

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5130892

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CALEB E. WELTON	05/23/2013
HITOSHI HARADA	05/23/2013
JEFFREY IRA COHEN	05/23/2013
LEI CHANG	05/07/2013
RADHIKA REDDY	06/18/2013
TAO MA	05/07/2013
ZHANWEI WANG	05/07/2013
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	EMC CORPORATION
<b>Street Address:</b>	176 SOUTH STREET
<b>City:</b>	HOPKINTON
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	01748
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16123981
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(408)973-2595
<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>	
<b>Phone:</b>	4089732585
<b>Email:</b>	enguyen@ip-patent.com
<b>Correspondent Name:</b>	VAN PELT, YI & JAMES LLP AND EMC IP HOLDING COMPA
<b>Address Line 1:</b>	10050 N. FOOTHILL BLVD.
<b>Address Line 2:</b>	SUITE 200
<b>Address Line 4:</b>	CUPERTINO, CALIFORNIA 95014
<b>ATTORNEY DOCKET NUMBER:</b>	EMCCP470C1
<b>NAME OF SUBMITTER:</b>	DANIEL SCHNEIDER
<b>SIGNATURE:</b>	/Daniel M. Schneider/
<b>DATE SIGNED:</b>	09/07/2018

PATENT

**Total Attachments: 9**

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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 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: 5/23/2013

[Signature]  
Inventor's Signature

Print full name of first inventor: **Caleb E. WELTON**  
Residence: Foster City, CA 94404  
Citizenship: USA  
Mailing Address: 744 Edgewater Boulevard - Apt. 301  
Foster City, CA 94404

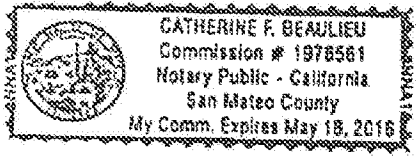
STATE OF CALIFORNIA  
COUNTY OF San Mateo

On this 23 day of May, 2013, before me appeared Caleb E. Welton 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.

[Signature]  
Notary Public



Print Name: CATHERINE F. BEAULIEU  
My Commission expires 5/18/16

Date: 5/23/2013

[Signature]  
Inventor's Signature

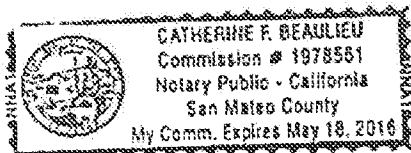
Print full name of second inventor: **Hiitoshi HARADA**  
Residence: Foster City, CA 94404  
Citizenship: Japan  
Mailing Address: 16 Commons Lane  
Foster City, CA 94404

STATE OF California  
COUNTY OF San Mateo

On this 23 day of May, 2013, before me appeared Hiroshi Harada 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.



[Signature]  
Notary Public  
Print Name: Catherine F Beaulieu  
My Commission expires 5/18/16

Date: 5/23/2013

[Signature]  
Inventor's Signature

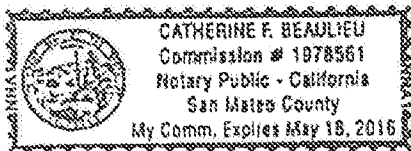
Print full name of third inventor: **Jeffrey Ira COHEN**  
Residence: Sunnyvale, CA 94086  
Citizenship: USA  
Mailing Address: 499 East McKinley Avenue  
Sunnyvale, CA 94086

STATE OF California  
COUNTY OF San Mateo

On this 23 day of May, 2013, before me appeared Jeffrey I. Cohen 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.



[Signature]  
Notary Public  
Print Name: Catherine F. Beaulieu  
My Commission expires 5/18/15

Date: May 7, 2013

Lei Chang

Inventor's Signature

Print full name of fourth inventor: **Lei CHANG**  
Residence: Beijing, CHINA  
Citizenship: China (People's Republic)  
Mailing Address: Room 661, Building 18,  
MaDianNanCun, Xicheng District, Beijing,  
CHINA 100084

I Shengwen Yang (name) whose residential address is  
Room 801, Building 7, Jin Dian Hua Yuan, Haidian District, Beijing 100082, China  
was personally present and did see Lei Chang (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

Shengwen Yang (signature of first witness) Signed at G/F, Block D,  
No. 1 Zhongguancun East Road, Beijing, China (location of witness signature) on this day May. 7  
of 2013 (date of signature)

I Jin Wang (name) whose residential address is  
No.15, Wangzhuang Road, Haidian District, Beijing, China was personally present and did  
see Lei Chang (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

Jin Wang (signature of second witness) Signed at G/F, Block  
D, No. 1 Zhongguancun East Road, Beijing, China (location of witness signature) on this  
day May. 7 of 2013 (date of signature)



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

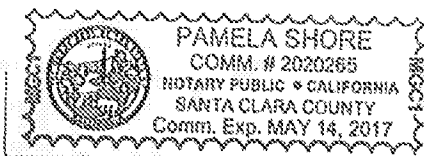
On this 18 day of June, 2013, before me appeared Radhika Reddy who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that 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



Date: May 7, 2013

Tao Ma  
Inventor's Signature

Print full name of sixth inventor: **Tao MA**  
Residence: **Beining, CHINA**  
Citizenship: **China (People's Republic)**  
Mailing Address: **Room 413, 5/F, Unit 4, No. 35,  
North 4th Ring Middle Road, Chaoyao District  
Beining, CHINA**

I Shengwen Yang (name) whose residential address is  
Room 801, Building 7, Jin Dian Hua Yuan, Haidian District, Beijing 100082, China  
was personally present and did see Tao Ma (name of person signing the assignment)  
who is personally known to me, execute the above assignment.  
Shengwen Yang (signature of first witness) Signed at G/F, Block D,  
No. 1 Zhongguancun East Road, Beijing, China (location of witness signature) on this day May 7  
of 2013. (date of signature)

I Jin Wang (name) whose residential address is  
No.15, Wangzhuang Road, Haidian District, Beijing, China was personally present and did  
see Tao Ma (name of person signing the assignment)  
who is personally known to me, execute the above assignment.  
Jin Wang (signature of second witness) Signed at G/F, Block  
D, No. 1 Zhongguancun East Road, Beijing, China (location of witness signature) on this  
day May 7 of 2013. (date of signature)

Date: May 7, 2013

Zhanwei Wang  
Inventor's Signature

Print full name of seventh inventor: Zhanwei WANG  
Residence: Beijing, CHINA  
Citizenship: China (People's Republic)  
Mailing Address: Room 10, Unit 2, Building 2, XiWai  
Taipingzhuang, Haidian District, Beijing, CHINA

I Shengwen Yang (name) whose residential address is  
Room 801, Building 7, Jin Dian Hua Yuan, Haidian District, Beijing 100082, China was  
personally present and did see Zhanwei Wang (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

Shengwen Yang (signature of first witness) Signed at G/F, Block D,  
No. 1 Zhongguancun East Road, Beijing, China (location of witness signature) on this day May 7  
of 2013. (date of signature)

I Jin Wang (name) whose residential address is  
No.15, Wangzhuang Road, Haidian District, Beijing, China was personally present and did  
see Zhanwei Wang (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

Jin Wang (signature of second witness) Signed at G/F, Block  
D, No. 1 Zhongguancun East Road, Beijing, China (location of witness signature) on this  
day May 7 of 2013. (date of signature)