502920406 08/04/2014

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2967004

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DAVID HAASE	07/11/2014
MICHAEL C. BRUNDAGE	07/08/2014
WALTER C. FORRESTER	07/21/2014
PAUL T. MCGRATH	07/08/2014
MILES A. DE FOREST	07/08/2014

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:	14319764

CORRESPONDENCE DATA

Fax Number: (508)366-4688

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.

Phone: 508-616-2900

Email: Docket@BainwoodHuang.com

Correspondent Name: BAINWOOD, HUANG & ASSOCIATES, LLC

Address Line 1: 2 CONNECTOR ROAD

Address Line 4: WESTBOROUGH, MASSACHUSETTS 01581

ATTORNEY DOCKET NUMBER:	1003-297
NAME OF SUBMITTER:	M. ARI BEHAR
SIGNATURE:	/Michael Ari Behar #58,203/
DATE SIGNED:	08/04/2014

Total Attachments: 15

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PATENT REEL: 033457 FRAME: 0320

EMC Docket No.: EMC-14-0158

ASSIGNMENT

WHEREAS, I, <u>David Haase</u>, 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:

COORDINATION OF FILE SYSTEM CREATION TO ENSURE MORE DETERMINISTIC PERFORMANCE CHARACTERISTICS

which is further identified by Attorney Docket Number 1003-297;

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;

EMC Docket No.: EMC-14-0158

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, 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 (14/319,764 filed on June 30, 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.

	EMC Docket N o. / <u>EMC-14-0158</u>
D	
Date: 7/11/14	
. /	Inventor's Signature
Legal name of inventor:	David Haase
Residence:	904 Cedar Point Ct
	Fuquay Varina, NC 27526
Citizenship:	US
Mailing Address:	Same as above
STATE/COMMONWEALTH OF No	rth Carolina
COUNTY OF O	ange
<u></u>	
On this 11 day of July	, 20 <u>14</u> , then personally appeared before
me the above-named David Haase know	n to me through satisfactory evidence of
identification [X] employee identification	
	be the person whose name is subscribed to liged that he/she executed the same as his/her
free act and deed for the purposes therei	
, ,	
	Judiny Craig
	Notary Public 0
	Print Name:
	Audrey L. Croug
	My Commission expires 8711/2018

Attorney Docket No.: 1003-297

EMC Docket No.: EMC-14-0158

ASSIGNMENT

WHEREAS, I, <u>Michael C. Brundage</u>, 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:

COORDINATION OF FILE SYSTEM CREATION TO ENSURE MORE DETERMINISTIC PERFORMANCE CHARACTERISTICS

which is further identified by Attorney Docket Number 1003-297;

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;

Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

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, 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 (14/319,764 filed on June 30, 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.

PATENT ASSIGNMENT Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

Date: 1/8/2014	Mint C. Pay
	Inventor's Signature
Legal name of inventor:	Michael C. Brundage
Residence:	1218 Bluff Oak Drive
	Cary, NC 27519
Citizenship:	US
Mailing Address:	Same as above
STATE/COMMONWEALTH OF	rth Carolina range
me the above-named Michael C. Brund evidence of identification [X] employee i (other)	dentification card; [] driver's license; [] to be the person whose name is and acknowledged that he/she executed the
	Oudry A. Craig Notary Public
	Print Name: Audrey L. Craig My Commission expires 3/11/2018
	111 COLLINGOIO CAPICO 171 111 20 19

EMC Docket No.: EMC-14-0158

ASSIGNMENT

WHEREAS, I, <u>Walter C. Forrester</u>, 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:

COORDINATION OF FILE SYSTEM CREATION TO ENSURE MORE DETERMINISTIC PERFORMANCE CHARACTERISTICS

which is further identified by Attorney Docket Number 1003-297;

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

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Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

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, 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 (14/319,764 filed on June 30, 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.

EMC Docket No.: EMC-14-0158

Date: 7/21/14	
	Inventor's Signature
Legal name of inventor:	Walter C. Forrester
Residence:	21 Magnum Court
	Berkeley Heights, NJ 07922
Citizenship:	US
Mailing Address:	Same as above
of identification [_] employee identification [_] employee identification [_]	be the person whose name is subscribed to
the foregoing Assignment and acknowled free act and deed for the purposes therei	Iged that he/she executed the same as his/her n contained.
	Man Catha
	Notary Public
	Print Name: White
	My/Commission expires 0/1201-7017

MARCIA V. WAITHE NOTARY PUBLIC OF NEW JERSEY MY COMMISSION EXPIRES JAN. 20, 2017

PATENT ASSIGNMENT Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

ASSIGNMENT

WHEREAS, I, Paul T. McGrath, 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:

COORDINATION OF FILE SYSTEM CREATION TO ENSURE MORE DETERMINISTIC PERFORMANCE CHARACTERISTICS

which is further identified by Attorney Docket Number 1003-297;

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;

PATENT ASSIGNMENT Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

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, 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 (14/319,764 filed on June 30, 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.

Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

Date: 7-8-14	Vaul James
	Inventor's Signature
Legal name of inventor:	Paul T. McGrath
Residence:	8608 Brookdale Drive
	Raleigh, NC 27613
Citizenship:	US
Mailing Address:	Same as above
On this	
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: Audrey L. Craig My Commission expires 8/11/2018

Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

ASSIGNMENT

WHEREAS, I, Miles A. de Forest, 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:

COORDINATION OF FILE SYSTEM CREATION TO ENSURE MORE DETERMINISTIC PERFORMANCE CHARACTERISTICS

which is further identified by Attorney Docket Number 1003-297;

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;

Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

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, 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 (14/319,764 filed on June 30, 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.

Attorney Docket No.: 1003-297 EMC Docket No.: EMC-14-0158

Date: 8 July 2014

hventor's Signature

Legal name of inventor:

Residence:

Miles A. de Forest

6921 Iron Gate Drive

Bahama, NC 27503

Citizenship:

US

Mailing Address:

Same as above

STATE/COMMONWEALTH OF North Carolin
COUNTY OF Durham

On this day of ______, 2014_, then personally appeared before me the above-named Miles A. de Forest 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 6/5/2018

SHERYL JONES

Notary Public, North Carolina

Wake County

My Commission Expires

June 05, 2018

RECORDED: 08/04/2014