PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| Yechiel Yochai | 12/14/2006 |
| Peng Yin | 12/14/2006 |
| Rong Yu | 12/14/2006 |
| Bing Liu | 12/14/2006 |

RECEIVING PARTY DATA

| Name: | EMC Corporation |
|-----------------|------------------|
| Street Address: | 176 South Street |
| City: | Hopkinton |
| State/Country: | MASSACHUSETTS |
| Postal Code: | 01748 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 11611219 |

CORRESPONDENCE DATA

Fax Number: (617)452-1666

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 617.452.1600

Email: malecia.allen@finnegan.com

Correspondent Name: Finnegan Henderson Farabow Garrett & Dun

Address Line 1: 55 Cambridge Parkway, Suite 700
Address Line 4: Cambridge, MASSACHUSETTS 02142

| ATTORNEY DOCKET NUMBER: | 09646.0024-00000 |
|-------------------------|------------------|
| NAME OF SUBMITTER: | Malecia Allen |

Total Attachments: 10 source=Assignment#page1.tif

PATENT REEL: 018639 FRAME: 0688

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> PATENT REEL: 018639 FRAME: 0689

| PATENT/Joint Assignment |
|---------------------------------------|
| Attorney Docket No.: 09646.0024-00000 |
| EMC Docket No.: 06-359 |
| Express Mail Mailing Label No |

ASSIGNMENT

WHEREAS, we, Yechiel Yochai, Peng Yin, Rong Yu, and Bing Liu 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 METHODS AND SYSTEMS FOR SCHEDULING WRITE DESTAGES BASED ON A TARGET, the specification of which:

| [X] | is being executed on even date he States Patent Office; | erewith and is about to be filed in the United |
|-----|---|--|
| [] | was filed on | as U.S. Application No; |
| [] | was patented under U.S. Patent N | No |

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

PATENT REEL: 018639 FRAME: 0690 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: 12/14/2006 | 4 |
|--|--|
| | Inventor's Signature |
| Print full name of first inventor: | Yechiel Yochai |
| Residence: | 4 Lladnar Drive, Lincoln, RI 02865 |
| Citizenship: | Israel |
| Mailing Address: | same |
| | assachusetts addleset |
| identification [] employee identification of to be | e the person whose name is subscribed to the |
| foregoing Assignment and acknowledged the deed for the purposes therein contained. | nat he/she executed the same as his/her free act and |
| | Notary Public |
| | Print Name: Joseph D. Ang 16 |
| | My Commission expires $\frac{1}{2}/\frac{5}{3}$ |

| Date: 12/16/2006 | De 2 |
|--|--|
| | Inventor's Signature |
| Print full name of second inventor: | Peng Yin |
| Residence: | 12 Blackstone Lane, South Grafton, MA 01560 |
| Citizenship: | China (Peoples Republic) |
| Mailing Address: | same |
| | ossochusetts adalesez |
| identification employee identification of to be | e the person whose name is subscribed to the |
| foregoing Assignment and acknowledged the deed for the purposes therein contained. | hat he/she executed the same as his/her free act and |
| | Notary Public |
| | Print Name: Joseph DAyrlo |
| | My Commission expires $\frac{7}{5}/\frac{5}{2613}$ |

| Date: 12(14(06 | much |
|---|--|
| , | Inventor's Signature |
| Print full name of third inventor: | Rong Yu |
| Residence: | 32 Charles River Drive, Franklin, MA 02038 |
| Citizenship: | China (Peoples Republic) |
| Mailing Address: | same |
| STATE/COMMONWEALTH OF COUNTY OF Middle | descr |
| above-named Kory Vo know identification [] employee identification can to be t | 200_(, then personally appeared before me the own to me through satisfactory evidence of driver's license; [] (other) the person whose name is subscribed to the |
| foregoing Assignment and acknowledged that deed for the purposes therein contained. | he/she executed the same as his/her free act and |
| | |
| • | Notary Public |
| | Print Name: Joseph J. D. Angel |
| | My Commission expires $\frac{1}{2}/\frac{5}{3}$ |

