REEL: 042850 FRAME: 0886

inventor of application	subject matter	("INVENTION") disclosed RONIZING CREDENTIAL I	al inventor or an original joint and/or claimed in a patent HASHES BETWEEN DIRECTORY
	will be filed.	ASSIGNOR hereby aut	horizes, and requests,
	Department, Micr	representatives, of the La osoft Corporation, One M 2 (ASSIGNEE'S LEGAL REP	licrosoft Way, Redmond,
	Application No.	leses (filed onby	
	Application No., f	iling date, and Office, who	en known;
Micros successors a entire and ex (and all oth applications,	13/873,882 by to and Trademark O oft Corporation, and assigns ("ASSIGN clusive rights, titer applications	a Washington Corporation GNEE"), is entitled to, and le and interest in the INV and patents derived th Jnited States, its territor	
۵۶۶۱۵۸	IOR harahu	authorizae and man	Accimate inch
REPRESENTAT	IVES to insert t	authorizes, and req he Application No., filir	g date, and Office into the
Application N		TION DERIVATIVES after t Filing Date	ney are known; Office
	A STATE OF THE STA		Voc 118 % %

		The state of the s	
PARAMETRIA (A PARAMETRIA PARAMETRIA) (A PARAMETRIA PARAMETRIA) (A PARAMETRIA	······································	TARREST TO THE TARRES	
***********************		A CONTRACTOR OF THE CONTRACTOR	
	MANAGER STREET,		

Page 1 of 2

MS Docket No.: 339078.01

MS Docket No.: 339078.01

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 in the INVENTION and the APPLICATION (and 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	
Jonathan M. Luk	
Printed Name in English	Printed Name in Native Language (if other than English)

MS Docket No.: 339078.01 PATENT ASSIGNMENT I Ariel N. Gordon ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "SYNCHRONIZING CREDENTIAL HASHES BETWEEN DIRECTORY SERVICES" ("APPLICATION"), which: will be filed. ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S legal representatives, of the Law and Corporate Affairs Department, Microsoft Corporation, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S LEGAL REPRESENTATIVES), to insert here in parentheses (filed on ______ and given by the following Office Application No. this APPLICATION'S Application No., filing date, and Office, when known; was filed on April 30, 2013 and was given Application No. 13/873,882 by the following Office "US - United States Patent and Trademark Office": Microsoft Corporation, a Washington Corporation, 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 in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")): hereby authorizes. and requests. ASSIGNEE'S LEGAL ASSIGNOR REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known: Office Filing Date Application No.

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 in the INVENTION and the APPLICATION (and 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).

حب الملا	11-20-20(3
Inventor's Signature	Date
Ariel N. Gordon	
Printed Name in English	Printed Name in Native Language
	(if other than English)

I <u>Raman N. Chikkamaga</u> joint inventor of subject matt application entitled " <u>SYNCHE</u> <u>SERVICES</u> " ("APPLICATION"), whi	er ("INVENTION") disclose <u>:ONIZING CREDENTIAL H</u>	r ·	
ASSIGNEE'S legal Department, Micro Washington 9805: here in parenth Application No.	ASSIGNOR hereby auth representatives, of the Lar psoft Corporation, One M 2 (ASSIGNEE'S LEGAL REPR eses (filed on	w and Corporate Affairs icrosoft Way, Redmond, ESENTATIVES), to insert and given the following Office his APPLICATION's	
	<u>30, 2013</u> and was given A he following Office " <u>US –</u> ffice":		
Microsoft Corporation, a Washington Corporation, 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 in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));			
ASSIGNOR hereby	authorizes, and requ	uests, ASSIGNEE'S LEGAL	
REPRESENTATIVES to insert ti	* 0	-	
following table for any APPLICA			
Application No.	Filing Date	Office	

MS Docket No.: 339078.01

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 in the INVENTION and the APPLICATION (and 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).

Ranaa.cn.v	1/10/2014
nventor's Signature	Date
Raman N. Chikkamagalur	
Printed Name in English	Printed Name in Native Language
	(if other than English)

inventor of application	subject matter	("INVENTION") (RONIZING CREE	e original inventor or a disclosed and/or claime <u>PENTIAL HASHES BETWE</u>	d in a patent
	ASSIGNEE'S legal Department, Mic Washington 9805 here in parenth Application No	representatives, rosoft Corporations i2 (ASSIGNEE'S Lances (filed on	reby authorizes, and a of the Law and Corporal on, One Microsoft Way, REGAL REPRESENTATIVES), are by the following this APPLICOffice, when known;	te Affairs edmond, to insert id given i Office
		the following Of	vas given Application No. fice " <u>US – United States f</u>	<u>'atent</u>
successors a entire and a (and all ot applications	and assigns ("ASSI xclusive rights, ti her applications	GNEE"), is entitl tle and interest and patents d United States, i	Corporation, on behalf of ed to, and is desirous of in the INVENTION and the erived therefrom, such to territories, and all for	f acquiring, the ie APPLICATION as continuing
	TIVES to insert i	the Application	and requests, ASSIC No., filing date, and t VES after they are known;	
Application		Filing Date	Office	
		,		

