PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4924704

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JIBING DONG	04/09/2018
HONGPO GAO	04/09/2018
JIAN GAO	04/09/2018
SHAOQIN GONG	04/09/2018
XINLEI XU	04/09/2018
REE SUN	04/09/2018

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:	15954831

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-17-0012.02
NAME OF SUBMITTER:	HOLLY VIGLIATURA
SIGNATURE:	/Holly Vigliatura/
DATE SIGNED:	04/20/2018

Total Attachments: 8

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PATENT REEL: 045594 FRAME: 0917

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PATENT REEL: 045594 FRAME: 0918

ASSIGNMENT

WHEREAS, we, Jibing Dong, Hongpo Gao, Jian Gao, Shaoqin Gong, Xinlei Xu and Ree Sun, 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 STORAGE MANAGEMENT METHOD, DEVICE AND COMPUTER-READABLE MEDIUM (Application), the specification of which:

[]	is being executed on even date herewith and is about to be filed in the Unite States Patent Office;	d
[X]	was filed on April 17, 2018 as U.S. Application No. 15/954831;	
[]	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 (15/954831 filed April 17, 2018) 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:	Tipog Dong
	Inventor's Signature
Print full name of inventor	Jibing Dong
	7/F, Block D, Tsinghua Science Park
Residence	Beijing, China
Citizenship	China (People's Republic)
Mailing Address	Same as above
· 1 6	
I, Janin Kang (na	me of first witness), whose residential address is District, Beijing, China
	ong (name of person signing the assignment), who is
personally known to me, execute the above a	assignment.
- 1	
Jamin Cong	(signature of first witness) Science (ark, Haid on District British of witness signature) , 2018 (date of signature).
Signed at <u>Ploor 7, Building V, Isimshua</u>	Scina Park, Haid (location of witness signature)
on this day, <u>4.9</u>	_, 2018 (date of signature).
· ,	
I, <u>Baote Thuo</u> (na	ume of second witness), whose residential address is walk, Haidian Diswirt, Beijing P.R.C
7/F. Block D. Tsinghua Science Do	WK Haidian DisWirt Beijing P.R.C
was personally present and did see Jibing D	ong (name of person signing the assignment), who is
personally known to me, execute the above	
•	
Baote Thus	(signature of second witness)
Signed at > / T Brook D Taing Lya Scie	nu Park, Hai Dia (location of witness signature)
on this day, \mathcal{G} , \mathcal{G}	(signature of second witness) District, Beijing, P.R.C Lance fark, Hai Dian (location of witness signature) , 2018 (date of signature).
	<u> </u>

Date: $\frac{10/8 \cdot 4}{9}$	Hongo Gao 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 (People's Republic)
Mailing Address	Same as above
I, Jamin Kang (nam Building 9, Wenthi Yang, Haidinan District,	ne of first witness), whose residential address is
	ao (name of person signing the assignment), who
Jamin Kang Signed at J.F. Block D., Tsinghua Science Park, on this day, 4.9	(signature of first witness) Haidian Pistrict, Bei) (location of witness signature) 2018 (date of signature).
I, <u>Baote Thuo</u> (name of F. Brock D. Isinghua Soience park.)	e of second witness), whose residential address is Haidian Disniot. Bailing 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	
Baole Thuo (Signed at / F. Book D. Toinghua Sciente on this day,,	(signature of second witness) Lefank, KaiDian (location of witness signature) 2018 (date of signature).
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Date: 20/8-4. 9	33 33
•	Inventor's Signature
Print full name of inventor	Jian Gao
Residence	8/F Tsinghua Science Park
	No.1 Zhongguancun East Road
	Beijing, China 100084
Citizenship	China (People's Republic)
Mailing Address	Same as above
I. Jamin Kang	(name of first witness), whose residential address is
Building , Wentai Yuan, Haidian District	t, Beijas PPC
	Gao (name of person signing the assignment), who is
personally known to me, execute the above	
postorially and the same of th	
Janan Kana	(signature of first witness)
Signed at 78 Block D. Tsinghua Science	(signature of first witness) Park, Haidian District, Beij Mocation of witness signature)
on this day, 4.9	2018 (date of signature).
on this day,	
Boots Thus	(name of second witness) whose residential address is
1, photo van	(name of second witness), whose residential address is , Maidian Diswict. Beijing. P.R.C
1/1, Block V. 1/5/19 masser and did see Tion A	Gao (name of person signing the assignment), who is
personally known to me, execute the abo	ve assignment.
An to Thus	(signature of gogand witness)
Similar / A L. D. T. J. A. L. C. S.	(signature of second witness) Service Beijing, P.R.C Service Beijing, P.R.C Leade park, HaiDian (location of witness signature) , 2018 (date of signature).
Signed at 714, Diock V, Ising Kind Sch	2019 (data of signature)
on this day, φ .	, 2018 (date of signature).

