

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4096682

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
PRASHANTH NAGABHUSHANA BANGALORE	09/21/2016
SHANKAR REDDY VULLUPALA	09/30/2016
SRAVANTHI BHAVANAM	09/27/2016
VINAY K. PAMARTHI	09/21/2016
BALAJI TEJA SINGIREESU	10/11/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	COMMVault SYSTEMS, INC.
<b>Street Address:</b>	1 COMMVault WAY
<b>City:</b>	TINTON FALLS
<b>State/Country:</b>	NEW JERSEY
<b>Postal Code:</b>	07724
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15270909
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(949)760-9502
<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>	9497600404
<b>Email:</b>	EFILING@knobbe.com
<b>Correspondent Name:</b>	KNOBBE MARTENS OLSON & BEAR LLP
<b>Address Line 1:</b>	2040 MAIN STREET
<b>Address Line 2:</b>	14TH FLOOR
<b>Address Line 4:</b>	IRVINE, CALIFORNIA 92614
<b>ATTORNEY DOCKET NUMBER:</b>	COMMV.274A1
<b>NAME OF SUBMITTER:</b>	SEAN AMBROSIUS
<b>SIGNATURE:</b>	/Sean Ambrosius/
<b>DATE SIGNED:</b>	10/13/2016
<b>Total Attachments: 20</b>	

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## ASSIGNMENT BY INVENTORS

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

- Prashanth Nagabhushana BANGALORE, a citizen of India, and having a mailing address of 18 Hummingbird Ct., Marlboro, NJ 07746 USA;
- Shankar Reddy VULLUPALA, a citizen of USA, and having a mailing address of 18 Kinglet Avenue, Marlboro, NJ 07746 USA;
- Sravanthi BHAVANAM, a citizen of India, and having a mailing address of 52 Poplar Lane, Holmdel, NJ 07733 USA;
- Vinay K. PAMARTHI, a citizen of India, and having a mailing address of 15B Lakeview Terrace, Eatontown, NJ 07724 USA; and
- Balaji Teja SINGIREESU, a citizen of India, and having a mailing address of 109 Willow Drive, Ocean, NJ, 07712 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 **DYNAMIC TRIGGERING OF BLOCK-LEVEL BACKUPS BASED ON BLOCK CHANGE THRESHOLDS AND CORRESPONDING FILE IDENTITIES USING COMMUNICATION PATHWAYS BETWEEN CO-RESIDENT DATA AGENTS** and naming Assignor as inventor(s), and filed on September 20, 2016 as U.S. Application No. 15/270909 (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. Provisional patent application no. 62/235,423 entitled "DYNAMIC TRIGGERING OF BLOCK-LEVEL BACKUPS BASED ON BLOCK CHANGE THRESHOLDS AND CORRESPONDING FILE IDENTITIES" and filed on Sept. 30, 2015;
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- (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.

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Assignor's Signature: \_\_\_\_\_

*Prashanth Nagabhushana*  
**Prashanth Nagabhushana BANGALORE**

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: \_\_\_\_\_

**Shankar Reddy VULLUPALA**

Attorney's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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**Srevanthi BHAVANAM**

Attorney's Signature: \_\_\_\_\_

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Vinay K. PAMARTHI

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Balaji Teja SINGIREESU

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Sravanthi BHAVANAM

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Balaji Teja SINGIREESU

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"):

- Prashanth Nagabhushana BANGALORE, a citizen of India, and having a mailing address of 18 Hummingbird Ct., Marlboro, NJ 07746 USA;
- Shankar Reddy VULLUPALA, a citizen of USA, and having a mailing address of 18 Kinglet Avenue, Marlboro, NJ 07746 USA;
- Sravanthi BHAVANAM, a citizen of India, and having a mailing address of 52 Poplar Lane, Holmdel, NJ 07733 USA;
- Vinay K. PAMARTHI, a citizen of India, and having a mailing address of 15B Lakeview Terrace, Eatontown, NJ 07724 USA; and
- Balaji Teja SINGIREESU, a citizen of India, and having a mailing address of 109 Willow Drive, Ocean, NJ, 07712 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 **DYNAMIC TRIGGERING OF BLOCK-LEVEL BACKUPS BASED ON BLOCK CHANGE THRESHOLDS AND CORRESPONDING FILE IDENTITIES USING COMMUNICATION PATHWAYS BETWEEN CO-RESIDENT DATA AGENTS** and naming Assignor as inventor(s), and filed on September 20, 2016 as U.S. Application No. 15/270909 (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. Provisional patent application no. 62/235,423 entitled "DYNAMIC TRIGGERING OF BLOCK-LEVEL BACKUPS BASED ON BLOCK CHANGE THRESHOLDS AND CORRESPONDING FILE IDENTITIES" and filed on Sept. 30, 2015;
- (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.

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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: September 20, 2016.

Assignor's Signature: \_\_\_\_\_

**Prashanth Nagabhushana BANGALORE**

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: \_\_\_\_\_

**Shankar Reddy VULLUPALA**

Attorney's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**Srevanthi BHAVANAM**

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Assignor's Signature: \_\_\_\_\_

*P. Vinay*

Vinay K. PAMARTHI

Attorney's Signature: \_\_\_\_\_

*Josephine A. Paltin*

Date: \_\_\_\_\_

*Sept 21, 2016*

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Assignor's Signature: \_\_\_\_\_

Balaji Teja SINGIREESU

Attorney's Signature: \_\_\_\_\_

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**Shankar Reddy VULLUPALA**

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**Sravanthi BHAVANAM**

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Vinay K. PAMARTHI

Attorney's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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Assignor's Signature: \_\_\_\_\_

Balaji Teja SINGIREESU

Attorney's Signature: \_\_\_\_\_ Date: Oct. 11, 2016

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.