503835321 05/20/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DIXIT PATEL	10/12/2015
MILES A. DE FOREST	10/28/2015
WILLIAM C. DAVENPORT	05/10/2016

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:	14867820

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:	1003-364	
NAME OF SUBMITTER:	DF SUBMITTER: BRUCE D. RUBENSTEIN, ESQ.	
SIGNATURE:	/Bruce D. Rubenstein #39,349/	
DATE SIGNED: 05/20/2016		

Total Attachments: 9

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PATENT REEL: 038654 FRAME: 0256

EPAS ID: PAT3881969

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PATENT REEL: 038654 FRAME: 0257

PATENT ASSIGNMENT Attorney Docket No.: 1003-364

EMC Docket No.: EMC-13-0978

ASSIGNMENT

WHEREAS, I, Dixit Patel, 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

DEMAND-DRIVEN INITIALIZATION OF DATA STORAGE STRUCTURES

which is further identified by Attorney Docket Number 1003-364;

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.: 1003-364 EMC Docket No.: EMC-13-0978

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 (14/867, 820 Filed on 9/28/20/5 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:

	Attorney Docket No.: 1003-364	
	EMC Docket No.: EMC-13-0978	
Date: 10 12 2015	Siet).	
	Inventor's Signature	
Legal name of inventor:	Dixit Patel	
Residence:	217 Morning Glory Dr.	
	Monroe, NJ 08831	
	United States of America	
Citizenship:	IN	
Mailing Address:	Same as above	
STATE/COMMONWEALTH OF COUNTY OF COUN		
	Notary Public	
	Print Name: 1 grill A M	
	My Commission expires 1 1 201 2017	

MARCIA V. WAITHE MOTARY PUBLIC OF NEW JERSEY-MY COMMISSION EXPIRES JAN. 207, 2617

PATENT ASSIGNMENT

PATENT ASSIGNMENT

Attorney Docket No.: 1003-364 EMC Docket No.: EMC-13-0978

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

DEMAND-DRIVEN INITIALIZATION OF DATA STORAGE STRUCTURES

which is further identified by Attorney Docket Number 1003-364;

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.: 1003-364 EMC Docket No.: EMC-13-0978

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 (1486, 820 Filed on 9/28265) 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.: 1003-364

EMC Docket No.: EMC-13-0978

Date: 28 OCT 15	Wile I delan	
	/ Inventor's Signature	
Legal name of inventor:	Miles A. de Forest	
Residence:	6921 Iron Gate Drive	
	Bahama, NC 27503	
	United States of America	
Citizenship:	US	
Mailing Address:	Same as above	
STATE/COMMONWEALTH OF COUNTY OF Durker	h Caroling	
On this 28 day of, 2015, then personally appeared before me the above-named Miles A. de Forest known to me through satisfactory evidence of identification [X] employee identification card; [] driver's license; [] (other) to be the person whose name is subscribed to		
	ged that he/she executed the same as his/her	
free act and deed for the purposes therein	(MW) Suff	
8 John E Buchta	Notary Public	
Notary Public Durham County North Carolina North Carolina My Commission Expires 3/26/2019	Print Name:	

My Commission expires 3/26/20

PATENT ASSIGNMENT Attorney Docket No.: 1003-364

EMC Docket No.: EMC-13-0978

ASSIGNMENT

WHEREAS, I, William C. Davenport, 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

DEMAND-DRIVEN INITIALIZATION OF DATA STORAGE STRUCTURES

which is further identified by Attorney Docket Number 1003-364;

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.: 1003-364 EMC Docket No.: EMC-13-0978

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 (14/867,820 0) September 28, 2015 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.: 1003-364

EMC Docket No.: EMC-13-0978 Legal name of inventor: William C. Davenport Residence: 3852 Alameda Pl. San Diego, CA 92103 United States of America Citizenship: US Mailing Address: Same as above STATE/COMMONWEALTH OF CALLFORNICAL COUNTY OF On this 10th day of May , 2015, then personally appeared before me the above-named William C. Davenport known to me through satisfactory evidence of identification [__] employee identification card; [\(\sumsymbol{\substack}\)] driver's license; [__] _ 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

NICOLE ANN GILBERT
Commission # 2128800
Notary Public - California
San Diego County
Ny Comm. Empires Oct 2, 2019

Print Name:

NIGHT ANN GILBERT, NOTANT PUBLIC

My Commission expires 10/2/19