

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5087293

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
MUTHUSAMY SENTHILNATHAN	07/17/2015
RAVI THATI	06/25/2015
PARAMASIVAM KUMARASAMY	06/30/2015
HEMANT MISHRA	07/01/2015
RECEIVING PARTY DATA	
Name:	COMMVault SYSTEMS, INC.
Street Address:	1 COMMVault WAY
City:	TINTON FALLS
State/Country:	NEW JERSEY
Postal Code:	07724
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16057763
CORRESPONDENCE DATA	
Fax Number:	(206)359-9398
<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>	
Phone:	2063598000
Email:	aperez@perkinscoie.com
Correspondent Name:	PERKINS COIE LLP
Address Line 1:	P.O. BOX 1247
Address Line 2:	PATENT-SEA
Address Line 4:	SEATTLE, WASHINGTON 98101-3095
ATTORNEY DOCKET NUMBER:	060692-8138.US04
NAME OF SUBMITTER:	ANNDREYA PEREZ
SIGNATURE:	/Anndreya Perez/
DATE SIGNED:	08/07/2018
Total Attachments: 16	
source=2018_08_07_Assignment_as_Filed_8138US4#page1.tif	
source=2018_08_07_Assignment_as_Filed_8138US4#page2.tif	

source=2018_08_07_Assignment_as_Filed_8138US4#page3.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page4.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page5.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page6.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page7.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page8.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page9.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page10.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page11.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page12.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page13.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page14.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page15.tif
source=2018_08_07_Assignment_as_Filed_8138US4#page16.tif

ASSIGNMENT BY INVENTORS

This Assignment is by the following individuals (individually and together, the "Assignor"):

- Muthusamy Senthilnathan, a citizen of the United States of America, and having a mailing address of 105 Richmond Court North, Holmdel, New Jersey 07733, USA;
- Ravi Thati, a citizen of India, and having a mailing address of 7 Throckmorton Avenue, Apt. #313, Eatontown, New Jersey 07724, USA;
- Paramasivam Kumarasamy, a citizen of the United States of America, and having a mailing address of 327 Devon Place, Morganville, New Jersey 07751, USA;
- Hemant Mishra, a citizen of India, and having a mailing address of 2 Matlosz Court, Englishtown, New Jersey 07726, USA.

The Assignor invented and/or co-invented one or more inventions, contributions, concepts, ideas, developments, discoveries, processes, formulas, methods, compositions, techniques, technology, articles, machines, improvements, and all related know-how (collectively "Invention(s)") described or claimed in an application for Patent of the United States, which is currently entitled **PREDICTING SCALE OF DATA MIGRATION BETWEEN PRODUCTION AND ARCHIVE STORAGE SYSTEM, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES** and naming Assignor as inventor(s), and filed on July 28, 2015 as U.S. Application No. 14/810,546 (the "Application"). The Assignor authorizes the Assignee, identified below, or its representatives to insert the application number and filing date of the Application after they are known.

Assignor desires to assign the entire right, title and interest in and to the Invention(s), the Application, and all related rights to Commvault Systems, Inc., a Delaware corporation having its principal place of business at 1 Commvault Way, Tinton Falls, New Jersey 07724 USA (the "Assignee") pursuant to this Assignment.

For good and valuable consideration, the receipt and sufficiency of which Assignor acknowledges, Assignor hereby presently and irrevocably assigns to Assignee the entire right, title, and interest throughout the world in and to the following (collectively, the "Assigned Patent Rights"):

- (a) the Invention(s) and Application;
- (b) all provisional patent applications relating to the Invention(s) and Application, including:
 - U.S. Application No. 62/164,438, filed on May 20, 2015, and entitled **HANDLING LARGE DATA FILES: ARCHIVE DATABASE DRIVERS, DATABASE ARCHIVE PREDICTIONS, AND FAST REPORTING, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES**;
- (c) all patent applications claiming direct or indirect priority to the Application and/or any patents issuing from the Application that have been or may be filed or issued in the future, including divisions, continuations, and continuations-in-part;
- (d) all patents that may be granted on any of the foregoing in clauses (a) through (c);
- (e) all rights of priority under United States law and International Conventions relating to any of the foregoing in clauses (a) through (d);
- (f) all reissues, reexaminations, *inter partes* reviews, post-grant reviews, covered business method patent reviews, supplemental examinations, renewals, substitutes, and extensions of any of the foregoing in clauses (a) through (e);

(g) the right to file foreign and United States applications on the Invention(s), including filing directly in the name of Assignee; and

(h) all past, present, and future: claims, causes of action, and enforcement rights for infringement or violation of any of the foregoing in clauses (a) through (f), including the right to sue and collect damages, royalties, and other remedies.

Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any official of any country, whose duty it is to issue patents on applications, to issue all patents subject to this Assignment to the Assignee.

Assignor represents that he or she has not previously assigned or licensed, or promised to assign or license, the Assigned Patent Rights to anyone other than Assignee, or taken any other action that conflicts with this Assignment or grants any immunities or rights under the Assigned Patent Rights to anyone other than Assignee.

Assignor acknowledges that he or she has been fully compensated for this Assignment and is not entitled to any future compensation or other remuneration for the Assigned Patent Rights.

Assignor agrees to communicate any facts known about the Invention(s) and promptly provide to Assignee any tangible property embodying or describing the Invention(s), which, if not presently in Assignor's possession, will be delivered to Assignee immediately upon creation thereof.

Assignor agrees to sign all documents and do such additional acts as Assignee deems reasonably necessary or desirable to file, prosecute, perfect, defend, and enforce the Assigned Patent Rights, including:

(a) assisting in the preparation of and authorizing the filing of any other applications relating to the Assigned Patent Rights and any improvements made thereto by Assignor;

(b) executing and making all rightful oaths, declarations, and affirmations relating to the Assigned Patent Rights; and

(c) assisting (including by giving of testimony) in any litigation, interference, derivation, *inter partes* review, post-grant review, covered business method patent review, supplemental examination, *ex parte* reexamination, and any other pre-issuance or post-issuance proceedings in any jurisdiction relating to the Assigned Patent Rights.

Assignor will not in the future make any commitments or do any act conflicting with or impairing the Assigned Patent Rights, including, without limitation, raising any controversy, contesting, or challenging, either directly or indirectly, the validity, enforceability, or alleged infringement of any Assigned Patent Rights or assisting any third party in doing so, serving as an expert, a witness, or as a consultant in any cause of action or for any third party that is adverse to the Assigned Patent Rights, or providing a written opinion, or any other written work product, in any cause of action or for any third party that is adverse to the Assigned Patent Rights. Assignor acknowledges that there may be no adequate remedy at law for Assignor's breach of the terms set forth herein, and accordingly, Assignor grants to Assignee in addition to the right to seek monetary damages, the right to have any such breach remedied by equitable relief including, but not limited to, a temporary restraining order, preliminary injunction, permanent injunction, and such other alternative relief as may be appropriate without the necessity of Assignee posting any bond or proving any damages.

Assignor's obligation to assist Assignee in obtaining, defending, and enforcing the Assigned Patent Rights shall continue beyond the termination of employment by Assignee for whatever reason, but Assignee shall compensate Assignor at a reasonable rate after the termination of employment for time actually spent at Assignee's request providing such assistance. Assignor hereby irrevocably designates

and appoints Assignee as its duly authorized agent and attorney-in-fact to act for and in Assignor's behalf to execute and file any document and to do all other lawfully permitted acts to further the prosecution, defense, and enforcement of the Assigned Patent Rights with the same legal force and effect as if executed by Assignor.

No amendment to this Assignment shall be valid unless signed in writing by the party to be bound. No course of conduct or dealing by Assignee will act as an amendment, modification, or waiver of any provision of this Assignment.

This Assignment may be executed in counterparts. This Assignment is enforceable by and inures to the benefit of Assignee and its successors and assigns.

This Assignment is effective: June 16, 2015.

