505219325 12/04/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5266093

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MATTHEW EATON	11/06/2018
MICHAEL BURNS	11/06/2018
NIGEL STUART	11/06/2018
MATTHEW JEAN	11/12/2018

RECEIVING PARTY DATA

Name:	EMC IP HOLDING COMPANY LLC
Street Address:	176 SOUTH STREET
City:	HOPKINTON
State/Country:	MASSACHUSETTS
Postal Code:	01748

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16175406

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

Docket@BainwoodHuang.com Email:

BAINWOOD, HUANG & ASSOCIATES, LLC **Correspondent Name:**

Address Line 1: 2 CONNECTOR ROAD

Address Line 4: WESTBOROUGH, MASSACHUSETTS 01581

ATTORNEY DOCKET NUMBER:	1003-661
NAME OF SUBMITTER:	DAVID E. HUANG, ESQ.
SIGNATURE:	/David E. Huang, Reg. No. 39,229/
DATE SIGNED:	12/04/2018

Total Attachments: 12

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PATENT REEL: 047671 FRAME: 0867 505219325

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PATENT REEL: 047671 FRAME: 0868

PATENT ASSIGNMENT Attorney Docket No.: 1003-661

Client Docket No.: 112811.01

<u>ASSIGNMENT</u>

WHEREAS, I, <u>Matthew Eaton</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

AUTOINITIALIZATION OF CLUSTERED STORAGE

which is further identified by Attorney Docket Number 1003-661;

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 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

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PATENT ASSIGNMENT Attorney Docket No.: 1003-661

Client Docket No.: 112811.01

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, 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

the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

ney Docket No.: 1003-661 lient Docket No.: 112811.01 Inventor's Signature Legal name of inventor: **Matthew Eaton** Residence: 10 Saddle Ridge Road Mansfield, MA 02048 United States of America Mailing Address: Same as Above Citizenship: US (name) whose residential address is MA 01568 was personally present and did see Matthew Eaton (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) of 20<u>18</u>. (date of signature) on this day (name) whose residential address is was personally present and did see Matthew Eaton (name of person signing the assignment) who is personally known to me, execute the above assignment. (signature of second witness) SOUTH ST Signed at _____ (location of witness signature)

on this day

of 20 &. (date of signature)

PATENT ASSIGNMENT

Attorney Docket No.: <u>1003-661</u> Client Docket No.: <u>112811.01</u>

<u>ASSIGNMENT</u>

WHEREAS, I, <u>Michael Burns</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

AUTOINITIALIZATION OF CLUSTERED STORAGE

which is further identified by Attorney Docket Number 1003-661;

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 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

-1-

Attorney Docket No.: <u>1003-661</u> Client Docket No.: <u>112811.01</u>

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, 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

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.: <u>1003-661</u> Client Docket No.: <u>112811.01</u>

Date: 11/6/13	Inventor's Signature
Legal name of inventor:	Michael Burns
Residence:	23 Bunker Hill Road Shrewsbury, MA 01545 United States of America
Mailing Address: Citizenship:	Same as Above US
Brian Tetreautt 196 East Street	(name) whose residential address is
was personally present and did see Michael Burns (name of person signing the assignment) who is personally known to me, execute the above assignment.	
Man Transport (signature of first witness)	
Signed at 225 South St, Hyp Winter (location of witness signature)	
on this day Nov 6	of 20 <u>18</u> . (date of signature)
6 Francis Dr ((name) whose residential address is
was personally present and did see Michael Burns (name of person signing the assignment) who is personally known to me, execute the above assignment.	
Cr & a	(signature of second witness)
Signed at 228 South 5	Hopkin on MAlocation of witness signature)
on this day Nov. 6th	of 2018. (date of signature)

Attorney Docket No.: <u>1003-661</u> Client Docket No.: <u>112811.01</u>

ASSIGNMENT

WHEREAS, I, <u>Nigel Stuart</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

AUTOINITIALIZATION OF CLUSTERED STORAGE

which is further identified by Attorney Docket Number 1003-661;

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 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

Attorney Docket No.: 1003-661 Client Docket No.: 112811.01

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, 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

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.: <u>1003-661</u> Client Docket No.: <u>112811.01</u>

	11 ° 1100.
Date: 11/6/2018	/and Hat
	Inventor's Signature
Legal name of inventor:	Nigel Stuart
Residence:	160 Cottage Street, #402 East Boston, MA 02128 United States of America
Mailing Address: Citizenship:	Same as Above US
Brian Tetreant 1 196 East Street U	(name) whose residential address is
assignment) who is personally know	n to me, execute the above assignment.
Peris Prog-	(signature of first witness) েন্দ্র (location of witness signature)
Signed at 228 South St Hop	(location of witness signature)
on this day Nov 6	of 20 <u>18</u> . (date of signature)
₹:	
I Edward Rae	(name) whose residential address is のどのも、
6 Francis Dr V	80210 AM USG
	Nigel Stuart (name of person signing the n to me, execute the above assignment.
Co Ku	(signature of second witness)
	- Hopkin bin MA (location of witness signature)
on this day Nov. 6 ⁴	of 20 <u>18</u> . (date of signature)

Attorney Docket No.: 1003-661 Client Docket No.: 112811.01

ASSIGNMENT

WHEREAS, I, <u>Matthew Jean</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

AUTOINITIALIZATION OF CLUSTERED STORAGE

which is further identified by Attorney Docket Number 1003-661;

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 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

Attorney Docket No.: <u>1003-661</u> Client Docket No.: <u>112811.01</u>

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, 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

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.: <u>1003-661</u> Client Docket No.: <u>112811.01</u>

Date: November 17, 7018	murhar. gen	
	Inventor's Signature	
Legal name of inventor:	Matthew Jean	
Residence:	Shirley, MA United States of America	
Mailing Address:	P.O. Box 1346 Shirley, MA 01464	
Citizenship:	US	
1 VENKATESH S MADHIPATLA (name) whose residential address is 3 COOPERS WAY, WESTFORD, MA 01886,		
was personally present and did see <u>Matthew Jean</u> (name of person signing the assignment) who is personally known to me, execute the above assignment.		
M.S. Vereleatern	(signature of first witness)	
Signed at HOPKINTON, MA (location of witness signature)		
on this day November, 12 of 2018. (date of signature)		
1 NIKHIL A. PATIL 29 VILLAGE ROCK LM, APT 3	(name) whose residential address is	
was personally present and did see <u>Matthew Jean</u> (name of person signing the assignment) who is personally known to me, execute the above assignment.		
& 11411 gat	(signature of second witness)	
Signed at HOPKINTON, MA	(location of witness signature)	
on this day November 12	of 20 <u>18</u> °. (date of signature)	

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PATENT REEL: 047671 FRAME: 0880