504061041 10/21/2016

EPAS ID: PAT4107707

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KEDAR PATWARDHAN	10/20/2016
ARASH SEPASI AHOEI	10/20/2016
MATHEW SPREHN	10/20/2016

RECEIVING PARTY DATA

Name:	EMC IP HOLDING COMPANY LLC
Street Address:	176 SOUTH STREET
City:	HOPKINTON
State/Country:	MASSACHUSETTS
Postal Code:	01748

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15283550

CORRESPONDENCE DATA

Fax Number: (415)705-6383

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.

(415) 705-6377 Phone:

Email: tnoah@dergnoah.com **DERGOSITS & NOAH LLP Correspondent Name:** Address Line 1: ONE EMBARCADERO CENTER

Address Line 2: **SUITE 350**

Address Line 4: SAN FRANCISCO, CALIFORNIA 94111

ATTORNEY DOCKET NUMBER: 965-15-0992 **NAME OF SUBMITTER:** AIMEE MAJDOUB SIGNATURE: /Aimee Majdoub/ **DATE SIGNED:** 10/21/2016

Total Attachments: 7

source=[965-15-0992] 15283550 Assignment (SIGNED)#page1.tif source=[965-15-0992] 15283550 Assignment (SIGNED)#page2.tif source=[965-15-0992] 15283550 Assignment (SIGNED)#page3.tif

PATENT REEL: 040084 FRAME: 0101 504061041

source=[965-15-0992] 15283550 Assignment (SIGNED)#page4.tif	
source=[965-15-0992] 15283550 Assignment (SIGNED)#page5.tif	
source=[965-15-0992] 15283550 Assignment (SIGNED)#page6.tif	
source=[965-15-0992] 15283550 Assignment (SIGNED)#page7.tif	

PATENT REEL: 040084 FRAME: 0102

Attorney Docket No.: 965-15-8992 EMC Docket No.: EMC-15-8992

ASSIGNMENT

WHEREAS, we, <u>Kedar Patwardhan</u>, <u>Arash Sepasi Ahoei and Mathew Sprehn</u> have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled <u>DE-DUPLICATING BACKUP FILES BASED ON DATA EVOLUTION</u>, the specification of which:

[]	is being executed on even date herewith and is about to be filed in the United States Patent Office;	
[X]	was filed on October 3, 2016 as U.S. Application No. 15/283,550;	
	was patented under U.S. Patent Noon	

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Delaware and having a usual place of business at 176 South Street, Hopkinton, Massachusetts 01748 desires to acquire an interest therein in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein:

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the

Attorney Docket No.: 965-15-0992 EMC Docket No.: EMC-15-0992

giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

set forth below;	e hereunto set our hands and affixed our seals as	
Date: 20th Oct 2016	By: Relatativas of Inventor's Signature	
Print full name of first inventor:	Kedar Patwardhan	
Residence:	762 Oak Glen Irvine, CA 92818	
Citizenship:	India	
Mailing Address:	Same as above	
STATE OF		
COUNTY OF		
On thisday of, 20, before me, Notary Public, personally appeared who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.		
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.		
WITNESS my hand and official seal.	01/0	
SEE CALIFORNIA ACKNOWLEDGMENT DATE 10/20/16 INTL	Print Name: Jeresa D. Lewis	
	My Commission expires 10/03/20/8	

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual

who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.		
State of California Orange Orange		
on October 20, 2016 before me, Teresa D	. Lewis, Notary Public	
(insert	name and title of the officer)	
personally appeared <u>Kedar Patward</u>	Lhan	
who proved to me on the basis of satisfactory evidence to subscribed to the within instrument and acknowledged to rhis/her/their authorized capacity(jes), and that by his/her/theperson(s), or the entity upon behalf of which the person(s)	be the person(s) whose name(s) is/gre ne that he/she/they executed the same in reir signature(s) on the instrument the	
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.		
WITNESS my hand and official seal.	TERESA D. LEWIS &	
Signature (Seal)	BY COMM. EM. COL 3. 2013 T	

Attorney Docket No.: 965-15-0992 EMC Docket No.: EMC-15-0992

Date:	By: Signature	
Print full name of second inventor:	Arash Sepasi Ahoei	
Residence:	14232 Mendocino Ave.	
	Irvine, CA 92606	
Citizenship:	United States of America	
Mailing Address:	Same as above	
STATE OF		
TO YT/UOO		
On this day of,	20, before me,	
On this		
I certify under PENALTY OF PERJURY une foregoing paragraph is true and correct.	der the laws of the State of California that the	
WITNESS my hand and official seal.	By: Jan Office Notary Public	
SEE CALIFORNIA ACKNOWLEDGMENT DATE/0/24/14 INTL	Print Name: <u>Teyesa</u> D. Lewis My Commission expires <u>10</u> 103 1 2018	
	My Commission expires $\frac{1}{2} \frac{1}{2} \frac{2}{2} \frac{1}{3} \frac{2}{3} \frac{1}{3}$	

ACKNOWLEDGMENT

A notary public or other officer completing this

certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.		
State of California County of		
On <u>October 20, 2016</u> before me, Teresa D. Lewis, Notary Public (insert name and title of the officer)		
(insert name and title of the officer)		
personally appeared Arash Sepasi Ahoei who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/afe		
subscribed to the within instrument and acknowledged to me that he/she/lifey executed the same in his/ber/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.		
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.		
WITNESS my hand and official seal. TERESA D. LEWIS COMM. # 2080746 D. NOTARY PUBLIC CALIFORNIA DISCONSIN PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC PUBLICA DISCONSIN PUBLIC PUBLI		
Signature (Seal)		

Attorney Docket No.: 965-15-0992 EMC Docket No.: EMC-15-0992

Date: 10/20/16	D	
Date:	By: Inventor's Signature	
Print full name of third inventor:	Mathew Sprehn	
Residence:	231 Pinestone	
	Irvine, CA 92604	
Citizenship:	United States of America	
Mailing Address:	Same as above	
STATE OF		
COUNTY OF		
On thisday of, 20, before me, Notary Public, personally appeared who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.		
I certify under PENALTY OF PERJURY under foregoing paragraph is true and correct.	the laws of the State of California that the	
WITNESS my hand and official seal.	- $O1h$	
SEE CALIFORNIA ACKNOWLEDGMENT DATE 10/20/16 INTL 10/2	Print Name: Teresc D. Lewis My Commission expires 10/103/2018	

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

validity of that document.		
State of California County of		
On October 20, 2016 before me, Teresa D.	Lewis, Notary Public	
personally appeared Mathew Sprenn	,	
who proved to me on the basis of satisfactory evidence to be subscribed to the within instrument and acknowledged to me his/ber/their authorized capacity(les), and that by his/her/their person(s), or the entity upon behalf of which the person(s) a	e that he/she/they executed the same in ir signature(s) on the instrument the	
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.		
WITNESS my hand and official seal.	TERESA D. LEWIS COMM & 20807AS (I)	
Signature (Seal)	COUNT OF CHANGE LY COMM. ESP. OCt. 3, 2018	

PATENT REEL: 040084 FRAME: 0109

RECORDED: 10/21/2016