Assignor's Signature: _____

Muthusamy Senthilnathan

MUTHUSAMY SENTHILNATHAN

Attorney's Signature: _____

Josephine A. Paltin

Date: *July 17, 2015*

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

RAVI THATI

Attorney's Signature: _____

Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

PARAMASIVAM KUMARASAMY

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

HEMANT MISHRA

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

ASSIGNMENT BY INVENTORS

This Assignment is by the following individuals (individually and together, the "Assignor"):

- Muthusamy Senthilnathan, a citizen of the United States of America, and having a mailing address of 105 Richmond Court North, Holmdel, New Jersey 07733, USA;
- Ravi Thali, a citizen of India, and having a mailing address of 7 Throckmorton Avenue, Apt. #313, Eatontown, New Jersey 07724, USA;
- Paramasivam Kumarasamy, a citizen of the United States of America, and having a mailing address of 327 Devon Place, Morganville, New Jersey 07751, USA;
- Hemant Mishra, a citizen of India, and having a mailing address of 2 Matlosz Court, Englishtown, New Jersey 07726, USA.

The Assignor invented and/or co-invented one or more inventions, contributions, concepts, ideas, developments, discoveries, processes, formulas, methods, compositions, techniques, technology, articles, machines, improvements, and all related know-how (collectively "Invention(s)") described or claimed in an application for Patent of the United States, which is currently entitled **PREDICTING SCALE OF DATA MIGRATION BETWEEN PRODUCTION AND ARCHIVE STORAGE SYSTEM, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES** and naming Assignor as inventor(s), and filed on July 28, 2015 as U.S. Application No. 14/810,546 (the "Application"). The Assignor authorizes the Assignee, identified below, or its representatives to insert the application number and filing date of the Application after they are known.

Assignor desires to assign the entire right, title and interest in and to the Invention(s), the Application, and all related rights to Commvault Systems, Inc., a Delaware corporation having its principal place of business at 1 Commvault Way, Tinton Falls, New Jersey 07724 USA (the "Assignee") pursuant to this Assignment.

For good and valuable consideration, the receipt and sufficiency of which Assignor acknowledges, Assignor hereby presently and irrevocably assigns to Assignee the entire right, title, and interest throughout the world in and to the following (collectively, the "Assigned Patent Rights"):

- (a) the Invention(s) and Application;
- (b) all provisional patent applications relating to the Invention(s) and Application, including:
 - U.S. Application No. 62/164,438, filed on May 20, 2015, and entitled **HANDLING LARGE DATA FILES: ARCHIVE DATABASE DRIVERS, DATABASE ARCHIVE PREDICTIONS, AND FAST REPORTING, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES**;
- (c) all patent applications claiming direct or indirect priority to the Application and/or any patents issuing from the Application that have been or may be filed or issued in the future, including divisions, continuations, and continuations-in-part;
- (d) all patents that may be granted on any of the foregoing in clauses (a) through (c);
- (e) all rights of priority under United States law and International Conventions relating to any of the foregoing in clauses (a) through (d);
- (f) all reissues, reexaminations, *inter partes* reviews, post-grant reviews, covered business method patent reviews, supplemental examinations, renewals, substitutes, and extensions of any of the foregoing in clauses (a) through (e);

(g) the right to file foreign and United States applications on the Invention(s), including filing directly in the name of Assignee; and

(h) all past, present, and future: claims, causes of action, and enforcement rights for infringement or violation of any of the foregoing in clauses (a) through (f), including the right to sue and collect damages, royalties, and other remedies.

Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any official of any country, whose duty it is to issue patents on applications, to issue all patents subject to this Assignment to the Assignee.

Assignor represents that he or she has not previously assigned or licensed, or promised to assign or license, the Assigned Patent Rights to anyone other than Assignee, or taken any other action that conflicts with this Assignment or grants any immunities or rights under the Assigned Patent Rights to anyone other than Assignee.

Assignor acknowledges that he or she has been fully compensated for this Assignment and is not entitled to any future compensation or other remuneration for the Assigned Patent Rights.

Assignor agrees to communicate any facts known about the Invention(s) and promptly provide to Assignee any tangible property embodying or describing the Invention(s), which, if not presently in Assignor's possession, will be delivered to Assignee immediately upon creation thereof.