Page I of 2

MS Docket No.: 339078.01

MS Docket No.: 339078.01

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 in the INVENTION and the APPLICATION (and 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

Sergii Gubenko

Printed Name in English

1/9/2014

Date

CEPTIU TYBEHKO

Printed Name in Native Language (if other than English)

inventor of application	i <u>h Chander</u> ("ASSI subject matter (entitled " <u>SYNCHF</u> APPLICATION"), wh	"INVENTION ONIZING C	") disclos	ed and/	or claime	d in a p	aten
	will be filed. ASSIGNEE'S legal Department, Micr Washington 9805 here in parenth	representati osoft Corpo 2 (ASSIGNEE eses (filed	ves, of the ration, On 'S LEGAL F on	e Law and e Microso REPRESEN	J Corporat oft Way, Re TATIVES), an	e Affairs edmond, to insert d given	
	Application No.				APPLIC	_	
	Application No., f				own;		
Micros successors a entire and es	was filed on April 13/873,882 by to and Trademark O soft Corporation, and assigns ("ASSIGN clusive rights, titemer applications	he following <u>ffice</u> "; a Washingto JNEE"), is er le and intere	Office "L in Corpor ititled to, est in the	<u>IS - Unite</u> ation, or and is d INVENTIO	ed States P n behalf o lesirous of ON and th	f itself an acquiring e APPLICA	i, the TION
applications,	in and for the lin DERIVATIVES"));	Jnited State					
REPRESENTA	NOR hereby TIVES to insert t le for any APPLICA	he Applicati	on No.,	filing da	ite, and C		
	lo.	3		}			

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 in the INVENTION and the APPLICATION (and 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).

SCN/22 Inventor's Signature	7/ 21 13 Date
Girish Chander	
Printed Name in English	Printed Name in Native Language
	(if other than English)

	ndt: Campatian	Marrina	
			riginal inventor or an original
			d and/or claimed in a patent
			HASHES BETWEEN DIRECTORY
PEKAICES ()	APPLICATION"), wh		
: ::::			
	will be filed.	ASSIGNOR hereby auth	orizes, and requests,
	ASSIGNEE'S legal	representatives, of the La	w and Corporate Affairs
	Department, Micr	osoft Corporation, One M	icrosoft Way, Redmond,
	Washington 9805	2 (ASSIGNEE'S LEGAL REP	RESENTATIVES), to insert
	here in parenth	eses (filed on	and given
	Application No.	by	the following Office
		<u> </u>	his APPLICATION's
	Application No., f	iling date, and Office, whe	n known;
	was filed on April	30, 2013 and was given A	Application No.
	<u>13/873,882</u> by 1	he following Office " <u>US -</u>	United States Patent
	and Trademark O		
Micro:	soft Corporation,	a Washington Corporatio	n, on behalf of itself and its
			is desirous of acquiring, the
			ENTION and the APPLICATION
(and all oth	ner applications	and patents derived the	erefrom, such as continuing
applications,	in and for the t	Jnited States, its territor	es, and all foreign countries
("APPLICATIO	ON DERIVATIVES"));		
			to the second se
ASSIG	NOR hereby	authorizes, and requ	uests, ASSIGNEE'S LEGAL
REPRESENTAT	ΓIVES to insert t	he Application No., filin	g date, and Office into the
following tab	le for any APPLICA	TION DERIVATIVES after the	ney are known;
Application N	ło.	Filling Date	Office

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
			\$*************************************
**************************************		hit and a second	

Page 1 of 2

MS Docket No.: 339078.01

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 in the INVENTION and the APPLICATION (and 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).

-fa /.	1/	12212013
Inventor's Signature	Date	
Anandhi Somasekaran	ig.	
Printed Name in English		l Name in Native Language er than English)

I <u>Murli D. Satagopan</u> ("A inventor of subject matter (application entitled " <u>SYNCHF SERVICES</u> " ("APPLICATION"), wh	"INVENTION") disclosed CONIZING CREDENTIAL H	•
ASSIGNEE'S legal Department, Micro Washington 9805 here in parenth Application No.		w and Corporate Affairs crosoft Way, Redmond, ESENTATIVES), to insert and given the following Office his APPLICATION's
	<u>30, 2013</u> and was given A the following Office " <u>US –</u> <u>ffice</u> ";	
Microsoft Corporation, successors and assigns ("ASSI entire and exclusive rights, tit (and all other applications applications, in and for the ("APPLICATION DERIVATIVES"))	GNEE"), is entitled to, and le and interest in the INV and patents derived the United States, its territor	ENTION and the APPLICATION refrom, such as continuing
REPRESENTATIVES to insert t	he Application No., filin	<del>-</del>
following table for any APPLICA		
Application No.	Filing Date	Office

MS Docket No.: <u>339078.01</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 in the INVENTION and the APPLICATION (and 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).

