## 504845785 03/30/2018

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
JEREMY J. O'HARE	03/19/2018
KUOLIN HUA	03/19/2018
MICHAEL J. SCHARLAND	03/19/2018
STEPHEN J. LATHROP	03/19/2018
ANOOP RAGHUNATHAN	03/19/2018

### **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:	15941218

## **CORRESPONDENCE DATA**

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Correspondent Name: EMC IP HOLDING COMPANY LLC

Address Line 1: 176 SOUTH STREET

Address Line 4: HOPKINTON, MASSACHUSETTS 01748

ATTORNEY DOCKET NUMBER:	109707.01
NAME OF SUBMITTER:	ANNE-MARIE DINIUS
SIGNATURE:	/Anne-Marie Dinius/
DATE SIGNED:	03/30/2018

**Total Attachments: 7** 

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PATENT REEL: 045395 FRAME: 0319

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PATENT REEL: 045395 FRAME: 0320

#### ASSIGNMENT

WHEREAS, we, <u>Jeremy J. O'Hare</u>, <u>Kuolin Hua</u>, <u>Michael J. Scharland</u>, <u>Stephen M. Lathrop</u>, and <u>Anoop Raghunathan</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>LARGE BLOCK MISALIGNED DEDUPLICATION</u> (Application), the specification of which:

[XX]	is being executed on ever States Patent Office;	date herewith and is about to be filed in the United
[]	was filed on	as U.S. Application No. ;
[]	was patented under U.S.	

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State 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,

PATENT REEL: 045395 FRAME: 0321 reissue, divisional or continuation applications and preliminary or other statements and the 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;

AND, we hereby authorize our attorneys, EMC IP Holding Company LLC, to insert here in parenthesis (<u>US Application S/N 15/941218 filed 03/30/2018</u>) the application number and filing date of said Application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals as set forth below:

Date: 3/15/23/8	in the second se
· ·	// Inventor's Signature
Print full name of first inventor:	Jeremy J. O'Hare
Residence:	3 Appleseed Drive, Westborough, MA 01581
Citizenship:	USA
Mailing Address:	Same as Above
1, Judith Hyfiren (nam 39 Cloverbaffel, Leonis	e of first witness), whose residential address is
N.	<u>P'Hare</u> (name of person signing the assignment),
who is personally known to me, execute the ab	ove assignment.
Judith Hatiners ( Signed at 176 South St. Hopk on this day, March 19	signature of first witness) <u>ぶえか かみ</u> (location of witness signature) 20 <u>15</u> (date of signature).
	e of second witness), whose residential address is
	'Hare (name of person signing the assignment),
who is personally known to me, execute the ab	ove assignment.
Jeansfres (	signature of second witness)
Signed at <u>176 South St. Here w</u>	(location of witness signature)
on this day, <u>//48.64</u> / <u>/</u> /2, /2	0 <u>/</u> 문 (date of signature).

Date: 3 / 15 / 15	Amount Land	
	Inventor's Signature	
Print full name of inventor	Kuolin Hua	
Residence	25 Vesta Road, Natick, MA 01760	
Citizenship	USA	
Mailing Address	Same as above	
<u> 23 505/07/02/</u>	(name of first witness), whose residential address is	
(signature of first witness) Signed at <u>176 SCO A ST A/OGA/ACA</u> (location of witness signature) on this day, <u>2204</u> (date of signature).		
I, January J. Juliana	_(name of second witness), whose residential address is  ////// lin Hua (name of person signing the assignment), who is ove assignment.	
	(signature of second witness)  OPEN (Incation of witness signature) , 20 // (date of signature).	

Date: 3/19/18	_ Nuil Elebert	
	Inventor's Signature	
Print full name of inventor	Michael J. Scharland	
Residence	20 Jefferson Road, Franklin, MA 02038	
Citizenship	USA	
Mailing Address	Same as above	
I, MAdum Make of (name of first witness), whose residential address is  20 Patteron Loud Shirty MA 01464  was personally present and did see Michael J. Scharland (name of person signing the assignment), who is personally known to me, execute the above assignment.  (signature of first witness)  Signed at 176 South Street Hopkin on Mr. (location of witness signature) on this day, Mach 1th , 20 18 (date of signature).		
	(pame of second witness), whose residential address is  ichael J. Scharland (name of person signing the to me, execute the above assignment.  (signature of second witness)  (location of witness signature)  20 16 (date of signature).	

Date: 19-142-2018	Stabe M. Kaken
	Inventor's Signattire
Print full name of inventor	Stephen M. Lathrop
Residence	46 Briar Drive, Milford, MA 01757
Citizenship	USA
Mailing Address	Same as above
1, July Hyteren (nar	ne of first witness), whose residential address is
U39 Cloudles Ad Les	winter, MA01453
	1. Lathrop (name of person signing the assignment)
who is personally known to me, execute the a	bove assignment.
Judah Hoterer	(signature of first witness)
Signed at 176 South St Nople	(signature of first witness) 文 <u>大</u> (location of witness signature) , 20 <u>18</u> (date of signature).
on this day, March 19	, 20 💯 (date of signature).
-	
I, Serma G. pas (nan	ne of second witness), whose residential address is
H 9 SOTON PRIVE SHR	WEBURY MA. OITES
	1. Lathrop (name of person signing the assignment),
who is personally known to me, execute the a	bove assignment.
Jery -	(signature of second witness)
Asserted the State of the State	ペンフェン イタ (location of witness signature)
3 age	20_/ (date of signature).

Date: 03/19/2018	Avert
<b>,</b>	Inventor's Signature
Print full name of inventor	Anoop Raghunathan
Residence	441 Captain Eames Circle, Ashland, MA 01721
Citizenship	USA INDIA
Mailing Address	Same as above
1, Judio Hotsics (name	e of first witness), whose residential address is ベルルルセン M A 21453
was personally present and did see Anoop Ras	
assignment), who is personally known to me,	execute the above assignment.
Signed at 74 South St. Hopk on this day, March 19,	signature of first witness) <u>レゼン ガイ</u> (location of witness signature) 20 <u>イ</u> ズ (date of signature).
I, <u>Scema 4 pag</u> (nam	e of second witness), whose residential address is ೭೬೪೪ SURY MP DISY
was personally present and did see Anoop Rag	그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그
assignment), who is personally known to me, o	
Jeengring.	signature of second witness)  V , MA (location of witness signature)  20 18 (date of signature).
Signed at <u>176 South St., Hopk (N70)</u>	/ / MA (location of witness signature)
on this day, <u>MARCH / 9</u> , 7	20 <u>/6</u> (date of signature).

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