## 504751110 01/29/2018

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
WAYNE WEIHUA LI	01/18/2018
GENG HAN	01/16/2018
JIAN GAO	01/18/2018
JIBING DONG	01/16/2018
HONGPO GOA	01/16/2018

#### **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:	15846330

### **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: Holly\_Vigliatura@dell.com

Correspondent Name: EMC IP HOLDING COMPANY LLC

Address Line 1: 176 SOUTH STREET

Address Line 4: HOPKINTON, MASSACHUSETTS 01748

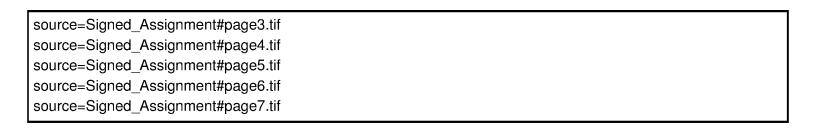
ATTORNEY DOCKET NUMBER:	EMC-16-0928.02	
NAME OF SUBMITTER:	HOLLY VIGLIATURA	
SIGNATURE:	/Holly Vigliatura/	
DATE SIGNED:	01/29/2018	

**Total Attachments: 7** 

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PATENT REEL: 044753 FRAME: 0933

PATENT/Joint Assignment Docket No.: EMC-16-0928.02

#### **ASSIGNMENT**

WHEREAS, we, Wayne Weihua Li, Geng Han, Jian Gao, Jibing Dong and Hongpo Gao 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 METHOD AND APPARATUS FOR STORAGE MANAGEMENT (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 December 19, 2017 as U.S. Application No. 15/846,330;	
[]	was patented under U.S. Patent No on	

**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,

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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 (15/846,330 filed December 19, 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:

PATENT/Joint Assignment Docket No.: EMC-16-0928.02

Date: 1/8/20/8	Wayne Welhua Li
	Inventor's Signature
Print full name of inventor	Wayne Weihua Li
Residence	8/F Tsinghua Science Park
	No.1 Zhongguancun East Road
	Beijing, China 100084
Citizenship	China
Mailing Address	Same as above
I, <u>Sun lei</u> (nam	Hai Dian District, Beijif, P.R.C
7/F. Block D. Tenghan Science Park.	Hai Dian District, Beijig, P.R.C
was personally present and did see Wayne W	eihua Li (name of person signing the assignment),
who is personally known to me, execute the al	bove assignment.
Sun Lei	(signature of first witness)  Haira Pistrict. (location of witness signature)  2018 (date of signature).
Signed at 71f, Block D, Tsylma Science Pork.	Hailian Pistrice, (location of witness signature)
on this day,	2018 (date of signature).
I. haote Thus (nam	ne of second witness), whose residential address is
7/F Block D Ising hua Science Dark	HaiDiga District Boiling P.R.C
was personally present and did see Wayne W	ne of second witness), whose residential address is L. Hai Dian Vistrict. Beijing, P.R.C.  Weihua Li (name of person signing the assignment),
who is personally known to me, execute the a	
,	
Baste Thus	(signature of second witness)
Signed at / F. Block D. Tsinghua Scie	(signature of second witness)  Solution of Witness signature)  2018 (date of signature).
on this day,	2018 (date of signature).

Date: 2018, 01, 16	Inventor's Signature
	Inventor's signature
Print full name of inventor	Geng Han
Residence	12-5-501, Xinlongcheng, Changping
	Beijing, China 100010
Citizenship	China
Mailing Address	Same as above
I, Sun Lei	(name of first witness), whose residential address is
	k, Hail Dian District, Beijing, P.R.C
was personally present and did see G	eng Han (name of person signing the assignment), who is
personally known to me, execute the	above assignment.
Sun lei	(signature of first witness)  cience Park, Har Dran District (location of witness signature)
Signed at 7/F, Block D. Tany hua S	cience Park, Hai Dian District location of witness signature)
on this day, 1. 18	, 2018 (date of signature).
,	
I, Baste Thuo	(name of second witness), whose residential address is (a park . HaiDian District, Baijing . P.R. c
7/F.Block D. Tsinglua Science	e park. MaiDian District, Beijing P.R.C
was personally present and did see G	teng Han (name of person signing the assignment), who is
personally known to me, execute the	above assignment.
Baste Thus	(signature of second witness)
Signed at / F. Block D. Tsing Luc	(signature of second witness) <u>a Science Park, Hai Dian</u> (location of witness signature)  2018 (date of signature).
on this day.	. 2018 (date of signature).

