

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4844540

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	PIERS YU	02/26/2018
	BANGHUI LUO	02/13/2018
	RUILING DOU	02/13/2018
	AHSAN RASHID	02/07/2018
	JUN LIU	02/13/2018
	XIANLONG LIU	02/13/2018
	WALTER C. FORRESTER	02/06/2018
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	EMC IP HOLDING COMPANY LLC	
<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>
	Application Number:	15885025
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>	(508)366-4688	
<i>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.</i>		
<b>Phone:</b>	508-616-2900	
<b>Email:</b>	Docket@BainwoodHuang.com	
<b>Correspondent Name:</b>	BAINWOOD, HUANG & ASSOCIATES, LLC	
<b>Address Line 1:</b>	2 CONNECTOR ROAD	
<b>Address Line 4:</b>	WESTBOROUGH, MASSACHUSETTS 01581	
<b>ATTORNEY DOCKET NUMBER:</b>	1003-591	
<b>NAME OF SUBMITTER:</b>	M. ARI BEHAR, ESQ.	
<b>SIGNATURE:</b>	/Michael Ari Behar #58,203/	
<b>DATE SIGNED:</b>	02/28/2018	

**Total Attachments: 21**

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**ASSIGNMENT**

**WHEREAS**, I, Piers Yu, 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

**TECHNIQUES FOR REBALANCING STORAGE BETWEEN SUBSPACES**

which is further identified by Attorney Docket Number 1003-591;

**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

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

( 15/885,025 , filed 01/31/2018 )

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

Date: Feb. 26, 2018

Piers Yu

Inventor's Signature

Legal name of inventor:

Piers Yu

Residence:

Room 501, No. 36  
ZhuMei Xiao Qu  
No. 925, Shang Zhong Road West  
Shanghai, China (People's Republic)

Mailing Address:

Same as Above

Citizenship:

CN

I Sicong Yao (name) whose residential address is  
4-1002, #480, XITAILU RD, PUDONG, Shanghai, China

was personally present and did see Piers Yu (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

Sicong Yao (signature of first witness)

Signed at 252 Songhu RD, Shanghai, China (location of witness signature)

on this day 02-26 of 2018. (date of signature)

I Huang Liang (name) whose residential address is  
18 Zhenze Road, Qingpu District, Shanghai, China

was personally present and did see Piers Yu (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

Huang Liang (signature of second witness)

Signed at 252 Songhu Road, Shanghai, China (location of witness signature)

on this day 02-26 of 2018. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Banghui Luo, 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

**TECHNIQUES FOR REBALANCING STORAGE BETWEEN SUBSPACES**

which is further identified by Attorney Docket Number 1003-591;

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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, 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 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

( 15/885,025 , filed 01/31/2018 )

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

Date: 2018.02.13

Banghui Luo

Inventor's Signature

Legal name of inventor:

Banghui Luo

Residence:

2053 Huangxing Road  
Building 1, Room 502  
Yangpu District  
Shanghai, 200237  
China (People's Republic)

Mailing Address:

Same as Above

Citizenship:

CN

I Huang Liang (name) whose residential address is  
18 Zhenze Road, Qinyu District, Shanghai, China

was personally present and did see Banghui Luo (name of person signing the assignment) who is personally known to me, execute the above assignment.

Huang Liang (signature of first witness)

Signed at 234 Songhu Road, Shanghai, China (location of witness signature)

on this day 2-13 of 2018. (date of signature)

I Sicong Yao (name) whose residential address is  
4-1002, #480, XITAIUN RD, PUDONG, Shanghai, China

was personally present and did see Banghui Luo (name of person signing the assignment) who is personally known to me, execute the above assignment.

Sicong Yao (signature of second witness)

Signed at 234 Songhu RD, Shanghai, China (location of witness signature)

on this day 02/13 of 2018. (date of signature)



**ASSIGNMENT**

**WHEREAS**, I, Ruiling Dou, 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

**TECHNIQUES FOR REBALANCING STORAGE BETWEEN SUBSPACES**

which is further identified by Attorney Docket Number 1003-591;

**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

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

( 15/885,025 , filed 01/31/2018 )

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

Date: 2018.02.13

Ruiling Dou  
Inventor's Signature

Legal name of inventor:

Ruiling Dou

Residence:

478 FangHua Road  
Shanghai, China (People's Republic)

Mailing Address:

Same as Above

Citizenship:

CN

I Sicong Yao (name) whose residential address is  
4-1002, #480, XITAILIN RD, PUDONG, Shanghai, China,

was personally present and did see Ruiling Dou (name of person signing the assignment) who is personally known to me, execute the above assignment.

Sicong Yao (signature of first witness)

Signed at 234 Songhu RD., Shanghai, China (location of witness signature)

on this day 02/13 of 2018. (date of signature)

I Huang Liang (name) whose residential address is  
Zhenze Road 18, Qinyu District, Shanghai, China,

was personally present and did see Ruiling Dou (name of person signing the assignment) who is personally known to me, execute the above assignment.