M	1/9/2014		
Inventor's Signature	Date		
Murli D. Satagopan			
Printed Name in English	Printed Name in Native Language (if other than English)		

MS Docket No.: 339078.01

of subject r	<u>Elmaiki</u> ("ASSIGNC natter ("INVENTIOI <u>(NCHRONIZING C</u> IN"), which:	v") disclosed and	I/or claimed	in a patent ap	plication
	will be filed.				
	ASSIGNEE'S legal Department, Micr Washington 9805	osoft Corporation	, One Microsi	oft Way, Redmor	id.
	here in parenth				
	Application No.		. by the . ) this	following Offi	ce
	Application No., f	iling date, and Of	ice, when kn	)W71;	
8	was filed on <u>April</u>	30, 2013 and wa	s given Applik	ation No.	
****	13/873.882 by t and Trademark O	the following Offic			
successors and second and all of applications	soft Corporation, and assigns ("ASSI xclusive rights, tit her applications , in and for the )N DERIVATIVES"));	DNEE"), is entitled le and interest in and patents der United States, its	I to, and is on the INVENTI ived therefore	lesirous of acqu ON and the APP om, such as c	iring, the LICATION ontinuing
ASSIC	NOR hereby	authorizes. an	d requests	. ASSIGNEE'S	LEGAL
REPRESENTA	TIVES to insert !	he Application !	io., filing di	ste, and Office	into the
following ta	ble for any APPUC	TION DERIVATIVE	S after they a	re known:	
Application		Filing Date	Off	100	
<u></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 in the INVENTION and the APPLICATION (and 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).

		1/3/1/4
	Inventor's Signature	Date
***************************************	Ziad Elmalki	
90000000	Printed Name in English	Printed Name in Native Language
0000000		(if other than English)

### **NOTARIAL CERTIFICATION**

STATE OF WASHINGTON }

COUNTY OF KING }

I certify that attached hereto is a true and correct copy of the original Assignment between Microsoft Corporation having an office at One Microsoft Way, Redmond, WA 98052 and Microsoft Technology Licensing, LLC having an office at One Microsoft Way, Redmond, WA 98052, effective October 14, 2014.

Date: <u>A example /2</u>, 2014

MARCIA LYNN O'BRIEN – NOTARY PUBLIC
In and for the State of Washington U.S.A.
Residing at King County, Washington U.S.A.
My Appointment expires: April 28, 2015

## ASSIGNMENT OF PATENTS AND APPLICATIONS



### <u>ASSIGNMENT</u>

FOR \$100 US (one hundred United States dollars), and other good and valuable consideration, the receipt of which is hereby acknowledged.

Microsoft Corporation, a corporation organized under the laws of Washington and having an office and place of business at One Microsoft Way, Redmond, Washington 98052 ("ASSIGNOR"),

hereby sells, assigns, transfers, and conveys to

Microsoft Technology Licensing, LLC, a limited liability company organized under the laws of Washington and having an office and place of business at One Microsoft Way, Redmond, Washington 98052 ("ASSIGNEE"),

all right, title and interest ASSIGNOR has in and to the patents and patent applications listed in Exhibit A, attached hereto, including any and all legal rights to sue for past, present and future infringement, to collect royalties, to prosecute all existing patent applications worldwide, to apply for additional patents worldwide and to have patents issue in the name of ASSIGNEE.

- (I) ASSIGNOR requests and authorizes the appropriate officials in any country, to issue any and all Letters Patent that may be granted upon any patent application or any additional, continuing or divisional applications thereof to the ASSIGNEE, its successors and assigns.
- (2) ASSIGNOR grants to ASSIGNEE and its agents authority and power to insert on this instrument any further identification necessary or desirable for purposes of recordation in the Patent and Trademark Office of any country.
- (3) ASSIGNOR certifies that the person signing this assignment is a lawful representative of ASSIGNOR and is authorized to execute this assignment its behalf.

(4) T ASSIGNEE	his assi _l have si _l	gnment will bec yned it.	ome effectiv M	e on the date	when both A	SSIGNOR and
1.1.1			$\mathcal{M}$	/		
<u> </u>	<u>1</u> 4	Signature of _	<u> </u>			for ASSIGNOR
DAT	£i.		Keith R. Do	olliver, Assista	nt Secretary	

I certify that the above-identified ASSIGNOR, personally known to me to be the same person or persons who signed the foregoing instrument, appeared before me this day in person, and acknowledged that the said instrument was signed and delivered as the free and voluntary act of the ASSIGNOR, for the uses and purposes therein set forth.

Page I

W40 FYIS

PATENT REEL: 082839 FRAME: 0967

# ASSIGNMENT OF PATENTS AND APPLICATIONS

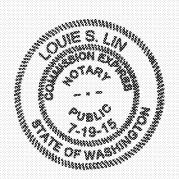
ACCEPTANCE

10/14/14

Signature of

I certify that the above-identified ASSIGNEE, personally known to me to be the same person or persons who signed the foregoing instrument, appeared before me this day in person, and acknowledged that the said instrument was signed and delivered as the free and voluntary act of the ASSIGNEE, for the uses and purposes therein set forth.

Given under my hand and seal, this 14 October 2014 Date].



Page 2

W40 FY15

PATENT REEL: 032839 FRAME: 0908