

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4254616

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
MILIND M. KOLI	08/18/2016
TIMOTHY C. NG	08/18/2016
JAMES MARK HOLT	08/18/2016
DAVID HAASE	08/22/2016
VEDASHREE RAMAN	08/18/2016
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:	15199192
CORRESPONDENCE DATA	
Fax Number:	(508)366-4688
<i>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.</i>	
Phone:	508-616-2900
Email:	Docket@BainwoodHuang.com
Correspondent Name:	BAINWOOD, HUANG & ASSOCIATES, LLC
Address Line 1:	2 CONNECTOR ROAD
Address Line 4:	WESTBOROUGH, MASSACHUSETTS 01581
ATTORNEY DOCKET NUMBER:	1003-427
NAME OF SUBMITTER:	M. ARI BEHAR, ESQ.
SIGNATURE:	/Michael Ari Behar #58,203/
DATE SIGNED:	02/01/2017
Total Attachments: 15	
source=1003-427-ExecutedAssignment-Inv1#page1.tif	

source=1003-427-ExecutedAssignment-Inv1#page2.tif
source=1003-427-ExecutedAssignment-Inv1#page3.tif
source=1003-427-ExecutedAssignment-Inv2#page1.tif
source=1003-427-ExecutedAssignment-Inv2#page2.tif
source=1003-427-ExecutedAssignment-Inv2#page3.tif
source=1003-427-ExecutedAssignment-Inv3#page1.tif
source=1003-427-ExecutedAssignment-Inv3#page2.tif
source=1003-427-ExecutedAssignment-Inv3#page3.tif
source=1003-427-ExecutedAssignment-Inv4#page1.tif
source=1003-427-ExecutedAssignment-Inv4#page2.tif
source=1003-427-ExecutedAssignment-Inv4#page3.tif
source=1003-427-ExecutedAssignment-Inv5#page1.tif
source=1003-427-ExecutedAssignment-Inv5#page2.tif
source=1003-427-ExecutedAssignment-Inv5#page3.tif

ASSIGNMENT

WHEREAS, I, Milind M. Koli, as the original inventor or an original joint inventor 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

**TECHNIQUES FOR PERFORMING DATA STORAGE COPY
OPERATIONS IN AN INTEGRATED MANNER**

which is further identified by Attorney Docket Number 1003-427;

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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

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, I 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 me had this assignment and sale not been made; I 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. I 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, I hereby further agree for myself and my 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;

AND, I 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 I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (15/199,192 Filed on 6/30/2016) 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, I have hereunto set my hand and affixed my seal as set forth below:

PATENT ASSIGNMENT
Attorney Docket No.: 1003-427
EMC Docket No.: EMC-15-1363

Date: 08/18/2016

MML
Inventor's Signature

Legal name of inventor:

Milind M. Koli

Residence:

208 Hammond Wood Place

Morrisville, NC 27560

US

Citizenship:

IN

Mailing Address:

Same as above

STATE/COMMONWEALTH OF North Carolina
COUNTY OF Orange

On this 18 day of August, 2016, then personally appeared before me the above-named Milind M. Koli known to me through satisfactory evidence of identification:

- ☒ employee identification card;
☐ driver's license;
☐ (other) _____

to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.

Audrey A. Craig
Notary Public

Print Name:

Audrey L. Craig

My Commission expires 8/11/2018

ASSIGNMENT

WHEREAS, I, Timothy C. Ng, as the original inventor or an original joint inventor 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

**TECHNIQUES FOR PERFORMING DATA STORAGE COPY
OPERATIONS IN AN INTEGRATED MANNER**

which is further identified by Attorney Docket Number 1003-427;

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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

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, I 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 me had this assignment and sale not been made; I 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. I 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, I hereby further agree for myself and my 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;

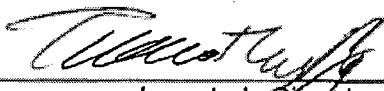
AND, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

AND I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (15/199,192 filed on 6/30/16) 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, I have hereunto set my hand and affixed my seal as set forth below:

PATENT ASSIGNMENT
Attorney Docket No.: 1003-427
EMC Docket No.: EMC-15-1363

Date: 08/18/2016


Inventor's Signature

Legal name of inventor:

Timothy C. Ng

Residence:

103 Crestridge Court

Cary, NC 27513

US

Citizenship:

US

Mailing Address:

Same as above

STATE/COMMONWEALTH OF North Carolina
COUNTY OF Orange

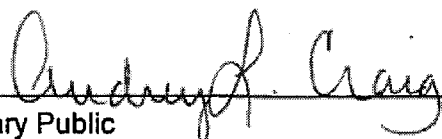
On this 18 day of August, 2016, then personally appeared before me the above-named Timothy C. Ng known to me through satisfactory evidence of identification:

☒ employee identification card;

☐ driver's license;

☐ (other) _____

to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.