Assignor agrees to sign all documents and do such additional acts as Assignee deems reasonably necessary or desirable to file, prosecute, perfect, defend, and enforce the Assigned Patent Rights, including:

(a) assisting in the preparation of and authorizing the filing of any other applications relating to the Assigned Patent Rights and any improvements made thereto by Assignor;

(b) executing and making all rightful oaths, declarations, and affirmations relating to the Assigned Patent Rights; and

(c) assisting (including by giving of testimony) in any litigation, interference, derivation, *inter partes* review, post-grant review, covered business method patent review, supplemental examination, *ex parte* reexamination, and any other pre-issuance or post-issuance proceedings in any jurisdiction relating to the Assigned Patent Rights.

Assignor will not in the future make any commitments or do any act conflicting with or impairing the Assigned Patent Rights, including, without limitation, raising any controversy, contesting, or challenging, either directly or indirectly, the validity, enforceability, or alleged infringement of any Assigned Patent Rights or assisting any third party in doing so, serving as an expert, a witness, or as a consultant in any cause of action or for any third party that is adverse to the Assigned Patent Rights, or providing a written opinion, or any other written work product, in any cause of action or for any third party that is adverse to the Assigned Patent Rights. Assignor acknowledges that there may be no adequate remedy at law for Assignor's breach of the terms set forth herein, and accordingly, Assignor grants to Assignee in addition to the right to seek monetary damages, the right to have any such breach remedied by equitable relief including, but not limited to, a temporary restraining order, preliminary injunction, permanent injunction, and such other alternative relief as may be appropriate without the necessity of Assignee posting any bond or proving any damages.

Assignor's obligation to assist Assignee in obtaining, defending, and enforcing the Assigned Patent Rights shall continue beyond the termination of employment by Assignee for whatever reason, but Assignee shall compensate Assignor at a reasonable rate after the termination of employment for time actually spent at Assignee's request providing such assistance. Assignor hereby irrevocably designates

and appoints Assignee as its duly authorized agent and attorney-in-fact to act for and in Assignor's behalf to execute and file any document and to do all other lawfully permitted acts to further the prosecution, defense, and enforcement of the Assigned Patent Rights with the same legal force and effect as if executed by Assignor.

No amendment to this Assignment shall be valid unless signed in writing by the party to be bound. No course of conduct or dealing by Assignee will act as an amendment, modification, or waiver of any provision of this Assignment.

This Assignment may be executed in counterparts. This Assignment is enforceable by and inures to the benefit of Assignee and its successors and assigns.

This Assignment is effective: June 16, 2015.

Assignor's Signature: _____

MUTHUSAMY SENTHILNATHAN

Attorney's Signature: _____ Date: _____

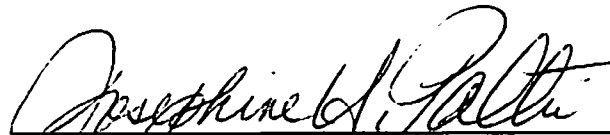
Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____



RAVI THATI

Attorney's Signature: _____



Date: _____

25 June 2015

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

PARAMASIVAM KUMARASAMY

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

HEMANT MISHRA

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

ASSIGNMENT BY INVENTORS

This Assignment is by the following individuals (individually and together, the "Assignor"):

- Muthusamy Senthilnathan, a citizen of the United States of America, and having a mailing address of 105 Richmond Court North, Holmdel, New Jersey 07733, USA;
- Ravi Thati, a citizen of India, and having a mailing address of 7 Throckmorton Avenue, Apt. #313, Eatontown, New Jersey 07724, USA;
- Paramasivam Kumarasamy, a citizen of the United States of America, and having a mailing address of 327 Devon Place, Morganville, New Jersey 07751, USA;
- Hemant Mishra, a citizen of India, and having a mailing address of 2 Matlosz Court, Englishtown, New Jersey 07726, USA.

The Assignor invented and/or co-invented one or more inventions, contributions, concepts, ideas, developments, discoveries, processes, formulas, methods, compositions, techniques, technology, articles, machines, improvements, and all related know-how (collectively "Invention(s)") described or claimed in an application for Patent of the United States, which is currently entitled **PREDICTING SCALE OF DATA MIGRATION BETWEEN PRODUCTION AND ARCHIVE STORAGE SYSTEM, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES** and naming Assignor as inventor(s), and filed on July 28, 2015 as U.S. Application No. 14/810,546 (the "Application"). The Assignor authorizes the Assignee, identified below, or its representatives to insert the application number and filing date of the Application after they are known.