Date: 2018.1.14	Inventor's Signature
Print full name of inventor	Jian Gao
Residence	8/F, Block D, Tsinghua Science Park
	No.1 Zhongguancun East Road
	Beijing, China 100084
Citizenship	China
Mailing Address	Same as above
I, Sun les	(name of first witness), whose residential address is
personally known to me, execute t	(signature of first witness)  Science Park, Hai Pian District, (location of witness signature)  8, 2018 (date of signature).
Signed at 11f. Block D. Tsighna!	Science Park, Han Dian District, (location of witness signature)
I, <u>Baote Thuo</u>	(name of second witness), whose residential address is  Science park, Hai Dian District, Beijing P.R.C.  High Cap (name of person signing the assignment) who is
7/F Block D. Tsinghua	Science park, Hai Dian District, Briging P.R.C
was personally present and did see	e Jian Gao (name of person signing the assignment), who is
personally known to me, execute	the above assignment.
Baste Thus	(signature of second witness)  Thua Science park, Hailuberation of witness signature)  1. 18, 2018 (date of signature).
Signed at 1 17 Book D. Ising	Lua Science park. Har Ubcation of witness signature)
on this day,	/ . / <b>δ</b> , 2018 (date of signature).

PATENT/Joint Assignment Docket No.: EMC-16-0928.02

Date: 20 18/11/6	Jing Dong Inventor's Signature
	Inventor's Signature
Print full name of inventor	Jibing Dong
Residence	2-2903 Building 5, Zaoyuanxiang No. 3
	Qingyuan Street, Daxing District
	Beijing, China 102627
Citizenship	China
Mailing Address	Same as above
I, Sun lei	(name of first witness), whose residential address is
7/F. Block D. Tsighna Scriene P	(name of first witness), whose residential address is
was personally present and did see	e Jibing Dong (name of person signing the assignment), who is
personally known to me, execute t	he above assignment.
Sun lei	(signature of first witness)  Science Park, Hai Dian District (location of witness signature)
Signed at 715, Block D. Ting hua	Science Park, Hai Dian District (location of witness signature)
on this day,	3, 2018 (date of signature).
1 Baste Thus	(name of second witness) whose residential address is
7/F Block D. Tsinghua S.	(name of second witness), whose residential address is cience park, HaiDian District, Beijing, P.R.
was personally present and did see	e <b>Jibing Dong</b> (name of person signing the assignment), who is
personally known to me, execute	
Banto Thuo	(signature of second witness)
Signed at SIE Block D Ising	(signature of second witness)  (hux Science park, Hai Dianocation of witness signature)  18, 2018 (date of signature).
on this day,	. 18 , 20 18 (date of signature).

Date:	Inventor's Signature
	Inventor's Signature
Print full name of inventor	Hongpo Gao
Residence	5-301 Building 1, Longyue Street No. 10
	Changping District
	Beijing, China 100084
Citizenship	China
Mailing Address	Same as above
I Sua loi (nam	e of first witness), whose residential address is
7/f., Block D. Tonghua Science Park, Ha	tae (name of parson signing the assignment) who
	ao (name of person signing the assignment), who
is personally known to me, execute the above	assignment.
Ç., 102	( control of Control o
SUN UL	(signature of first witness)  (signature of first witness)  (signature of signature)  2018 (date of signature).
Signed at 11-, Block V, Tayhua Science Pa	ye, Hai Dian Pictice (location of witness signature)
on this day,	2018 (date of signature).
<i>t</i>	
I, <u>baote Thuo</u> (nam	ne of second witness), whose residential address is
7/F. Block D. Tsing Lua Sciente Pa.	ne of second witness), whose residential address is the MaiDian District. Beijing, P.R.C
was personally present and did see Hongpo G	ao (name of person signing the assignment), who
is personally known to me, execute the above	assignment.
Baste Thus	(signature of second witness)
Signed at 7/F. brook D Toing hua Scien	(signature of second witness)  20 Park, HaiDian (location of witness signature)  2018 (date of signature).
on this day,, \(\frac{\gamma}{\gamma}\), \(\gamma\) \(\gamma\), \(\gamma\)	2018 (date of signature).

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**RECORDED: 01/29/2018**