| Date: Llec 14, 2006 | |
|---|--|
| | Inventor's Signature |
| Print full name of fourth inventor: | Bing Liu |
| Residence: | 519 Washington St., #14, Brookline, MA 02446 |
| Citizenship: | China (Peoples Republic) |
| Mailing Address: | same |
| COUNTY OF | sachusetts Alese + 2006 than parsonally appeared before me the |
| above-named By him ki | 2006, then personally appeared before me the nown to me through satisfactory evidence of |
| identification [] employee identification ca | ard; [X] driver's license; [] (other) |
| to be foregoing Assignment and acknowledged that deed for the purposes therein contained. | the person whose name is subscribed to the at he/she executed the same as his/her free act and |
| | MACO |
| | Notary Public |
| | Print Name: Assoph DAngeto |
| | My Commission expires $\frac{7}{5}/\frac{5}{1}$ |

| PATENT/Joint Assignment |
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| Attorney Docket No.: 09646.0024-00000 |
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| Express Mail Mailing Label No. |

ASSIGNMENT

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| [X] | is being executed on even date herewith and is about to be filed in the Unite States Patent Office; | |
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| [] | was filed on | as U.S. Application No; |
| [] | was patented under U.S. | Patent Noon |

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

PATENT REEL: 018639 FRAME: 0695 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: | |
|--|--|
| | Inventor's Signature |
| Print full name of first inventor: | Yechiel Yochai |
| Residence: | 4 Lladnar Drive, Lincoln, RI 02865 |
| Citizenship: | Israel |
| Mailing Address: | same |
| STATE/COMMONWEALTH OFCOUNTY OF | |
| identification employee identification | , 200, then personally appeared before me the known to me through satisfactory evidence of on card; [] driver's license; [] (other) to be the person whose name is subscribed to the |
| foregoing Assignment and acknowledged deed for the purposes therein contained. | d that he/she executed the same as his/her free act and |
| | Notary Public |
| | Print Name: |
| | My Commission expires / / |

| Date: _/2 / 14 / 0 6 | Inventor's Signature |
|---|--|
| Print full name of second inventor: Residence: Citizenship: Mailing Address: | Peng Yin 12 Blackstone Lane, South Grafton, MA 01560 China (Peoples Republic) same |
| STATE/COMMONWEALTH OF COUNTY OF Mossoci | nusetti Nesey |
| identification employee identification ca | 200 (, then personally appeared before me the own to me through satisfactory evidence of rd; [X] driver's license; [] (other) he person whose name is subscribed to the |
| foregoing Assignment and acknowledged that deed for the purposes therein contained. | t he/she executed the same as his/her free act and Notary Public |
| | Print Name: Joseph O Angele My Commission expires 7/5/13 |

| Date: | |
|---|--|
| | Inventor's Signature |
| Print full name of third inventor: | Rong Yu |
| Residence: | 32 Charles River Drive, Franklin, MA 02038 |
| Citizenship: | China (Peoples Republic) |
| Mailing Address: | same |
| COUNTY OF On this day of above-named identification [] employee identification t | , 200, then personally appeared before me the known to me through satisfactory evidence of on card; [] driver's license; [] (other) o be the person whose name is subscribed to the ad that he/she executed the same as his/her free act and |
| | |
| | Notary Public |
| | Print Name: |
| | My Commission expires / / |

| Date: | |
|---|--|
| | Inventor's Signature |
| Print full name of fourth inventor: | Bing Liu |
| Residence: | 519 Washington St., #14, Brookline, MA 02446 |
| Citizenship: | China (Peoples Republic) |
| Mailing Address: | same |
| On this day of | , 200, then personally appeared before me the known to me through satisfactory evidence of |
| identification employee identification to | be the person whose name is subscribed to the |
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| | Notary Public |
| | Print Name: |
| | My Commission expires / / |

RECORDED: 12/15/2006