

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
Stephen Richard Ives	04/22/2011
Patrick Brian Riordan	04/22/2011
Arieh Don	04/22/2011
Assaf Natanzon	04/27/2011
Helen S. Raizen	05/18/2011
<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>	13073261
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(508)898-8602
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
<b>Phone:</b>	5088988601
<b>Email:</b>	docketing@westboro-ip.com
<b>Correspondent Name:</b>	Muirhead and Saturnelli, LLC
<b>Address Line 1:</b>	200 Friberg Parkway
<b>Address Line 2:</b>	Suite 1001
<b>Address Line 4:</b>	Westborough, MASSACHUSETTS 01581
<b>ATTORNEY DOCKET NUMBER:</b>	EMS-381US
<b>NAME OF SUBMITTER:</b>	Anne E. Saturnelli

CH \$40.00 13073261

**Total Attachments: 17**

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## ASSIGNMENT

WHEREAS, we, Stephen Richard Ives, Patrick Brian Riordan, Arich Don, Assaf Natanzon and Helen Raizen, 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 **TECHNIQUES FOR PREFERRED PATH DETERMINATION**, 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 28, 2011 as U.S. Application No. 13/073,261;
- 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;

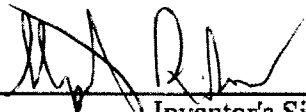
AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, 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: 4/22/11

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

Print full name of first inventor:

**Stephen Richard IVES**

Residence:

26 Shrewsbury Street

West Boylston, MA 01583

Citizenship:

U.S.A.

Mailing Address:

Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF MIDDLESEX

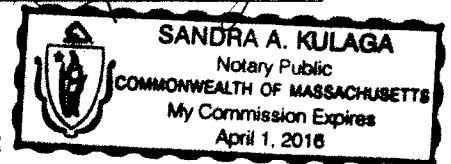
On this 22 day of APRIL, 2011, then personally appeared before me the above-named **Stephen Richard IVES** known to me through satisfactory evidence of identification  employee identification card;  driver's license;  (other) PERSONALLY KNOWN TO ME to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.



Notary Public

Print Name:

My Commission expires:



Date: 4/22/11



Inventor's Signature

Print full name of second inventor: **Patrick Brian RIORDAN**  
Residence: 27 Howland Road  
West Newton, MA 02465  
Citizenship: Ireland  
Mailing Address: Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF MIDDLESEX

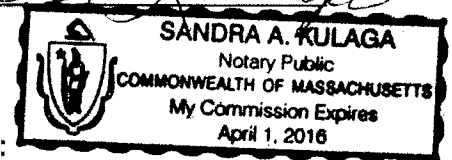
On this 22 day of APRIL, 2011 then personally appeared before me the above-named Patrick Brian RIORDAN known to me through satisfactory evidence of identification  employee identification card;  driver's license;  (other) PERSONALLY KNOWN TO ME to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.



Notary Public

Print Name:

My Commission expires:



Date: 4-22-11

A. Don  
\_\_\_\_\_  
Inventor's Signature

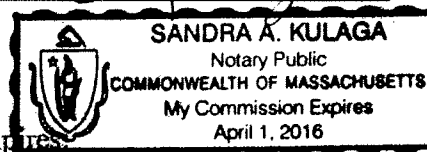
Print full name of third inventor: **Arieh DON**  
Residence: 45 Dexter Road  
Newton, MA 02460  
Citizenship: USA  
Mailing Address: Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF MIDDLESEX

On this 22 day of APRIL, 2011, then personally appeared before me the above-named Arieh DON known to me through satisfactory evidence of identification [] employee identification card; [] driver's license; [] (other) PERSONALLY KNOWN TO ME 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.

Sandra A. Kulaga  
\_\_\_\_\_  
Notary Public

Print Name:  
My Commission expires



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

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

Print full name of fourth inventor: **Assaf NATANZON**  
Residence: **Tirza 28**  
**Ramat-Gan, Israel 52364**  
Citizenship: **Israel**  
Mailing Address: **Same as above**

I \_\_\_\_\_ (name) whose residential address is \_\_\_\_\_  
was personally present and did see **Assaf NATANZON** (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 \_\_\_\_\_ of 20\_\_\_\_. (date of signature)

I \_\_\_\_\_ (name) whose residential address is \_\_\_\_\_  
was personally present and did see **Assaf NATANZON** (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 \_\_\_\_\_ of 20\_\_\_\_. (date of signature)

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

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

Print full name of fifth inventor: **Helen S. Raizen**  
Residence: 51 Bynner Street  
Jamaica Plain, MA 02130  
Citizenship: USA  
Mailing Address: Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF \_\_\_\_\_

On this \_\_\_\_ day of \_\_\_\_\_, 2011, then personally appeared before me the above-named **Helen S. Raizen** 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.

\_\_\_\_\_  
Notary Public

Print Name:

My Commission expires:



ASSIGNMENT

WHEREAS, we, Stephen Richard Ivas, Patrick Brian Riordan, Arich Dou, Assaf Natanzen and Helen Raizen, 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 **TECHNIQUES FOR PREFERRED PATH DETERMINATION**, 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 28, 2011 as U.S. Application No. 13/073,261;
- 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

Date: .....

