PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
XINLEI XU	03/29/2016
LIAM XIONGCHENG LI	03/29/2016
LIFENG YANG	03/29/2016
JIAN GAO	03/29/2016
LILI CHEN	03/29/2016
RUIYONG JIA	03/29/2016

RECEIVING PARTY DATA

Name:	EMC CORPORATION
Street Address:	176 SOUTH STREET
City:	HOPKINTON
State/Country:	MASSACHUSETTS
Postal Code:	01748

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15086390

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.

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Correspondent Name: MUIRHEAD AND SATURNELLI, LLC
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Address Line 4: WESTBOROUGH, MASSACHUSETTS 01581

ATTORNEY DOCKET NUMBER:	EMS-628US
NAME OF SUBMITTER:	ANNE E. SATURNELLI
SIGNATURE:	/Anne E. Saturnelli/
DATE SIGNED:	03/31/2016

Total Attachments: 7

PATENT REEL: 038153 FRAME: 0828

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PATENT REEL: 038153 FRAME: 0829

ASSIGNMENT

WHEREAS, we, Xinlei XU, Liam Xiongcheng LI, Lifeng YANG, Jian GAO, Lili CHEN and Ruiyong JIA, 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 CACHING TECHNIQUES, the specification of which:

[X]	is being executed on eve	n date herewith a	and is about to be filed i	in the United
	States Patent Office;			
[]	was filed on	as U.S. A	Application No	. ;
[]	was patented under U.S.	Patent No.	on	

WHEREAS, EMC Corporation (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts 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 giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

PATENT REEL: 038153 FRAME: 0830

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 attorneys of Muirhead and Saturnelli, LLC to insert here in

AND, we hereby authorize attorneys of Muirhead and Saturnelli, LLC to insert here in parenthesis (15/086,390 filed March 31, 2016) 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: 2016.3.29	Xinlei Xn.
	,	Inventor's Signature
	Print full name of first inventor:	Xinlei XU
	Residence:	6-6-602, Zhongyuan, Tiantongyuan, Changping
		Beijing, China 102218
	Citizenship:	CHINA
	Mailing Address:	Same as above
	Brilding D. Flor T. Tomphen Scient Park personally present and did see Xinlei XM who is personally known to me, execute the above Yous hency Lin (signate Signed at Tsing Hua Science Park (locate	(name of person signing the assignment) e assignment. ure of first witness) tion of witness signature)
	on this day March. 29th . of 2016	. (date of signature)
1/F	I Changy K (name of the control of t	e) whose residential address is guancum Fast Rand, Holdian District was was in the assignment) e assignment.
	Signed at Singhua Science park on this day 79 the March of 20 16	(location of witness signature) . (date of signature)

-2-

Date: 2/3/2016	Kiongehong Li
	Inventor's Signature
Print full name of second inventor:	Liam Xiongcheng LI
Residence:	Liam Xiongcheng Li, Longhuiyuan 1-3-401,
	Huilongguan, C, Beijing, China
Citizenship:	CHINA
Mailing Address:	Same as above
personally present and did see <u>Xiom Channel</u> who is personally known to me, execute the about the second channel with the second channel who is personally known to me, execute the second control of the second channel control of the second co	nature of first witness) cation of witness signature)
I Peng Many W (ne for the following of the following following for the following following the above the following following following following the above the following follo	ame) whose residential address is No.1 Thoughan Cun East Road, Haidian was was (name of person signing the assignment) are assignment.
Signed at 15 inghua Science park	nature of second witness) (location of witness signature)

Date: 2016.3.29	Lifory Yum	
'	Inventor's Signature	
Print full name of third inventor:	Lifeng YANG	
Residence:	10-3-50A, Xinfujiayuan, Dongcheng District,	
	Beijing, CHINA 100062	
Citizenship:	CHINA	
Mailing Address:	Same as above	
who is personally known to me, execute the above tous hing Liu (signate Signed at Ism hua Science Park (locate on this day 2014 March of 2016	ure of first witness)	
	Beijing	
I my whose residential address is F. T. bock Torghus Science Cork Wo. Monggum Cum Fact Road Was was personally present and end see Feng / Comp (name of person signing the assignment) who is personally known to me, execute the above assignment. First Chart Yu		
(signati	ure of second witness)	
Signed at Tsinghua Science ports	(location of witness signature)	
on this day 79 M Month of 20 1	(date of signature)	

Date: 2016.5.29	
	Inventor's Signatu/e
Print full name of fourth inventor;	Jian GAO
Residence:	7 FL Building D, TSP,
	Beijing, China 100084
Citizenship:	CHINA
Mailing Address:	Same as above
9	_ (signature of first witness)
Signed at Tsinghua Science Par L.	(location of witness signature)
Signed at <u>Tsinghua Science Pan L.</u> on this day <u>246h Morch.</u>	of 20 1. (date of signature)
I Fing Mangyu 1 Singhua Science personally present and did see who is personally known to me, execute	(name) whose residential address is park, No.1. The guargent Fact Road, Haidian District, Bejjing was was (name of person signing the assignment) the above assignment.
	_ (signature of second witness)
Signed at Tsinghua Science Pa	(location of witness signature)
on this day 29th March	of 20 / L. (date of signature)

Date: 3/29/2016	Inventor's Signature
D. C. H. C. GOLD	Lili CHEN
Print full name of fifth inventor:	
Residence:	27 Wedgewood Street
	Hopkinton, MA 01748
Citizenship:	CHINA
Mailing Address:	Same
named Lili CHEN known to me through satisfication card; [X] driver to be the person whose name	then personally appeared before me the above- sfactory evidence of identification 's license; [] (other) ne is subscribed to the foregoing Assignment and as his/her free act and deed for the purposes therein
	Notary Public
	Print Name: Linette S. Kelley My Commission expires: 67/13/2018
	LINETTE S. KELLEY Notary Public COMMONWEALTH OF MASSACHUSETYS My Commission Evoir 2s July 13, 2018

Date: 2016.3.29	Rui-)ong Jia Inventor's Signature
	//nventor's Signature
Print full name of sixth inventor:	Ruiyong JIA
Residence:	Room 403, Unit 1, Building 27, 105 West 3rd Ring,
	North Road, HaiDian District,
	Beijing, CHINA 100010
Citizenship:	CHINA
Mailing Address:	Same as above
I Loughen Lin (name Ruisland D. 7 Flory Tringhua School Pupersonally present and did see Ruisland Tall who is personally known to me, execute the above	ne) whose residential address is was was (name of person signing the assignment) e assignment.
	ture of first witness)
Signed at Tsimphua Solence Park . (loca	
on this day 29th . March of 2011	(date of signature)
I Ling Changy w (name to be soon to me, execute the above	Thonggum Cun Fast Road, Haidian District Beiging (name of person signing the assignment)
Teng Changyu (signa	ture of second witness)
Signed at 1 Singhua Science Parts	(location of witness signature)
on this day March 7th of 2016	(location of witness signature) (. (date of signature)