504600600 10/18/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LIAM LI	09/26/2017
XINLEI XU	09/26/2017
JIAN GAO	09/27/2017
LIFENG YANG	09/26/2017
CHANGYU FENG	09/26/2017

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:	15712483

CORRESPONDENCE DATA

Fax Number:

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.

Email: amanda.bernier@emc.com

Correspondent Name: EMC IP HOLDING COMPANY LLC

Address Line 1: 176 SOUTH STREET

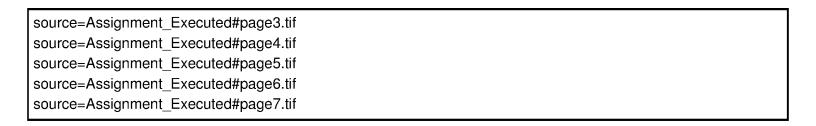
Address Line 4: HOPKINTON, MASSACHUSETTS 01748

ATTORNEY DOCKET NUMBER:	EMC-16-0490.02	
NAME OF SUBMITTER:	AMANDA M. BERNIER	
SIGNATURE:	/Amanda M. Bernier/	
DATE SIGNED:	10/18/2017	

Total Attachments: 7

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PATENT 504600600 REEL: 043898 FRAME: 0499



PATENT REEL: 043898 FRAME: 0500

PATENT/Joint Assignment EMC Docket No.: EMC-16-0490.02

ASSIGNMENT

WHEREAS, we, Liam Li, Xinlei Xu, Jian Gao, Lifeng Yang and Changyu Feng, 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 *FLUSHING PAGES FROM SOLID-STATE STORAGE DEVICE* (Application), 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 September 22, 2017 as U.S. Application No. 15/712,483;	
Γ 1	was patented under U.S. Patent Noon	

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company 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, reissue, divisional or continuation applications and preliminary or other statements and the

PATENT REEL: 043898 FRAME: 0501 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 (15/712,483 filed September 22, 2017 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: 9/26/2017	Ldan Li	
	Inventor's Signature	
Fuil Name:	Liam Li	
Residence:	Longhuiyuan 1-3-401, Huilongguan	
	Beijing, CN	
Citizenship:	CN	
Mailing Address:	Same as above	
I, Lin Loushen (nam	ne of first witness), whose residential address is Haidian Dist · Beijim PRL.	
7/F Block D. Tsimhua Science Park	Hardran Drst. Berjim PRC.	
was personally present and did see <u>Liam Li</u> (n	name of person signing the assignment), who is	
personally known to me, execute the above as		
Lin Loushon. Signed at Sing hun Science Park on this day, 9/26/2117	(signature of first witness) . (location of witness signature) 20 (date of signature).	
I, Ruibng Jia (name of second witness), whose residential address is 15. Naky Turbua Science fork. Hailian Dur beijing PRC was personally present and did see Liam Li (name of person signing the assignment), who is personally known to me, execute the above assignment.		
personally known to me, encoure are upove a	30.5	
Ruijong Ila	(signature of second witness)	
Signed at the same or above	(location of witness signature)	
on this day, 9/26/2017	(signature of second witness) (location of witness signature) , 20 (date of signature).	

Date: <u>W17.</u> 9. 26	Lindei Lu	
	Inventor's Signature	
Full Name:	Xinlei Xu	
Residence:	6-6-602,tiantongyuan Zhong Yuan	
	Beijing, CN 100010	
Citizenship:	CN	
Mailing Address:	Same as above	
I, Lin Youshun (nan 1/1. Block D. Tsinghau Scilect Ports was personally present and did see <u>Xinlei Xu</u> personally known to me, execute the above as	ne of first witness), whose residential address is Handian Dist. Benjim, PRC (name of person signing the assignment), who is ssignment.	
Lin Youshon . Signed at Ting has School Puyh . on this day, 9/26	(signature of first witness) (location of witness signature) (20 1 (date of signature).	
I, Mocky (Shiphus Science Porks, Halping Dist, Beiling Plece was personally present and did see Xinlei Xu (name of person signing the assignment), who is personally known to me, execute the above assignment.		
Ruybug Ila Signed at the Same as above on this day, 9/26	(signature of second witness) (location of witness signature) , 20 (date of signature).	

