

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3645130

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
YEDIDYA DOTAN	08/20/2014
DANIEL V. BAILEY	11/06/2015
LAWRENCE N. FRIEDMAN	06/30/2014
GARETH RICHARDS	08/21/2014
<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>	14224303
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(508)366-4688
<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>	508-616-2900
<b>Email:</b>	Docket@BainwoodHuang.com
<b>Correspondent Name:</b>	BAINWOOD, HUANG & ASSOCIATES, LLC
<b>Address Line 1:</b>	2 CONNECTOR ROAD
<b>Address Line 4:</b>	WESTBOROUGH, MASSACHUSETTS 01581
<b>ATTORNEY DOCKET NUMBER:</b>	1048-204.002
<b>NAME OF SUBMITTER:</b>	DAVID E. HUANG, ESQ.
<b>SIGNATURE:</b>	/David E. Huang/
<b>DATE SIGNED:</b>	12/07/2015
<b>Total Attachments: 12</b>	
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**ASSIGNMENT**

**WHEREAS**, I, Yedidya Dotan, as the original inventor or an original joint inventor 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

**AUTHENTICATION USING GESTURE PASSWORDS**

which is further identified by Attorney Docket Number 1048-204.002;

**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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

**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, I 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 me had this assignment and sale not been made; I 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. I 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**, I hereby further agree for myself and my 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

PATENT ASSIGNMENT

Attorney Docket No.: 1048-204.002

EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

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**, I 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** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (14/224,303 filed 03/25/2014) 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**, I have hereunto set my hand and affixed my seal as set forth below:

PATENT ASSIGNMENT  
Attorney Docket No.: 1048-204.002  
EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

Date: 20 Aug 14

[Signature]  
Inventor's Signature

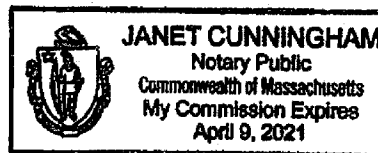
Legal name of inventor: Yedidya Dotan  
Residence: 53 Cloverdale Road  
Newton, MA 02461  
Citizenship: IL  
Mailing Address: Same as above

STATE/Commonwealth of Massachusetts  
COUNTY OF Middlesex

On this 20 day of August, 2014, then personally appeared before me the above-named Yedidya Dotan known to me through satisfactory evidence of identification ☐ employee identification card; ☒ driver's license; ☐ (other) Yedidya Dotan to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.

[Signature]  
Notary Public

Print Name: Janet Cunningham  
My Commission expires 4/9/2021



**ASSIGNMENT**

**WHEREAS**, I, Daniel V. Bailey, as the original inventor or an original joint inventor 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

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which is further identified by Attorney Docket Number 1048-204.002;

**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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

**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, I 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 me had this assignment and sale not been made; I 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. I 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**, I hereby further agree for myself and my 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

PATENT ASSIGNMENT  
Attorney Docket No.: 1048-204.002  
EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

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**, I 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** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (14/224,303 filed 03/25/2014) the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

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PATENT ASSIGNMENT  
Attorney Docket No.: 1048-204.002  
EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

Date:

11-6-15

Dal Bj

Inventor's Signature

Legal name of inventor:

Daniel V. Bailey

Residence:

35 High Street  
Pepperell, MA 01463

Citizenship:

US

Mailing Address:

Same as above

STATE/Commonwealth of  
COUNTY OF

Massachusetts  
Middlesex

On this 6 day of November, 2015, then personally appeared before me the above-named Daniel V. Bailey known to me through satisfactory evidence of identification ☐ employee identification card; ☒ driver's license; ☐ (other) \_\_\_\_\_ to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.

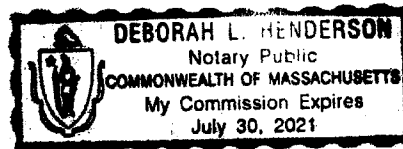
Deborah L. Henderson

Notary Public

Print Name:

Deborah L. Henderson

My Commission expires 7/30/2021



**ASSIGNMENT**

**WHEREAS**, I, Lawrence N. Friedman, as the original inventor or an original joint inventor 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

**AUTHENTICATION USING GESTURE PASSWORDS**

which is further identified by Attorney Docket Number 1048-204.002;

**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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

**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, I 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 me had this assignment and sale not been made; I 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. I 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**, I hereby further agree for myself and my 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

PATENT ASSIGNMENT  
Attorney Docket No.: 1048-204.002  
EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

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**, I 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** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (141224,303 filed 03/25/2014) 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**, I have hereunto set my hand and affixed my seal as set forth below:

PATENT ASSIGNMENT  
Attorney Docket No.: 1048-204.002  
EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

Date:

June 30, 2014

[Signature]  
Inventor's Signature

Legal name of inventor:

Lawrence N. Friedman

Residence:

148 Scituate Street

Arlington, MA 02476

Citizenship:

US

Mailing Address:

Same as above

STATE/Commonwealth of

Massachusetts

COUNTY OF

Middlesex

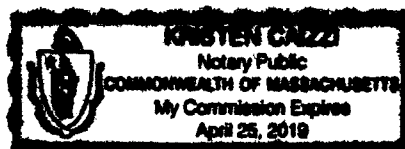
On this 30 day of June, 2014, then personally appeared before me the above-named Lawrence N. Friedman known to me through satisfactory evidence of identification ☒ employee identification card; ☐ driver's license; ☐ (other) \_\_\_\_\_ to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.

[Signature]  
Notary Public

Print Name:

Kristen Cazz

My Commission expires    /    /   



**ASSIGNMENT**

**WHEREAS**, I, Gareth Richards, as the original inventor or an original joint inventor 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

**AUTHENTICATION USING GESTURE PASSWORDS**

which is further identified by Attorney Docket Number 1048-204.002;

**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, USA desires to acquire an interest therein in accordance with agreements duly entered into with me;

**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, I 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 me had this assignment and sale not been made; I 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. I 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**, I hereby further agree for myself and my 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

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Attorney Docket No.: 1048-204.002

EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

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**AND**, I 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** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses (14/224,303 filed 03/25/2014) the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

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PATENT ASSIGNMENT  
Attorney Docket No.: 1048-204.002  
EMC Docket No.: EMC-13-1031(PRO)ORD)CIP1

Date: 21 August 2014

  
Inventor's Signature

Print full name of first inventor:

Gareth Richards

Residence:

1 Princes Ride

Woodstock

Oxfordshire, Great Britain OX20 1UP

Citizenship:

GB

Mailing Address:

Same as above

I GARY GABRIEL (name) whose residential address is  
8424 HAYDEN LN, ANNANDALE, VA 22003  
was personally present and did see GARETH RICHARDS (name  
of person signing the assignment) who is personally known to me, execute the above  
assignment.

Gary Gabriel (signature of first witness)

Signed at 1850 TOWERS CRESCENT PL  
TYSONS CORNER VA 22182 (location of witness signature)

on this day 21 August 2014 of 2014. (date of signature)

I YONG QIAO (name) whose residential address is  
9706 Middleton Ridge Rd. Vienna, VA 22182  
was personally present and did see Gareth Richards (name  
of person signing the assignment) who is personally known to me, execute the above  
assignment.

  
(signature of second witness)

Signed at 1850 Towers Crescent Pl  
Tysons Corner, VA 22182 (location of witness signature)

on this day 21 August of 2014. (date of signature)