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Date: 2018, 4, 9	Sharqin Cong Inventor's Signature
	Inventor's Signature
Print full name of inventor	Shaoqin Gong
Residence	No.29, Chengfu Road, Haidian District
	Beijing, China
Citizenship	China (People's Republic)
Mailing Address	Same as above
I, Janin Kang Building 9, Wentley Yuan Haidian	(name of first witness), whose residential address is
	haoqin Gong (name of person signing the assignment), who
is personally known to me, execute the	
Jaming Signed at 7F, Block D, Tsinghua Scien on this day, 4.9	(signature of first witness) (graph, Haidian District, Bei) (Mocation of witness signature) , 2018 (date of signature).
I, <u>Baote Thuo</u> 7/F Book D. Tsinghua Scie	(name of second witness), whose residential address is enterpark, Hai Dian Dismid Beijing. P. R. C
was personally present and did see S	haoqin Gong (name of person signing the assignment), who
is personally known to me, execute the	he above assignment.
Baste Thus Signed at 7/7, Bush D. Isinghua. on this day.	(signature of second witness) Science Park, Haidian District Bring P.R.C (location of witness signature) , 2018 (date of signature).
	

Date: 2018. 4.9	X'μ(l) - Χυ Inventor's Signature
	Inventor's Signature
Print full name of inventor	Xinlei Xu
Residence	6-6-602, Tiantongyuan Zhong Yuan
	Beijing, China 100010
Citizenship	China (People's Republic)
Mailing Address	Same as above
I, Jamin kang (nan	ne of first witness), whose residential address is
Building 9, Wonthi Yeran, Maidian Vistric	t Beijing PPC
was personally present and did see Xinlei Xu	(name of person signing the assignment), who is
personally known to me, execute the above as	ssignment.
Joimin Kong Signed at <u>Tf, BlockD, Tsinghua Science Pon</u> on this day, <u>4.</u> 9	(signature of first witness) (signature of first witness) (be in 1200 of witness signature) 2018 (date of signature).
I, <u>Baoto Thus</u> (nan OFF. Brook D. Ising has Science par was personally present and did see Xinlei Xu personally known to me, execute the above as	ne of second witness), whose residential address is R., HaiDian Diswict, Beijing, P.R.C. (name of person signing the assignment), who is ssignment.
	(signature of second witness) we park, Haid (mocation of witness signature) 2018 (date of signature).

Date: 2018-4-9	4175.
	Inventor's Signature
Print full name of inventor	Ree Sun
Residence	9-1-301,GuoFengMeiTang
	Beijing, China
Citizenship	China (People's Republic)
Mailing Address	Same as above
I, Jamin Kong (nan Buildre 9 Wahai V. a Haiding Dictric	ne of first witness), whose residential address is
was personally present and did see Ree Sun (name of person signing the assignment), who is personally known to me, execute the above assignment.	
personanty known to me, execute the above as	osignment.
Janin · Kome	(signature of first witness)
Signed at 7f. 8 (ock). Tringham Science Port.	(signature of first witness) Har Fran Pistrict, Berling PD C Har Fran Pistrict, Berling PD C
on this day, ψ . 9	, 2018 (date of signature).
ł	
I, <u>Baote Thus</u> (nan	ne of second witness), whose residential address is k. HaiDian District, Beijing. P.R.C
17 Book D. Tong hua Soience par	k. Haidian District, Beijing. P.R.C
was personally present and did see Ree Sun ((name of person signing the assignment), who is
personally known to me, execute the above as	ssignment.
Baote Thuo Signed at 7/F. Block D. Toing Lua Scien	(signature of second witness) (signature of second witness) (signature of signature) (signature of signature).
on this day, 4.9	, 2018 (date of signature).

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