Date: 20(7, 9, 27	多分表
	Inventor's Signature
Full Name:	Jian Gao
Residence:	8/F, Block D, Tsinghua Science Park
	NO.1 Zhongguancun East Road
	Beijing, CN 100084
Citizenship:	CN
Mailing Address:	Same as above
I. Lin Youshen	(name of first witness), whose residential address is
717 RL b D Transpor Science Park	(name of first witness), whose residential address is Handian 1956. Renjing. PDC.
	1 Gao (name of person signing the assignment), who is
personally known to me, execute the a	bove assignment.
1. 4.	(-i
LW/0059les	(signature of first witness) (location of witness signature) , 20 17 (date of signature).
Signed at /smhua Signel (A7)	(location of witness signature)
on this day, $\frac{q/26}{}$.	, 20 1 / (date of signature).
12	
1, Kulyang lia	(name of second witness), whose residential address is
7F. Block D. Tilinghua Science Day	k Haillian Dist Beiling PRe.
was personally present and did see Jia	n Gao (name of person signing the assignment), who is
personally known to me, execute the a	
•	
Rulfara Tin	(signature of second witness)
Signed at the Come on a	(location of witness signature)
on this day of h	20 / (date of signature)
on this day,	(signature of second witness) (location of witness signature) , 20 (date of signature).

PATENT/Joint Assignment EMC Docket No.: EMC-16-0490.02

Date: 26	Inventor's Signature	
Full Name:	Lifeng Yang	
Residence:	10-3-50A, Xingfu-jiayuan, Dongcheng Dist	
	Beijing, CN 100062	
Citizenship:	CN	
Mailing Address:	Same as above	
	ne of first witness), whose residential address is no vist. Berjing PA (ng (name of person signing the assignment), who is signment.	
Lin/oushof	(signature of first witness)	
Signed at Try haa Sciare Park	(location of witness signature)	
Signed at Tring haa Science Park on this day, 9/2	20 <u>17</u> (date of signature).	
(name of second witness), whose residential address is 17. Block! [Singhua Science Park Hailian] ist, Beijing per was personally present and did see Lifeng Yang (name of person signing the assignment), who is personally known to me, execute the above assignment.		
Kirjoy Tin Signed at the same as a dul	(signature of second witness) (location of witness signature)	
on this day, $9/26$	(signature of second witness) (location of witness signature) , 20 (date of signature).	

Date: 2017. 9. 26	Inventor Signature
	Inventor Signature
Full Name:	Changyu Feng
Residence:	RM 702, Unit 1, 4th Building,
	ShiZhong Road, HouShaYu Town
	Beijing, CN 100084
Citizenship:	CN
Mailing Address:	Same as above
15 4 1	
I, La loushon (na:	me of first witness), whose residential address is Handlan Dyst. Benjing. PRC
was personally present and did see Changyu	Feng (name of person signing the assignment), who
is personally known to me, execute the abov	
Lin Youshay	(signature of first witness) (location of witness signature) (date of signature).
Signed at Tracker School Park	(location of witness signature)
on this day 4/24	20 7 (data of signature)
on this day,	, 20 (date of signature).
I. Keilyng Da (na	ime of second witness), whose residential address is
F. Block D. Tilnghun Science terk Hair	me of second witness), whose residential address is
was personally present and did see Changyu	Feng (name of person signing the assignment), who
is personally known to me, execute the above	
Rivona Jan	(signature of second witness)
Signed at the Same of addition	(location of witness signature)
on this day, 9/26	_ (signature of second witness) (location of witness signature) (date of signature).
1	/
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RECORDED: 10/18/2017

PATENT REEL: 043898 FRAME: 0507