.....  
Inventor's Signature

Print full name of third inventor: Arieh DON  
Residence: 45 Dexter Road  
Newton, MA 02460  
Citizenship: USA  
Mailing Address: Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF .....

On this \_\_\_\_\_ day of \_\_\_\_\_, 2011, then personally appeared before me the above-named Arieh DON 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.

.....  
Notary Public

Print Name:

My Commission expires:

Date: .....

.....  
Inventor's Signature

Print full name of second inventor: Patrick Brian RIORDAN  
Residence: 27 Howland Road  
West Newton, MA 02465  
Citizenship: Ireland  
Mailing Address: Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF .....

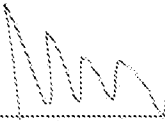
On this \_\_\_\_ day of \_\_\_\_\_, 2011 then personally appeared before me the above-named Patrick Brian RIORDAN known to me through satisfactory evidence of identification [ ] employee identification card; [ ] driver's license; [ ] (other) \_\_\_\_\_ to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.

.....  
Notary Public

Print Name:


My Commission expires:

Date: 27/4/2011

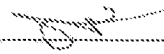
  
.....  
Inventor's Signature

Print full name of fourth inventor: Assaf NATANZON  
Residence: Tirza 28  
Ramat-Gan, Israel 52364  
Citizenship: Israel  
Mailing Address: Same as above

I Assaf Barkel (name) whose residential address is  
Harshim 8, Ramat-Gan  
was personally present and did see Assaf NATANZON (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

  
..... (signature of first witness)  
Signed at Ramat-Gan (location of witness signature)  
on this day 27.4.2011 of 2011. (date of signature)

I Daniel Wachter (name) whose residential address is  
Herzog 87c, Jerusalem  
was personally present and did see Assaf NATANZON (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

  
..... (signature of second witness)  
Signed at Ramat-Gan (location of witness signature)  
on this day 27.4.2011 of 2011. (date of signature)

Date: .....

.....  
Inventor's Signature

Print full name of fifth inventor: Helen S. Raizen  
Residence: 51 Bynner Street  
Jamaica Plain, MA 02130  
Citizenship: USA  
Mailing Address: Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF .....

On this \_\_\_\_\_ day of \_\_\_\_\_, 2011, then personally appeared before me the above-named Helen S. Raizen 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.

.....  
Notary Public

Print Name:

My Commission expires:

Attorney Docket No.: EMS-381US  
EMC Docket No.: EMC-10-381

## ASSIGNMENT

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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

Attorney Docket No.: EMS-381US  
EMC Docket No.: EMC-10-381

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

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

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

Print full name of first inventor:	Stephen Richard IVES
Residence:	26 Shrewsbury Street West Boylston, MA 01583
Citizenship:	U.S.A.
Mailing Address:	Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF \_\_\_\_\_

On this \_\_\_\_ day of \_\_\_\_\_, 2011, then personally appeared before me the above-named Stephen Richard IVES 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.

\_\_\_\_\_  
Notary Public  
Print Name:  
My Commission expires:

Attorney Docket No.: EMS-381US  
EMC Docket No.: EMC-10-381

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

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

Print full name of second inventor:	<b>Patrick Brian RIORDAN</b>
Residence:	27 Howland Road West Newton, MA 02465
Citizenship:	Ireland
Mailing Address:	Same

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF \_\_\_\_\_

On this \_\_\_\_ day of \_\_\_\_\_, 2011 then personally appeared before me the above-named **Patrick Brian RIORDAN** 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.

\_\_\_\_\_  
Notary Public

Print Name:

My Commission expires:



Attorney Docket No.: EMS-381US  
EMC Docket No.: EMC-10-381

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

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

Print full name of third inventor: **Arieh DON**  
Residence: **45 Dexter Road**  
**Newton, MA 02460**  
Citizenship: **USA**  
Mailing Address: **Same**

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF \_\_\_\_\_

On this \_\_\_\_ day of \_\_\_\_\_, 2011, then personally appeared before me the above-named **Arieh DON** 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.

\_\_\_\_\_  
Notary Public  
Print Name:  
My Commission expires:

Attorney Docket No.: EMS-381US  
EMC Docket No.: EMC-10-381

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

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

Print full name of fourth inventor:

Assaf NATANZON

Residence:

Tirza 28  
Ramat-Gan, Israel 52364

Citizenship:

Israel

Mailing Address:

Same as above

I \_\_\_\_\_ (name) whose residential address is

\_\_\_\_\_ was personally present and did see Assaf NATANZON (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 \_\_\_\_\_ of 20\_\_\_\_. (date of signature)

I \_\_\_\_\_ (name) whose residential address is

\_\_\_\_\_ was personally present and did see Assaf NATANZON (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 \_\_\_\_\_ of 20\_\_\_\_. (date of signature)

Attorney Docket No.: EMS-381US  
EMC Docket No.: EMC-10-381

Date: May 18, 2011

Helen S. Raizen  
Inventor's Signature

Print full name of fifth inventor:

**Helen S. Raizen**

Residence:

51 Bynner Street

Jamaica Plain, MA 02130

Citizenship:

USA

Mailing Address:

Same

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF Middlesex

On this 18 day of May, 2011, then personally appeared before me the above-named **Helen S. Raizen** 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.

Mary L Noble  
Notary Public

Print Name: Mary L Noble

My Commission expires: 03/30/2012

