

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5466795

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
RENEN HALLAK	12/31/2013
RONEN KALISH	12/31/2013
KOBI LUZ	12/31/2013
EHUD ROKACH	12/31/2013
<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>
Application Number:	15067574
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(631)393-6271
<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>	(631) 393-6270
<b>Email:</b>	nyoffice@rml-law.com
<b>Correspondent Name:</b>	JOSEPH B. RYAN
<b>Address Line 1:</b>	RYAN, MASON & LEWIS, LLP
<b>Address Line 2:</b>	48 SOUTH SERVICE ROAD, SUITE 100
<b>Address Line 4:</b>	MELVILLE, NEW YORK 11747
<b>ATTORNEY DOCKET NUMBER:</b>	EMC-13-0787CON1
<b>NAME OF SUBMITTER:</b>	JOSEPH B. RYAN
<b>SIGNATURE:</b>	/Joseph B. Ryan/
<b>DATE SIGNED:</b>	04/10/2019
<b>Total Attachments: 6</b>	
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### ASSIGNMENT

WHEREAS, we, Renen Hallak, Ronen Kalish, Kobi Luz, and Ehud Rokach, 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 **METHOD AND APPARATUS FOR CREATING A SHORT HASH HANDLE HIGHLY CORRELATED WITH A GLOBALLY-UNIQUE HASH SIGNATURE** (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 \_\_\_\_\_ 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 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: 31/12/2013

  
Inventor's Signature

Print full name of inventor

Renen Hallak

Residence

46 Hahadarim Street, P.O. Box 201

Sde Warburg, Israel 44935

Citizenship

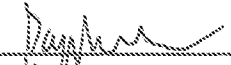
Israel

Mailing Address

Same as above

I, Daphna Nathanson (name of first witness), whose residential address is  
Topsz 5, Shoham

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

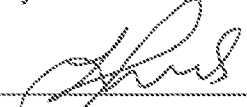
  
\_\_\_\_\_ (signature of first witness)

Signed at 11 C1:1 Yam (location of witness signature)

on this day, 31/12, 2013 (date of signature).

I, Yulia Kuznetsov (name of second witness), whose residential address is  
Max Shiac 10, Rehovot

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

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

Signed at 11 C1:1 Yam (location of witness signature)

on this day, 31/12, 2013 (date of signature).

Date: Dec 31<sup>st</sup> 2013

Ronen Kalish  
Inventor's Signature

Print full name of inventor Ronen Kalish  
Residence 7 Hazohar Street  
Tel Aviv, Israel \_\_\_\_\_  
Citizenship Israel  
Mailing Address Same as above

I, Roni Mizrahi (name of first witness), whose residential address is  
Brenner 23 Ra'anana  
was personally present and did see Ronen Kalish (name of person signing the assignment), who  
is personally known to me, execute the above assignment.

[Signature] (signature of first witness)  
Signed at Gil Yam (location of witness signature)  
on this day, Dec 31, 2013 (date of signature).

I, Uri Homig (name of second witness), whose residential address is  
57, Tagore st. Tel Aviv  
was personally present and did see Ronen Kalish (name of person signing the assignment), who  
is personally known to me, execute the above assignment.

[Signature] (signature of second witness)  
Signed at Gil Yam (location of witness signature)  
on this day, Dec 31<sup>st</sup>, 2013 (date of signature).

Date: 31/12/13

  
Inventor's Signature

Print full name of inventor

Kobi Luz

Residence

10 Hana Avich Street

Rehovot, Israel 76401

Citizenship

Israel


Mailing Address

Same as above

I, Yosef Herkin (name of first witness), whose residential address is  
Babinska 23 Haha Israel  
was personally present and did see Kobi Luz (name of person signing the assignment), who is  
personally known to me, execute the above assignment.

Yosef Herkin (signature of first witness)  
Signed at Xtrem IO Gdil Yam (location of witness signature)  
on this day, December 31, 2013 (date of signature).

I, Lior Kamran (name of second witness), whose residential address is  
Bardiloz 8/11 Rishon Le Zion Israel  
was personally present and did see Kobi Luz (name of person signing the assignment), who is  
personally known to me, execute the above assignment.

  
(signature of second witness)  
Signed at Xtrem IO Gdil Yam (location of witness signature)  
on this day, December 31, 2013 (date of signature).

Date: Dec 31, 2013 E. Rokach  
Inventor's Signature

Print full name of inventor Ehud Rokach  
Residence 7 Zelig Street  
Tel Aviv, Israel 69693  
Citizenship Israel  
Mailing Address Same as above

I, MOSTHE PINTO (name of first witness), whose residential address is  
16 TEL AVIV ST., NES ZIONA  
was personally present and did see Ehud Rokach (name of person signing the assignment), who  
is personally known to me, execute the above assignment.

[Signature] (signature of first witness)  
Signed at EMC XtremIO office, Israel (location of witness signature)  
on this day, Dec 31, 2013 (date of signature).

I, ASSAF COHEN (name of second witness), whose residential address is  
42 GILAD ST., ALFEI MENASHE  
was personally present and did see Ehud Rokach (name of person signing the assignment), who  
is personally known to me, execute the above assignment.

[Signature] (signature of second witness)  
Signed at EMC XtremIO office, Israel (location of witness signature)  
on this day, Dec 31, 2013 (date of signature).