Huang Liang (signature of second witness)

Signed at 234 Songhu Road, Shanghai, China (location of witness signature)

on this day 2-13 of 2018. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Ahsan Rashid, 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

**TECHNIQUES FOR REBALANCING STORAGE BETWEEN SUBSPACES**

which is further identified by Attorney Docket Number 1003-591;

**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

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

( 15/885,025 , filed 01/31/2018 )

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

Date: 02/07/18



Inventor's Signature

Legal name of inventor: Ahsan Rashid  
Residence: 1207 Yosko Dr.  
Edison, NJ 08817  
United States of America  
Mailing Address: Same as Above  
Citizenship: PK

I Jerald W. Gross (name) whose residential address is  
6 Traci Lane Edison, NJ 08817  
was personally present and did see Ahsan Rashid (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

Jerald W. Gross (signature of first witness)

Signed at Warren, NJ (location of witness signature)

on this day Feb. 7 of 2018. (date of signature)

I Alexander Mathews (name) whose residential address is  
4 Prince Edward Rd. Morganville, NJ 07751  
was personally present and did see Ahsan Rashid (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

Alexander Mathews (signature of second witness)

Signed at Warren, NJ (location of witness signature)

on this day Feb. 7 of 2018. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Jun Liu, 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

**TECHNIQUES FOR REBALANCING STORAGE BETWEEN SUBSPACES**

which is further identified by Attorney Docket Number 1003-591;

**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

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

( 15/885,025 , filed 01/31/2018 )

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



Date: Feb 13, 2018

Jun Liu  
Inventor's Signature

Legal name of inventor: Jun Liu  
Residence: Room 202, Building 6, No. 558, Xinde  
Shanghai, China (People's Republic)  
Mailing Address: Same as Above  
Citizenship: CN

I Huang Liang (name) whose residential address is  
18 Zhenze Road, Qinyu District, Shanghai, China,  
was personally present and did see Jun Liu (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

Huang Liang (signature of first witness)  
Signed at 234 Songhu Road, Shanghai, China (location of witness signature)  
on this day 2-13 of 20 18. (date of signature)

I Sicong Yao (name) whose residential address is  
4-1002, #480, XITAILIN RD, PUDONG, Shanghai, China,  
was personally present and did see Jun Liu (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

SICONG YAO (signature of second witness)  
Signed at 234 Songhu RD, Shanghai, China (location of witness signature)  
on this day 02/13 of 20 18. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Xianlong Liu, 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

**TECHNIQUES FOR REBALANCING STORAGE BETWEEN SUBSPACES**

which is further identified by Attorney Docket Number 1003-591;

**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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( 15/885,025 , filed 01/31/2018 )

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

Date: Feb 13, 2018

Xianlong Liu  
Inventor's Signature

Legal name of inventor:

Xianlong Liu

Residence:

Room 502, No. 16, Lane 777, Linghe Road  
Pudong District  
Shanghai, 200129  
China (People's Republic)

Mailing Address:

Same as Above

Citizenship:

CN

I Auang Liang (name) whose residential address is  
18 Zhenze Road, Qingpu District, Shanghai, China  
was personally present and did see Xianlong Liu (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

Auang Liang (signature of first witness)

Signed at 234 Songhu Road, Shanghai, China (location of witness signature)

on this day 2-13 of 2018. (date of signature)

I SICONG YAO (name) whose residential address is  
4-1002, #480, XITAILIN RD, PUDONG, Shanghai, China

was personally present and did see Xianlong Liu (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

SICONG YAO (signature of second witness)

Signed at 234 Songhu RD, Shanghai, China (location of witness signature)

on this day 02/13 of 2018. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Walter C. Forrester, 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

**TECHNIQUES FOR REBALANCING STORAGE BETWEEN SUBSPACES**

which is further identified by Attorney Docket Number 1003-591;

**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

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

( 15/885,025 , filed 01/31/2018 )

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

Date: 2/6/18

Walter C. Forrester  
Inventor's Signature

Legal name of inventor:

Walter C. Forrester

Residence:

21 Magnum Court  
Berkeley Heights, NJ 07922  
United States of America

Mailing Address:

Same as Above

Citizenship:

US

I MICHAEL MARKO (name) whose residential address is  
30 MONTROSE AVE., FANWOOD, NJ

was personally present and did see Walter C. Forrester (name of person signing the assignment) who is personally known to me, execute the above assignment.

[Signature] (signature of first witness)

Signed at WARREN, NJ (location of witness signature)

on this day 6th Feb. of 2018. (date of signature)

I KUMARI BIJAYALAXMI NANDA (name) whose residential address is  
159 WESTGATE DR, EDISON NJ-08820

was personally present and did see Walter C. Forrester (name of person signing the assignment) who is personally known to me, execute the above assignment.

[Signature] (signature of second witness)

Signed at WARREN, NJ (location of witness signature)

on this day 6th Feb of 2018. (date of signature)