503764192 03/31/2016

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SAURAV HALOI	03/30/2016
GANESH GHODAKE	03/30/2016
GIRISH DOSHI	03/30/2016
NATHAN E. ROSENBLUM	03/31/2016
BIJU SHANMUGHAM PILLAI	03/30/2016

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:	15087792

CORRESPONDENCE DATA

Fax Number: (503)439-6073

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.

Phone: 5034398778

Email: pdx_email@bstz.com

Correspondent Name: DONNA JO CONINGSBY

Address Line 1: 1279 OAKMEAD PARKWAY

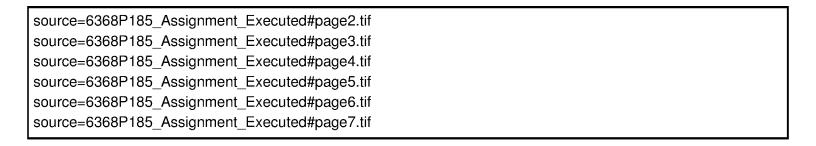
Address Line 4: SUNNYVALE, CALIFORNIA 94085

ATTORNEY DOCKET NUMBER:	6368P185	
NAME OF SUBMITTER:	DONNA JO CONINGSBY	
SIGNATURE:	/Donna Jo Coningsby/	
DATE SIGNED:	03/31/2016	

Total Attachments: 7

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PATENT REEL: 038165 FRAME: 0753



PATENT REEL: 038165 FRAME: 0754

ASSIGNMENT

WHEREAS, we, <u>Saurav Haloi</u>, <u>Ganesh Ghodake</u>, <u>Girish Doshi</u>, <u>Biju Shanmugham Pillai</u>, and <u>Nathan E. Rosenblum</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>Multilayer Manifest For Data Storage Systems</u> (Application), the specification of which:

[X] is being executed on even date herewith and is about to States Patent Office;		herewith and is about to be filed in the Un	e filed in the United	
[]	was filed on	as U.S. Application No.	;	
[]	was patented under U.S. Pater	nt Noon	·	

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

PATENT/Joint Assignment Attorney Docket No.: <u>6368P185</u> EMC Docket No.: <u>EMC-15-1004</u>

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 parentheses (15/087,792 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: 30-MARCH-2016	Sautolei
	Inventor's Signature
Print full name of inventor:	Saurav Haloi
Residence:	B-11, Flat #701
	Aditya Shagun, NDA Pashan Road,
	Bavdhan, Pune – 411021
	Maharashtra, India
Citizenship:	India
Mailing Address:	Same as above
I RITANSH RAJ (name) whose residential address is B-1002, PARADISO, WAKAD, PUNE; 411057 was personally present and did see SAURAY HALDI (name of person signing)	
was personally present and did see SAURAY HALD I (name of person sign	
the assignment) who is personally known to	o me, execute the above assignment.
R.Ray ((signature of first witness)
C. I. Pura (Tunta)	
Signed at Pune (INDIA)	(location of witness signature)
on this day of	2016. (date of signature)
5.0 · · · · · · · · · · · · · · · · · · ·	
1 PRAMOD BIRADIAK	(name) whose residential address is GAWADE PARK CHINCHWAD AV HALOI (name of person signing)
was personally present and did see SAIJR	AV HAIOI (name of person signing
the assignment) who is personally known to	o me, execute the above assignment.
Framod.	(cignature of second witness)
Signed at POME (INDIA)	(location of witness signature)
on this day 3D - MARCH of	20 12. (date of signature)

Date: 30 - MAR - 2016	Moderans	
	Inventor's Signature	
Print full name of inventor:	Ganesh Ghodake	
Residence:	B-303, Riddhi-Siddhi Apt	
	Near P.L. Deshpande Garden	
	Sinhgad Road, Pune-30,	
	Maharashtra, India 411030	
Citizenship:	India	
Mailing Address:	Same as above	
I PRAMOD BIRADAR (name) whose residential address is LATILL SHRADDHA GARDEN 19 GAWADE PARK CHINCHWAD was personally present and did see GANESH GHOARE (name of person signing the assignment) who is personally known to me, execute the above assignment. (signature of first witness) Signed at DINE (INDIA) (location of witness signature) on this day 35-MARCH— of 2016. (date of signature)		
I RITANSH RAJ B-1002, PARADISO, WAKAD, I was personally present and did see G1AN	name) whose residential address is PUNE: 411057 ESH GHODAKE (name of person signing	
the assignment) who is personally known to a		
R·Ray (s	ignature of second witness)	
Signed at PUNE (IHDIA)	(location of witness signature)	
on this day 30, 03, of 2	0 16 (date of signature)	

Date: 30 - MARCH - 2016.	Cewsh Do stu	
	Inventor's Signature	
Print full name of inventor:	Girish Doshi	
Residence:	A-10, Flat-102	
	Karishma Society,	
	Sangam Press Road, Kothrud,	
	Pune - 411029	
	India	
Citizenship:	India	
Mailing Address:	Same as above	
I PRAMOD BIRADAR (name) whose residential address is FLAT 14 SHRADDRA GARDEN 19 GAWAR PARK CHINCHWAD was personally present and did see GIRISH DOSHI (name of person signing the assignment) who is personally known to me, execute the above assignment. (signature of first witness) Signed at DING CINDIA) (location of witness signature) on this day 30 - MARCH - 2016 of 2016. (date of signature)		
I RITANSH RAJ (B-1002, PARADISO, WAKAD, F	name) whose residential address is PUNE - 411057 SH DOSHI (name of person signing	
was personally present and did see 612 R13 the assignment) who is personally known to 1	(name of person signing me, execute the above assignment.	
R.Raj (s	ignature of second witness)	
Signed at PUNE (INDIA)	(location of witness signature)	
on this day of 20	0 <u>(6</u> . (date of signature)	

Date: 03-30-2016	Birgh
	Inventor's Signature
Print full name of inventor:	Biju Shanmugham Pillai
Residence:	1494 Falcon Court
	Sunnyvale, CA 94087
Citizenship:	India
Mailing Address:	Same as above
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.	
STATE OF Califa COUNTY OF Sants	enia Claca
who proved to me on the basis of satisfactory subscribed to the within instrument and acknown in his her/their authorized capacity(ies), and the	evidence to be the person(s) whose name(s) is/are owledged to me that he/she/they executed the same that by his/her/their signature(s) on the instrument ich the person(s) acted, executed the instrument.
I certify under PENALTY OF PERJURY und foregoing paragraph is true and correct.	ler the laws of the State of California that the
WITNESS my hand and official seal.	k. haus
	Notary Public
K. KAUR COMM. # 2129709 NOTARY PUBLIC - CALIFORNIA D	Print Name: KAUR
COMM. EXPIRES NOV. 6, 2019	My Commission expires 11/06/

Date: 3/31/2016	Inventor's Signature
Print full name of inventor:	Nathan E. Rosenblum
Residence:	2423 16 th Street
	San Francisco, CA 94103
Citizenship:	United States
Mailing Address:	Same as above
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.	

STATE OF CALIFORNIA COUNTY OF SAMFRANCISCO

On this 3 stay day of APR, 2016, before me appeared NATMAN ELRA RISERTIUM who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

SURINDER KUMAR
COMM. # 2080623
NOTARY PUBLIC • CALIFORNIA COMM. Exp. OCT. 2, 2018

Notary Public

Print Name: SUPLIMOED KUMA!

My Commission expires $\frac{10}{2}$ / $\frac{2}{18}$

- 7

PATENT REEL: 038165 FRAME: 0761