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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JIAN GAO	07/24/2017
GENG HAN	07/24/2017
ILYA USVYATSKY	08/14/2017
JAMIN KANG	07/24/2017
HONGPO GAO	07/24/2017
JIBING DONG	07/25/2017

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:	15664730

CORRESPONDENCE DATA

Fax Number: (617)523-6850

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Phone: 6175235831

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Correspondent Name: HOLLAND & KNIGHT LLP Address Line 1: 10 SAINT JAMES AVENUE

Address Line 4: BOSTON, MASSACHUSETTS 02116

ATTORNEY DOCKET NUMBER: 113454.00269/108839	
NAME OF SUBMITTER:	TIMOTHY PENG
SIGNATURE:	/Timothy Peng/
DATE SIGNED:	08/17/2017

Total Attachments: 8

PATENT REEL: 043322 FRAME: 0804

PATENT REEL: 043322 FRAME: 0805

ASSIGNMENT

WHEREAS, we, <u>Jian Gao</u>, <u>Geng Han</u>, <u>Ilya Usvyatsky</u>, <u>Jamin King</u>, <u>Hongpo Gao</u> and <u>Jibing Dong</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>Storage Device Group Split Technique for Extent Pool with Hybrid Capacity Storage Devices <u>System and Method</u> (Application), the specification of which:</u>

	is being executed on even date herewith and is about to be filed in the United States Patent Office;
[X]	was filed on July 31, 2017 as U.S. Application No. 15/664,730;
[]	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,

PATENT REEL: 043322 FRAME: 0806 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 Corporation, to insert here in parenthesis (_________) 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: 2.17.7.24	多顶
3	Inventor's Signature
Print full name of inventor	Jian Gao
Residence	Beijing, China
Citizenship	China
Mailing Address	
Manual Anniezz	601 Building 16, 305# Guanganmen Wai Street
	Xicheng District
	Beijing, China
1. Baste Thus (a	ame of first witness), whose residential address is $\sqrt{2} k - \mu_0 = 0$
- N 3	
was personally present and did see <u>Jian Ga</u>	2 (name of person signing the assignment), who is
personally known to me, execute the above	assignment.
Daste Thuo	(signature of first witness) 4 park Haidian (location of witness signature) 2017 (date of signature).
and the second of the second o	2017 (Supple of Supples)
en trus day,	, 2017 (Gate of signature).
I. Shopegia Warry (n VC Black D. Teleshua Leianne Pork Haidi	iame of second witness), whose residential address is ian District, beijing, P.R.C
was personally present and did see Jian Ga	g (name of person signing the assignment), who is
personally known to me, execute the above	
becomed unear an arrangement and ex-	· ovagamen
Shargin Geng	(signature of second witness)
Signed at Vr. Block D. Tsirghua Science And	(signature of second witness) <u>Haidian District</u> Buillibeation of witness signature)
and the same of th	, 2017 (date of signature).

Date: 701), 7.24	Gery, 1ten
	Inventor's Signature
Print full name of inventor:	Geng Han
Residence:	Beijing, China
Citizenship:	China
Mailing Address:	1-601 Building 2, Block 1
	Shangdi Dongli, Haidian
	Beijing, China
1. Baste Zhuo	(name of first witness), whose residential address is
TIP Block D. Tsinghua	Science park Haidian District Beijing P.R.
- X	Geng Han (name of person signing the assignment), who is
personally known to me, execute the	
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barte This	(signature of first witness) <u>ua Science Park</u> , <u>Na Diffection of witness signature</u>) C , 2017 (date of signature).
Signed at 7/F. Block O Trugh	ua Science Park, Ha Differention of witness stenature) C
on this day, 7.21	, 2017 (date of signature).
1. Shaugin Gong	(name of second witness), whose residential address is
75 Block D. Tsinghun Science Park	Haidlan District, Beijing, P.R.C
**	Geng Han (name of person signing the assignment), who is
personally known to me, execute t	
- Shary's Gong	(signature of second witness) NO Park, Hailian Despiret, Beljing location of witness signature)
Signed at Vr. Book P. Tringha Deie	na Yak, Hallan Mithiet, Pelling location of witness signature)
on this day, 7, 25	, 2017 (date of signature).

