

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5657180

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DMITRY TYLIK	05/06/2019
MICHAEL ZELDICH	06/13/2019
VINOD RAJASEKARAN	06/06/2019
ANIL K. KOLUGURI	06/07/2019
<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>
<b>Application Number:</b>	16398774
<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>	1003-967
<b>NAME OF SUBMITTER:</b>	DAVID E. HUANG, ESQ
<b>SIGNATURE:</b>	/David E. Huang, Reg. No. 39,229/
<b>DATE SIGNED:</b>	08/07/2019
<b>Total Attachments: 12</b>	
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source=1003-967-Inv2-assignment-ZELDICH#page3.tif  
source=1003-967-Inv3-assignment-RAJASEKARAN#page1.tif  
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source=1003-967-Inv3-assignment-RAJASEKARAN#page3.tif  
source=1003-967-Inv4-assignment-KOLUGURI#page1.tif  
source=1003-967-Inv4-assignment-KOLUGURI#page2.tif  
source=1003-967-Inv4-assignment-KOLUGURI#page3.tif

**ASSIGNMENT**

**WHEREAS**, I, Dmitry Tylik, 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

**HOST RESCAN FOR LOGICAL VOLUME MIGRATION**

which is further identified by Attorney Docket Number 1003-967;

**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

( 16/398,774 , filed 7/30/19 )

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: 05/06/2019

  
\_\_\_\_\_  
Inventor's Signature

Legal name of inventor: Dmitry Tylik  
Residence: 25 Charles Street  
Westborough, MA 01581  
United States of America  
Mailing Address: Same as Above  
Citizenship: RU

I William Whitney (name) whose residential address is  
78 Lamarre Drive, Marlborough, MA 01752

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

William Whitney (signature of first witness)

Signed at Hopkinton, MA (location of witness signature)

on this day May 6 of 2019. (date of signature)

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I Vladimir Chumakov (name) whose residential address is  
10 Goodnow Ave, Ashland, MA 01721

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

[Signature] (signature of second witness)

Signed at Hopkinton, MA (location of witness signature)

on this day May 6<sup>th</sup> of 2019. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Michael Zeldich, 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

**HOST RESCAN FOR LOGICAL VOLUME MIGRATION**

which is further identified by Attorney Docket Number 1003-967;

**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

( 16/398,774 , filed 4/30/19 )

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: 06/13/2019

  
\_\_\_\_\_  
Inventor's Signature

Legal name of inventor: Michael Zeldich  
Residence: 61 Tanglewood Road  
Newton, MA 02459  
United States of America  
Mailing Address: Same as Above  
Citizenship: IL

I GIRISH SHEELVANT (name) whose residential address is  
29 ROCKY WOODS ROAD, HOPKINTON, MA 01748

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


  
\_\_\_\_\_  
(signature of first witness)

Signed at HOPKINTON, MA (location of witness signature)

on this day 06/13/ of 20 19. (date of signature)

I Edward McKenna (name) whose residential address is  
5 Carriage Barn Lane York, ME 03909

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

  
\_\_\_\_\_  
(signature of second witness)

Signed at Hopkinton, MA (location of witness signature)

on this day 6/13/19 of 20 19. (date of signature)



**ASSIGNMENT**

**WHEREAS**, I, Vinod Rajasekaran, 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

**HOST RESCAN FOR LOGICAL VOLUME MIGRATION**

which is further identified by Attorney Docket Number 1003-967;

**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

( 16/398,774 , filed 4/30/19 )


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: Jun 6, 2019

Vinod Kumar Rajasekaran  
Inventor's Signature

Legal name of inventor: Vinod Rajasekaran  
Residence: 6212 Kit Creek Road  
Morrisville, NC 27560-9351  
United States of America  
Mailing Address: Same as Above  
Citizenship: US

I RITESH POREY (name) whose residential address is  
3028 BRISTOL CREEK DR, APT 202, MORRISVILLE, NC  
was personally present and did see Vinod Rajasekaran (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

 (signature of first witness)

Signed at DELL EMC, DURHAM, NC (location of witness signature)

on this day June 6<sup>th</sup> of 2019. (date of signature)

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I Richard Hicks (name) whose residential address is  
1211 Chalk Maple Dr, Cary NC  
was personally present and did see Vinod Rajasekaran (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

 (signature of second witness)

Signed at DELL EMC Durham NC (location of witness signature)

on this day JUNE 6<sup>TH</sup> of 2019. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Anil K. Koluguri, 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

**HOST RESCAN FOR LOGICAL VOLUME MIGRATION**

which is further identified by Attorney Docket Number 1003-967;

**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

( 16/398,774 , filed 4/30/19 )

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: 6/7/19

  
\_\_\_\_\_  
Inventor's Signature

Legal name of inventor: Anil K. Koluguri  
Residence: 10840 Rio Springs Drive, 108  
Raleigh, NC 27614  
United States of America  
Mailing Address: Same as Above  
Citizenship: IN

I Neha Kerkar (name) whose residential address is  
718 Old San Francisco Rd, Sunnyvale, CA 94086  
was personally present and did see Anil K. Koluguri (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

  
\_\_\_\_\_  
(signature of first witness)

Signed at RTP, NC (location of witness signature)

on this day 06/07 of 2019. (date of signature)

I VINOD RAJASEKARAN (name) whose residential address is  
6212 Kit Creek Rd, Morrisville, NC 27560,

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

  
\_\_\_\_\_  
(signature of second witness)

Signed at Durham, NC (location of witness signature)

on this day 7<sup>th</sup> June of 2019. (date of signature)