Notary Public

Print Name:

Audrey L. Craig

My Commission expires 8/11/2018

ASSIGNMENT

WHEREAS, I, James Mark Holt, as the original inventor or an original joint inventor 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

**TECHNIQUES FOR PERFORMING DATA STORAGE COPY
OPERATIONS IN AN INTEGRATED MANNER**

which is further identified by Attorney Docket Number 1003-427;

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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

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, I 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 me had this assignment and sale not been made; I 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. I 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, I hereby further agree for myself and my 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;

AND, I 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 I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (15/199,192 Filed on 4/30/16) 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, I have hereunto set my hand and affixed my seal as set forth below:

PATENT ASSIGNMENT
Attorney Docket No.: 1003-427
EMC Docket No.: EMC-15-1363

Date: 18-Aug-2016

James Mark Holt
Inventor's Signature

Legal name of inventor:

James Mark Holt

Residence:

2606 Van Dyke Ave

Raleigh, NC 27607

US

Citizenship:

US

Mailing Address:

Same as above

STATE/COMMONWEALTH OF North Carolina
COUNTY OF Orange

On this 18 day of August, 2016, then personally appeared before me the above-named James M. Holt known to me through satisfactory evidence of identification:

- ☒ employee identification card;
☐ driver's license;
☐ (other) _____

to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.

Audrey A. Craig
Notary Public

Print Name:

Audrey L. Craig

My Commission expires 8 / 11 / 2018

ASSIGNMENT

WHEREAS, I, David Haase, as the original inventor or an original joint inventor 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

**TECHNIQUES FOR PERFORMING DATA STORAGE COPY
OPERATIONS IN AN INTEGRATED MANNER**

which is further identified by Attorney Docket Number 1003-427;

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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

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, I 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 me had this assignment and sale not been made; I 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. I 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, I hereby further agree for myself and my 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

PATENT ASSIGNMENT
Attorney Docket No.: 1003-427
EMC Docket No.: EMC-15-1363

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;

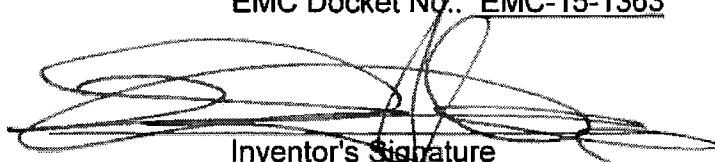
AND, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

AND I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (15/199,192 Filed on 6/30/16) 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, I have hereunto set my hand and affixed my seal as set forth below:

PATENT ASSIGNMENT
Attorney Docket No.: 1003-427
EMC Docket No.: EMC-15-1363

Date: 8/22/16


Inventor's Signature

Legal name of inventor:

David Haase

Residence:

904 Cedar Point Court

Fuquay Varina, NC 27526

US

Citizenship:

US

Mailing Address:

Same as above

STATE/Commonwealth of

North Carolina

COUNTY OF

Durham


On this 22nd day of August, 2016, then personally appeared before me the above-named David Haase known to me through satisfactory evidence of identification:

☒ employee identification card;

☐ driver's license;

☐ (other) _____

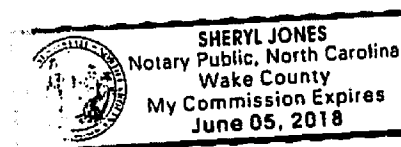
to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.


Notary Public

Print Name:

Sheryl Jones

My Commission expires 6/5/2018



ASSIGNMENT

WHEREAS, I, Vedashree Raman, as the original inventor or an original joint inventor 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

**TECHNIQUES FOR PERFORMING DATA STORAGE COPY
OPERATIONS IN AN INTEGRATED MANNER**

which is further identified by Attorney Docket Number 1003-427;

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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

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, I 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 me had this assignment and sale not been made; I 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. I 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, I hereby further agree for myself and my 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

PATENT ASSIGNMENT
Attorney Docket No.: 1003-427
EMC Docket No.: EMC-15-1363

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;

AND, I 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 I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (15/199,192 Filed on 6/30/16) 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, I have hereunto set my hand and affixed my seal as set forth below:

PATENT ASSIGNMENT
Attorney Docket No.: 1003-427
EMC Docket No.: EMC-15-1363

Date: 8/18/2016



Inventor's Signature

Legal name of inventor:

Vedashree Raman

Residence:

18801 Bent Willow Circle, Apt. 1218

Germantown, MD 20874

US

Citizenship:

IN

Mailing Address:

Same as above

STATE/Commonwealth of
COUNTY OF

Maryland
Montgomery

On this 18th day of August, 2016, then personally appeared before me the above-named Vedashree Raman known to me through satisfactory evidence of identification:

- ☐ employee identification card;
☒ driver's license;
☐ (other) _____

to be the person whose name is subscribed to the foregoing Assignment and acknowledged that ~~he~~/she executed the same as ~~his~~/her free act and deed for the purposes therein contained.



Notary Public

Print Name:

TINASHE L CHADUKA

Notary Public
Montgomery County
Maryland

My Commission Expires Oct. 5, 2019

My Commission expires / /