

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| Radhika Reddy | 06/18/2013 |
| RECEIVING PARTY DATA | |
| Name: | EMC Corporation |
| Street Address: | 176 South Street |
| City: | Hopkinton |
| State/Country: | MASSACHUSETTS |
| Postal Code: | 01748 |
| PROPERTY NUMBERS Total: 4 | |
| Property Type | Number |
| Application Number: | 13838749 |
| Application Number: | 13838955 |
| Application Number: | 13839171 |
| Application Number: | 13839390 |
| CORRESPONDENCE DATA | |
| Fax Number: | 4083264811 |
| <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> | |
| Phone: | 408-562-1446 |
| Email: | deanna.santos@emc.com |
| Correspondent Name: | Deanna Santos, EMC Corporation |
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| Address Line 4: | Santa Clara, CALIFORNIA 95054 |
| ATTORNEY DOCKET NUMBER: | 0199(PRO)ORD2 OR6 OR8 9 |
| NAME OF SUBMITTER: | John Gould |
| Signature: | /John Gould/ |

CH \$160.00 13838749

Date:

06/25/2013

Total Attachments: 12

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ASSIGNMENT

WHEREAS, we, WELTON, Caleb E.; HARADA, Hitoshi; COHEN, Jeffrey Ira; CHANG, Lei; REDDY, Radhika; MA, Tao; and WANG, Zhanwei 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 PARALLEL PROCESSING DATABASE SYSTEM WITH A SHARED METADATA STORE, the specification of which:

- ☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;
- ☒ was filed on March 15, 2013 as U.S. Application No. 13/838,749;
- ☐ 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;

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.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals as set forth below:

Date:

6/18/12

Radhika

Inventor's Signature

Print full name of fifth inventor:

Radhika REDDY

Residence:

Foster City, CA 94404

Citizenship:

USA

Mailing Address:

844 Vega Circle
Foster City, CA 94404

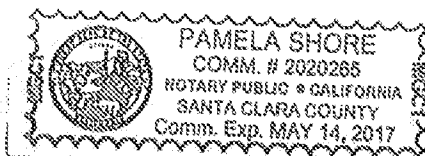
STATE OF
COUNTY OF

California
Santa Clara

On this 18 day of June, 2012, before me appeared Radhika Reddy 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.



Pamela Shore

Notary Public

Print Name:

Pamela Shore

My Commission expires

5/14/2017

ASSIGNMENT

WHEREAS, we, WELTON, Caleb E.; HARADA, Hitoshi; COHEN, Jeffrey Ira; CHANG, Lei; REDDY, Radhika; MA, Tao; and WANG, Zhanwei 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 PROCESSING A DATABASE QUERY USING A SHARED METADATA STORE, the specification of which:

- ☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;
- ☒ was filed on March 15, 2013 as U.S. Application No. 13/838,955;
- ☐ 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;

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.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals as set forth below:

Date: 6/18/13

Radhika
Inventor's Signature

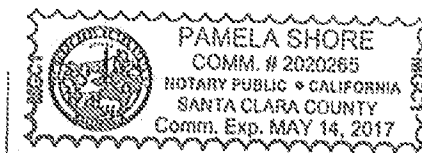
Print full name of fifth inventor: Radhika REDDY
Residence: Foster City, CA 94404
Citizenship: USA
Mailing Address: 844 Vega Circle
Foster City, CA 94404

STATE OF California
COUNTY OF Santa Clara

On this 18 day of June, 2013, before me appeared Radhika Reddy
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.



Pamela Shore
Notary Public

Print Name: Pamela Shore
My Commission expires 5/14/2017

ASSIGNMENT

WHEREAS, we, WELTON, Caleb E.; HARADA, Hitoshi; COHEN, Jeffrey Ira; CHANG, Lei; REDDY, Radhika; MA, Tao; and WANG, Zhanwei 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 PARALLEL PROCESSING DATABASE TREE STRUCTURE, the specification of which:

- ☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;
- ☒ was filed on March 15, 2013 as U.S. Application No. 13/839,171;
- ☐ 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;

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Date:

6/18/13

Radhika

Inventor's Signature

Print full name of fifth inventor:

Radhika REDDY

Residence:

Foster City, CA 94404

Citizenship:

USA

Mailing Address:

844 Vega Circle
Foster City, CA 94404

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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.

Pamela Shore

Notary Public

Print Name:

Pamela Shore

My Commission expires 5/14/2017

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- ☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;
- ☒ was filed on March 15, 2013 as U.S. Application No. 13/839,390;
- ☐ 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;

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IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals as set forth below:

Date:

6/16/13

Radhika

Inventor's Signature

Print full name of fifth inventor:

Radhika REDDY

Residence:

Foster City, CA 94404

Citizenship:

USA

Mailing Address:

844 Vega Circle
Foster City, CA 94404

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On this 18 day of June, 20 13, before me appeared Radhika Reddy
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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.

Pamela Shore

Notary Public

Print Name: Pamela Shore

My Commission expires 5/14/2017