Date: 8/14/2017	WL
	Inventor's Signature
Print full name of inventor:	Ilya Usvyatsky
Residence:	Northborough, MA
Citizenship;	United States
Mailing Address:	1 Potter Circle
	Northborough, MA 01532
1, Viktor Voloboi (nan 255 Novth Rd, Unit 19	ne of first witness), whose residential address is Chelmstord, MP
	utsky (name of person signing the assignment), who
is personally known to me, execute the above	assignment.
	(signature of first witness)
Signed at Sayan ton 7	(location of witness signature)
on this day, $X/19$,	2017 (date of signature).
John McClain 1. JM WF. Man The Front Md , Lexin	ne of second witness), whose residential address is 乙。 ハタ
was personally present and did see Ilya Usyvi	usky (name of person signing the assignment), who
is personally known to me, execute the above	assignment.
The War	(signature of second witness)
Signed at Burlington MA	(location of witness signature)
on this day,	2017 (date of signature).

Date: 2017. 7.24	海岛的
	Inventor's Signature
Print full name of inventor:	Jamin Kang
Residence:	Beijing, China
Citizenship:	China
Mailing Address:	902 Building 13, Wenhuiyuan, Haidian District Beijing, China
7/F. Block D. Tsinghua S	(name of first witness), whose residential address is ciesse park . HaiDias District Beijing P.R.C amin Kang (name of person signing the assignment), who is above assignment.
Baste Thus Signed at 7/F. Block D. Tsingha on this day, 7.23	(signature of first witness) 14 Science fack Hailian (location of witness signature) 2017 (date of signature).
	(name of second witness), whose residential address is **Haidian Dictrict*, Beijlag P.R.C [amin Kang (name of person signing the assignment), who is above assignment.
Strangin Gong	(signature of second witness)
Signed at Vr. Block V. Kongres Xiles on this day. 7. H	<u>Pank, Haidian District, Beijing</u> location of witness signature) . 2017 (date of signature).

Date: 2017,7,14	Hong po Gao
	Inventor's Signature
Print full name of inventor:	Hongpo Gao
Residence:	Beijing, China
Citizenship:	China
Mailing Address:	5-301 Building 1, Longyue Street No 10 Changping District
	Beijing, China
I. <u>Bante Iluo</u> 2/F Biock D. Tsinghua Scii	_(name of first witness), whose residential address is enterpark Hai Dian District, Beijing, P.R.C
was personally present and did see <u>Hon</u>	gpo Gao (name of person signing the assignment), who is
personally known to me, execute the ab	ove assignment.
Baote Thus Signed at 7/F Blook D Township.	(signature of first witness) Siente falk, Haid (Bodhion of witness kigdature) , 2017 (date of signature).
on this day, 7. 14	. 2017 (date of signature).
I, <u>Shavqin Qorey</u> VE Blook D. Tshehua Gieno Bodo Haid	(name of second witness), whose residential address is ian District, Beijing, P.R.C.
V	gpo Gao (name of person signing the assignment), who is
personally known to me, execute the ab	
Shapqir Gong	(signature of second witness)
Signed at Jr. Back D. Tonghan Signa	(signature of second witness) Rok Hodon Vistrict Define location of witness signature)
on this day.	2017 (date of signature).

Date: 20 17. 7. 25	1: bug Day
	Inventor's Signature
Print full name of inventor:	Jibing Dong
Residence	Beijing, China
Citizenship:	Chína
Mailing Address:	2-2903 Building 5, Zaoyuanxiang No. 3
	Qingyuan Street, Daxing District
	Beijing, China
(name of first witness), whose residential address is 7/F Block D Isinghua Sciente Park, Haioian District, Beijing, P.R.C was personally present and did see <u>libing Dong</u> (name of person signing the assignment), who is personally known to me, execute the above assignment. <u>Barle Zlub</u> (signature of first witness) Signed at 7/F. Block D Isinghua Sciente Park, Haideland of witness signature of the day,	
I, Show Jin Long (name of second witness), whose residential address is Top., Nock D. Teleghus Science Pook, Holder District, Brijang, P.R.C. was personally present and did see <u>libing Dong</u> (name of person signing the assignment), who is personally known to me, execute the above assignment.	
Shangin Gonz	(signature of second witness)
Sharqin Long (signature of second witness) Signed at 7/2 Webb Tsinghua Giena Borb Holdian District, Bei follocation of witness signature) on this day, 7.25 2017 (date of signature).	
on this day, 7.35	, 2017 (date of signature).

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RECORDED: 08/17/2017