

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT						
NATURE OF CONVEYANCE:	ASSIGNMENT						
CONVEYING PARTY DATA							
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Mikhail V. STEPANOV</td> <td>12/04/2012</td> </tr> <tr> <td>Alexey FOMIN</td> <td>12/04/2012</td> </tr> </tbody> </table>		Name	Execution Date	Mikhail V. STEPANOV	12/04/2012	Alexey FOMIN	12/04/2012
Name	Execution Date						
Mikhail V. STEPANOV	12/04/2012						
Alexey FOMIN	12/04/2012						
RECEIVING PARTY DATA							
Name:	EMC Corporation						
Street Address:	176 South Street						
City:	Hopkinton						
State/Country:	MASSACHUSETTS						
Postal Code:	01748						
PROPERTY NUMBERS Total: 1							
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13706487</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13706487		
Property Type	Number						
Application Number:	13706487						
CORRESPONDENCE DATA							
Fax Number:	5088988602						
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>							
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Email:	docketing@westboro-ip.com						
Correspondent Name:	Muirhead and Saturnelli, LLC						
Address Line 1:	200 Friberg Parkway						
Address Line 2:	Suite 1001						
Address Line 4:	Westborough, MASSACHUSETTS 01581						
ATTORNEY DOCKET NUMBER:	EMS-455US; EMC-12-057						
NAME OF SUBMITTER:	Donald W. Muirhead						
<p>Total Attachments: 3 source=EMS-455US, Executed Assignment#page1.tif source=EMS-455US, Executed Assignment#page2.tif source=EMS-455US, Executed Assignment#page3.tif</p>							

CH \$40.00 13706487

ASSIGNMENT

WHEREAS, we, Mikhail V. STEPANOV and Alexey FOMIN 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 **FAST DEPENDENCY MINING USING ACCESS PATTERNS IN A STORAGE SYSTEM**, 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 _____ as U.S. 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;

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 parenthesis (13/706,487 fld 12-6-12) 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: 04.12.2012



Inventor's Signature

Print full name of first inventor:

Mikhail V. STEPANOV

Residence:

Apt. 19, 18 Shturmanskaya
St. Petersburg, North-West Region 196210


Citizenship:

Russia

Mailing Address:

Same as above

I Philipp Smirnov (name) whose residential address is
Apt. 532, 29 Tjpanova st. St. Petersburg Russia
was personally present and did see Mikhail Stepanov (name of person signing
the assignment) who is personally known to me, execute the above assignment.

 (signature of first witness)

Signed at St. Petersburg, Russia (location of witness signature)

on this day 4th December of 2012. (date of signature)

I Vladislav Ereneeov (name) whose residential address is
Apt 73, 7 Kakhovskogo St, Saint-Petersburg, Russia
was personally present and did see Mikhail Stepanov (name of person signing
the assignment) who is personally known to me, execute the above assignment.

 (signature of second witness)

Signed at Saint-Petersburg, Russia (location of witness signature)

on this day 4th December of 2012. (date of signature)

Date: 04.12.2012

ALS -
Inventor's Signature

Print full name of second inventor: **Alexey FOMIN**
Residence: 6/2, 5 Predportoviy Proezd, Apt. 137
St. Petersburg, North-West Region
Citizenship: Russia
Mailing Address: Same as above

I Philipp Smirnov (name) whose residential address is
Apt 532, 29 Tibanava St. Saint-Petersburg Russia
was personally present and did see Alexey Fomin (name of person signing
the assignment) who is personally known to me, execute the above assignment.

PS (signature of first witness)

Signed at Saint-Petersburg Russia (location of witness signature)

on this day 4th December of 2012. (date of signature)

I Vladislav Eremaev (name) whose residential address is
Apt 73, 7 Kakhovskogo St. Saint-Petersburg, Russia
was personally present and did see Alexey Fomin (name of person signing
the assignment) who is personally known to me, execute the above assignment.

VE (signature of second witness)

Signed at Saint-Petersburg Russia (location of witness signature)

on this day 4th December of 2012. (date of signature)