

<b>PATENT ASSIGNMENT COVER SHEET</b>
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 Stylesheet Version v1.2

EPAS ID: PAT4463550

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DAVID J. AGANS	06/05/2017
GREGORY S SCHAFFER	06/05/2017
MARK J. CARIDDDI	06/05/2017
HENRY AUSTIN SPANG IV	06/14/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	EMC IP HOLDING COMPANY LLC
<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>	14821388
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(508)293-7189
<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>	508-293-6820
<b>Email:</b>	docketing@emc.com
<b>Correspondent Name:</b>	JOHN T. HURLEY
<b>Address Line 1:</b>	176 SOUTH STREET
<b>Address Line 4:</b>	HOPKINTON, MASSACHUSETTS 01748
<b>ATTORNEY DOCKET NUMBER:</b>	EMC-14-0424
<b>NAME OF SUBMITTER:</b>	JOHN T. HURLEY
<b>SIGNATURE:</b>	/John T. Hurley/
<b>DATE SIGNED:</b>	06/16/2017
<b>Total Attachments: 8</b>	
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ASSIGNMENT

WHEREAS, we, David J. Agans, David W. Harvey, Gregory S. Schaffer, Mark J. Cariddi, Long Zhang, and Henry Austin Spang IV 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 CACHE MANAGEMENT SYSTEM AND METHOD (Application), 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 August 7, 2015 as U.S. Application No. 14/821,388;
- was patented under U.S. Patent No. \_\_\_\_\_ on \_\_\_\_\_.

WHEREAS, EMC IP Holding Company, LLC (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the State of Delaware 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 our attorneys, EMC Corporation, to insert here in parenthesis ( ) the application number and filing date of said Application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

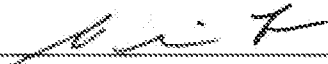
**IN TESTIMONY WHEREOF**, we have hereunto set our hands and affixed our seals as set forth below:

Date: 5 JUN 2017

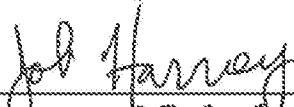
  
Inventor's Signature

Print full name of inventor: **David J. Agans**  
Residence: **PO Box 487**  
**Wilton, NH 03086**  
Citizenship: **United States of America**  
Mailing Address: **Same as above**

I, Angela M. Fegan (name of first witness), whose residential address is  
248 Lucebury Rd, Weymouth MA 01988  
was personally present and did see David J. Agans (name of person signing the assignment), who  
is personally known to me, execute the above assignment.

 (signature of first witness)  
Signed at 228 South St, Haverhill MA (location of witness signature)  
on this day, 5 June, 2017 (date of signature).

I, John Harvey (name of second witness), whose residential address is  
80 Martin Lane Weymouth MA 02093  
was personally present and did see David J. Agans (name of person signing the assignment), who  
is personally known to me, execute the above assignment.

 (signature of second witness)  
Signed at 228 South St Haverhill MA (location of witness signature)  
on this day, June 5, 2017 (date of signature).

Date: \_\_\_\_\_

\_\_\_\_\_  
Inventor's Signature

Print full name of inventor:

**David W. Harvey**

Residence:

36 Pine Crest Road  
Newton Center, MA 02459

Citizenship:

United States of America

Mailing Address:

Same as above

I, \_\_\_\_\_ (name of first witness), whose residential address is

\_\_\_\_\_  
was personally present and did see David W. Harvey (name of person signing the assignment),  
who is personally known to me, execute the above assignment.

\_\_\_\_\_  
(signature of first witness)

Signed at \_\_\_\_\_ (location of witness signature)

on this day, \_\_\_\_\_, 2017 (date of signature).

I, \_\_\_\_\_ (name of second witness), whose residential address is

\_\_\_\_\_  
was personally present and did see David W. Harvey (name of person signing the assignment),  
who is personally known to me, execute the above assignment.

\_\_\_\_\_  
(signature of second witness)

Signed at \_\_\_\_\_ (location of witness signature)

on this day, \_\_\_\_\_, 2017 (date of signature).

