505000335 07/12/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JIAN GAO	07/12/2018
LIFENG YANG	07/12/2018
XINLEI XU	07/12/2018
LIAM XIONGCHENG LI	07/12/2018

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:	16021286

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:	108755.02	
NAME OF SUBMITTER:	HOLLY VIGLIATURA	
SIGNATURE:	/Holly Vigliatura/	
DATE SIGNED:	07/12/2018	

Total Attachments: 6

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> PATENT REEL: 046330 FRAME: 0355

PATENT/Joint Assignment Docket No.: 108755.02

ASSIGNMENT

WHEREAS, we, Jian Gao, Lifeng Yang, Xinlei Xu, and Liam Xioncheng Li, 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 OF STORAGE MANAGEMENT, STORAGE SYSTEM AND COMPUTER PROGRAM PRODUCT (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 June 28, 2018 as U.S. Application No. 16/021,286;	
F 1	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 (16/021,286 filed June 28, 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:

PATENT/Joint Assignment Docket No.: 108755.02

Date: 2518.7.12	Gao Jian
Date.	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 (People's Republic)
Mailing Address	Same as above
I, Hongro Guo	_(name of first witness), whose residential address is
- 7/1- , Block D, 75P ,	_(name of first witness), whose residential address is No! ZhonyguemCun East ford HavDvan , (3
was personally present and did see Jian	Gao (name of person signing the assignment), who is
personally known to me, execute the abo	ove assignment.
Hongpo Gas	(signature of first witness) [S] (location of witness signature) , 2018 (date of signature).
Signed at TTF , Block D	(location of witness signature)
on this day, 7, 12	, 2018 (date of signature).
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i, <u>fullyons</u> Jia	(name of second witness), whose residential address is
1/T, Block D, TSP, NO. 1 Zhong C	un Cun Fast Road, Haillan BJ
was personally present and did see Jian	Gao (name of person signing the assignment), who is
personally known to me, execute the abo	ove assignment.
Ruilong Dia	(signature of second witness)
Signed at - He same as	(signature of second witness) (location of witness signature) , 2018 (date of signature).
on this day,	, 2018 (date of signature).

Date: 2018, 7.12	Inventor's Signature
Print full name of inventor	Lifeng Yang
	21-1803, Xingfu-jiayuan, Dongcheng District
Residence	Beijing, China 100062
Citizenship	China (People's Republic)
Mailing Address	Same as above
was personally present and did see Life	(name of first witness), whose residential address is
is personally known to me, execute the	above assignment.
Signed at 7/7, Block on this day, 7, 12	(signature of first witness) 757 (location of witness signature) , 2018 (date of signature).
was personally present and did see Lif	(name of second witness), whose residential address is(un
is personally known to me, execute the	above assignment.
Ruiyong Dia	(signature of second witness)
Signed at the Same as	(location of witness signature)
on this day 7 10.	2018 (date of signature)

Date: 2018.7.12	Xinlei Xu
	χίη (εί Χιμ 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
Llander Cour	
1, Jorge Mad	(name of first witness), whose residential address is 187 187
was personally present and did see	No. 200 and grand tast Road, fundian, 137
personally known to me, execute th	Xinlei Xu (name of person signing the assignment), who is
personally known to me, execute in	e above assignment.
Horapo Gua	(signature of first witness)
Signed at - H Block	(signature of first witness) D, 73 P (location of witness signature) , 2018 (date of signature).
on this day.	. 2018 (date of signature).
, - <u></u>	
1	
i, Ruiyong Jin	(name of second witness), whose residential address is
7/I Block V. TSP, No. 2	(name of second witness), whose residential address is hong auan (un Fost Road, Mailian B]
was personally present and did see	Xiniei Xu (name of person signing the assignment), who is
	e above assignment.
D	
Kulyong Jin	(signature of second witness)
Signed at the same of	(signature of second witness) (location of witness signature) , 2018 (date of signature).
on this day, 7.12	, 2018 (date of signature).

Date: 2018.7.17	Inventor's Signature	
	Inventor's Signature	
Print full name of inventor	Liam Xiongcheng Li	
Residence	Longhuiyuan 1-3-401, Huilongguan,	
	Beijing, China	
Citizenship	China (People's Republic)	
Mailing Address	Same as above	
1, Hong po Franco (nam	ne of first witness), whose residential address is	
7/7 , Block D, 75P, NO1 21	hongquanlus bust Koad, Hew Dran, B'	
wa's personally present and did see Liam Xioi	ngcheng Li (name of person signing the	
assignment), who is personally known to me,	execute the above assignment.	
Hangho Guo Signed at 7/F Black D, TS on this day, 7, 12	(signature of first witness) (location of witness signature) 2018 (date of signature).	
1, Ruijons Jia (name of second witness), whose residential address is 17, Wock V, TSP, Thong Cum and Later Rd. Hailian, BJ was personally present and did see Liam Xiongcheng Li (name of person signing the		
assignment), who is personally known to me,	execute the above assignment.	
Ruijong Jia Signed at the same as above	(signature of second witness)	
Signed at the same as above	(location of witness signature)	
	2018 (date of signature).	