Assignor desires to assign the entire right, title and interest in and to the Invention(s), the Application, and all related rights to Commvault Systems, Inc., a Delaware corporation having its principal place of business at 1 Commvault Way, Tinton Falls, New Jersey 07724 USA (the "Assignee") pursuant to this Assignment.

For good and valuable consideration, the receipt and sufficiency of which Assignor acknowledges, Assignor hereby presently and irrevocably assigns to Assignee the entire right, title, and interest throughout the world in and to the following (collectively, the "Assigned Patent Rights"):

- (a) the Invention(s) and Application;
- (b) all provisional patent applications relating to the Invention(s) and Application, including:
 - U.S. Application No. 62/164,438, filed on May 20, 2015, and entitled **HANDLING LARGE DATA FILES: ARCHIVE DATABASE DRIVERS, DATABASE ARCHIVE PREDICTIONS, AND FAST REPORTING, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES**;
- (c) all patent applications claiming direct or indirect priority to the Application and/or any patents issuing from the Application that have been or may be filed or issued in the future, including divisions, continuations, and continuations-in-part;
- (d) all patents that may be granted on any of the foregoing in clauses (a) through (c);
- (e) all rights of priority under United States law and International Conventions relating to any of the foregoing in clauses (a) through (d);
- (f) all reissues, reexaminations, *inter partes* reviews, post-grant reviews, covered business method patent reviews, supplemental examinations, renewals, substitutes, and extensions of any of the foregoing in clauses (a) through (e);

(g) the right to file foreign and United States applications on the Invention(s), including filing directly in the name of Assignee; and

(h) all past, present, and future: claims, causes of action, and enforcement rights for infringement or violation of any of the foregoing in clauses (a) through (f), including the right to sue and collect damages, royalties, and other remedies.

Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any official of any country, whose duty it is to issue patents on applications, to issue all patents subject to this Assignment to the Assignee.

Assignor represents that he or she has not previously assigned or licensed, or promised to assign or license, the Assigned Patent Rights to anyone other than Assignee, or taken any other action that conflicts with this Assignment or grants any immunities or rights under the Assigned Patent Rights to anyone other than Assignee.

Assignor acknowledges that he or she has been fully compensated for this Assignment and is not entitled to any future compensation or other remuneration for the Assigned Patent Rights.

Assignor agrees to communicate any facts known about the Invention(s) and promptly provide to Assignee any tangible property embodying or describing the Invention(s), which, if not presently in Assignor's possession, will be delivered to Assignee immediately upon creation thereof.

Assignor agrees to sign all documents and do such additional acts as Assignee deems reasonably necessary or desirable to file, prosecute, perfect, defend, and enforce the Assigned Patent Rights, including:

(a) assisting in the preparation of and authorizing the filing of any other applications relating to the Assigned Patent Rights and any improvements made thereto by Assignor;

(b) executing and making all rightful oaths, declarations, and affirmations relating to the Assigned Patent Rights; and

(c) assisting (including by giving of testimony) in any litigation, interference, derivation, *inter partes* review, post-grant review, covered business method patent review, supplemental examination, *ex parte* reexamination, and any other pre-issuance or post-issuance proceedings in any jurisdiction relating to the Assigned Patent Rights.

Assignor will not in the future make any commitments or do any act conflicting with or impairing the Assigned Patent Rights, including, without limitation, raising any controversy, contesting, or challenging, either directly or indirectly, the validity, enforceability, or alleged infringement of any Assigned Patent Rights or assisting any third party in doing so, serving as an expert, a witness, or as a consultant in any cause of action or for any third party that is adverse to the Assigned Patent Rights, or providing a written opinion, or any other written work product, in any cause of action or for any third party that is adverse to the Assigned Patent Rights. Assignor acknowledges that there may be no adequate remedy at law for Assignor's breach of the terms set forth herein, and accordingly, Assignor grants to Assignee in addition to the right to seek monetary damages, the right to have any such breach remedied by equitable relief including, but not limited to, a temporary restraining order, preliminary injunction, permanent injunction, and such other alternative relief as may be appropriate without the necessity of Assignee posting any bond or proving any damages.