Date: June 5 2017

Gregory Schaffer  
Inventor's Signature

Print full name of inventor: **Gregory S. Schaffer**  
Residence: 19 Highland Street  
Berlin, MA 01503  
Citizenship: United States of America  
Mailing Address: Same as above

I, Andrew M. Fene (name of first witness), whose residential address is  
248 Purdoms Rd, Weymouthville MA 01588  
was personally present and did see Gregory S. Schaffer (name of person signing the assignment),  
who is personally known to me, execute the above assignment.

Andrew M. Fene (signature of first witness)  
Signed at 228 South St, Hopkinton MA (location of witness signature)  
on this day, 5 June, 2017 (date of signature).

I, John Harvey (name of second witness), whose residential address is  
80 Martin Lane Wrentham MA 02093  
was personally present and did see Gregory S. Schaffer (name of person signing the assignment),  
who is personally known to me, execute the above assignment.

John Harvey (signature of second witness)  
Signed at 228 South St, Hopkinton MA (location of witness signature)  
on this day, June 5, 2017 (date of signature).

Date:

June 5, 2017

Mark J. Cariddi  
Inventor's Signature

Print full name of inventor:

Mark J. Cariddi

Residence:

21 Erik Street

Merrimack, NH 03054

Citizenship:

United States of America

Mailing Address:

Same as above

I, Andrew M. Ferris (name of first witness), whose residential address is

245 Pleasant St, Wrentham MA 01556

was personally present and did see Mark J. Cariddi (name of person signing the assignment), who is personally known to me, execute the above assignment.

[Signature] (signature of first witness)

Signed at 228 South St, Merrimack MA (location of witness signature)

on this day, 5 June, 2017 (date of signature).

I, John Harvey (name of second witness), whose residential address is

80 Martin Lane Wrentham MA 02093

was personally present and did see Mark J. Cariddi (name of person signing the assignment), who is personally known to me, execute the above assignment.

[Signature] (signature of second witness)

Signed at Hopkinton MA (location of witness signature)

on this day, June 5, 2017 (date of signature).



Date: \_\_\_\_\_

\_\_\_\_\_  
Inventor's Signature

Print full name of inventor:

**Long Zhang**

Residence:

11F, Block A, Ocean International Center, No. 56  
East 4th Ring Road, Chaoyang District  
Beijing, China 100025

Citizenship:

China

Mailing Address:

Same as above

I, \_\_\_\_\_ (name of first witness), whose residential address is

\_\_\_\_\_  
was personally present and did see Long Zhang (name of person signing the assignment), who is personally known to me, execute the above assignment.

\_\_\_\_\_  
(signature of first witness)

Signed at \_\_\_\_\_ (location of witness signature)

on this day, \_\_\_\_\_, 2017 (date of signature).

I, \_\_\_\_\_ (name of second witness), whose residential address is

\_\_\_\_\_  
was personally present and did see Long Zhang (name of person signing the assignment), who is personally known to me, execute the above assignment.

\_\_\_\_\_  
(signature of second witness)

Signed at \_\_\_\_\_ (location of witness signature)

on this day, \_\_\_\_\_, 2017 (date of signature).

Date: June 14, 2017

Henry Austin Spang IV  
Inventor's Signature

Print full name of inventor: **Henry Austin Spang IV**  
Residence: 5 East Main Street  
Hopkinton, MA 01748  
Citizenship: United States of America  
Mailing Address: Same as above

I, BRIAN TEDESCHI (name of first witness), whose residential address is  
25 IRVING AVENUE PASCOAG, RI 02859  
was personally present and did see Henry Austin Spang IV (name of person signing the  
assignment), who is personally known to me, execute the above assignment.

[Signature] (signature of first witness)  
Signed at 228 SOUTH STREET HOPKINTON, MA (location of witness signature)  
on this day, JUNE 14, 2017 (date of signature).

I, RONALD C LESNIAK (name of second witness), whose residential address is  
25 ABBOTT DRIVE URBURIDGE MA 01569  
was personally present and did see Henry Austin Spang IV (name of person signing the  
assignment), who is personally known to me, execute the above assignment.

[Signature] (signature of second witness)  
Signed at 228 SOUTH STREET HOPKINTON MA (location of witness signature)  
on this day, JUNE 14, 2017 (date of signature).