Assignor's obligation to assist Assignee in obtaining, defending, and enforcing the Assigned Patent Rights shall continue beyond the termination of employment by Assignee for whatever reason, but Assignee shall compensate Assignor at a reasonable rate after the termination of employment for time actually spent at Assignee's request providing such assistance. Assignor hereby irrevocably designates

and appoints Assignee as its duly authorized agent and attorney-in-fact to act for and in Assignor's behalf to execute and file any document and to do all other lawfully permitted acts to further the prosecution, defense, and enforcement of the Assigned Patent Rights with the same legal force and effect as if executed by Assignor.

No amendment to this Assignment shall be valid unless signed in writing by the party to be bound. No course of conduct or dealing by Assignee will act as an amendment, modification, or waiver of any provision of this Assignment.

This Assignment may be executed in counterparts. This Assignment is enforceable by and inures to the benefit of Assignee and its successors and assigns.

This Assignment is effective: June 16, 2015.

Assignor's Signature: _____

MUTHUSAMY SENTHILNATHAN

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

RAVI THATI

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____



PARAMASIVAM KUMARASAMY

Attorney's Signature: _____



Date: _____

30 June 2015

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

HEMANT MISHRA

Attorney's Signature: _____

Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

ASSIGNMENT BY INVENTORS

This Assignment is by the following individuals (individually and together, the "Assignor"):

- Muthusamy Senthilnathan, a citizen of the United States of America, and having a mailing address of 105 Richmond Court North, Holmdel, New Jersey 07733, USA;
- Ravi Thati, a citizen of India, and having a mailing address of 7 Throckmorton Avenue, Apt. #313, Eatontown, New Jersey 07724, USA;
- Paramasivam Kumarasamy, a citizen of the United States of America, and having a mailing address of 327 Devon Place, Morganville, New Jersey 07751, USA;
- Hemant Mishra, a citizen of India, and having a mailing address of 2 Matlosz Court, Englishtown, New Jersey 07726, USA.

The Assignor invented and/or co-invented one or more inventions, contributions, concepts, ideas, developments, discoveries, processes, formulas, methods, compositions, techniques, technology, articles, machines, improvements, and all related know-how (collectively "Invention(s)") described or claimed in an application for Patent of the United States, which is currently entitled **PREDICTING SCALE OF DATA MIGRATION BETWEEN PRODUCTION AND ARCHIVE STORAGE SYSTEM, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES** and naming Assignor as inventor(s), and filed on July 28, 2015 as U.S. Application No. 14/810,546 (the "Application"). The Assignor authorizes the Assignee, identified below, or its representatives to insert the application number and filing date of the Application after they are known.

Assignor desires to assign the entire right, title and interest in and to the Invention(s), the Application, and all related rights to Commvault Systems, Inc., a Delaware corporation having its principal place of business at 1 Commvault Way, Tinton Falls, New Jersey 07724 USA (the "Assignee") pursuant to this Assignment.

For good and valuable consideration, the receipt and sufficiency of which Assignor acknowledges, Assignor hereby presently and irrevocably assigns to Assignee the entire right, title, and interest throughout the world in and to the following (collectively, the "Assigned Patent Rights"):

- (a) the Invention(s) and Application;
- (b) all provisional patent applications relating to the Invention(s) and Application, including:
 - U.S. Application No. 62/164,438, filed on May 20, 2015, and entitled **HANDLING LARGE DATA FILES: ARCHIVE DATABASE DRIVERS, DATABASE ARCHIVE PREDICTIONS, AND FAST REPORTING, SUCH AS FOR ENTERPRISE CUSTOMERS HAVING LARGE AND/OR NUMEROUS FILES**;
- (c) all patent applications claiming direct or indirect priority to the Application and/or any patents issuing from the Application that have been or may be filed or issued in the future, including divisions, continuations, and continuations-in-part;
- (d) all patents that may be granted on any of the foregoing in clauses (a) through (c);
- (e) all rights of priority under United States law and International Conventions relating to any of the foregoing in clauses (a) through (d);
- (f) all reissues, reexaminations, *inter partes* reviews, post-grant reviews, covered business method patent reviews, supplemental examinations, renewals, substitutes, and extensions of any of the foregoing in clauses (a) through (e);

(g) the right to file foreign and United States applications on the Invention(s), including filing directly in the name of Assignee; and

(h) all past, present, and future: claims, causes of action, and enforcement rights for infringement or violation of any of the foregoing in clauses (a) through (f), including the right to sue and collect damages, royalties, and other remedies.

Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any official of any country, whose duty it is to issue patents on applications, to issue all patents subject to this Assignment to the Assignee.

Assignor represents that he or she has not previously assigned or licensed, or promised to assign or license, the Assigned Patent Rights to anyone other than Assignee, or taken any other action that conflicts with this Assignment or grants any immunities or rights under the Assigned Patent Rights to anyone other than Assignee.

Assignor acknowledges that he or she has been fully compensated for this Assignment and is not entitled to any future compensation or other remuneration for the Assigned Patent Rights.

Assignor agrees to communicate any facts known about the Invention(s) and promptly provide to Assignee any tangible property embodying or describing the Invention(s), which, if not presently in Assignor's possession, will be delivered to Assignee immediately upon creation thereof.

Assignor agrees to sign all documents and do such additional acts as Assignee deems reasonably necessary or desirable to file, prosecute, perfect, defend, and enforce the Assigned Patent Rights, including:

(a) assisting in the preparation of and authorizing the filing of any other applications relating to the Assigned Patent Rights and any improvements made thereto by Assignor;

(b) executing and making all rightful oaths, declarations, and affirmations relating to the Assigned Patent Rights; and

(c) assisting (including by giving of testimony) in any litigation, interference, derivation, *inter partes* review, post-grant review, covered business method patent review, supplemental examination, *ex parte* reexamination, and any other pre-issuance or post-issuance proceedings in any jurisdiction relating to the Assigned Patent Rights.

Assignor will not in the future make any commitments or do any act conflicting with or impairing the Assigned Patent Rights, including, without limitation, raising any controversy, contesting, or challenging, either directly or indirectly, the validity, enforceability, or alleged infringement of any Assigned Patent Rights or assisting any third party in doing so, serving as an expert, a witness, or as a consultant in any cause of action or for any third party that is adverse to the Assigned Patent Rights, or providing a written opinion, or any other written work product, in any cause of action or for any third party that is adverse to the Assigned Patent Rights. Assignor acknowledges that there may be no adequate remedy at law for Assignor's breach of the terms set forth herein, and accordingly, Assignor grants to Assignee in addition to the right to seek monetary damages, the right to have any such breach remedied by equitable relief including, but not limited to, a temporary restraining order, preliminary injunction, permanent injunction, and such other alternative relief as may be appropriate without the necessity of Assignee posting any bond or proving any damages.

Assignor's obligation to assist Assignee in obtaining, defending, and enforcing the Assigned Patent Rights shall continue beyond the termination of employment by Assignee for whatever reason, but Assignee shall compensate Assignor at a reasonable rate after the termination of employment for time actually spent at Assignee's request providing such assistance. Assignor hereby irrevocably designates

and appoints Assignee as its duly authorized agent and attorney-in-fact to act for and in Assignor's behalf to execute and file any document and to do all other lawfully permitted acts to further the prosecution, defense, and enforcement of the Assigned Patent Rights with the same legal force and effect as if executed by Assignor.

No amendment to this Assignment shall be valid unless signed in writing by the party to be bound. No course of conduct or dealing by Assignee will act as an amendment, modification, or waiver of any provision of this Assignment.

This Assignment may be executed in counterparts. This Assignment is enforceable by and inures to the benefit of Assignee and its successors and assigns.

This Assignment is effective: June 16, 2015.

Assignor's Signature: _____

MUTHUSAMY SENTHILNATHAN

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

RAVI THATI

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

PARAMASIVAM KUMARASAMY

Attorney's Signature: _____ Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.

Assignor's Signature: _____

HEMANT MISHRA

Attorney's Signature: _____

Date: _____

Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing document and who affirmed execution of same.