#### 12/04/2018 505219408

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5266176

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

## **CONVEYING PARTY DATA**

Name	Execution Date
SANATH KUMAR	11/08/2018
SRI KARTHIK BHAGI	11/08/2018
PARAG GOKHALE	10/29/2018
RAHUL S. PAWAR	11/08/2018
ARUN PRABU DURAISAMY	11/08/2018
MANOJ KUMAR PRADHAN	11/08/2018
DMITRIY BORISOVICH ZAKHARKIN	11/08/2018
PROSENJIT SINHA	11/08/2018
VIPUL PAWALE	11/08/2018
JAYA RAMA RAJU INAVOLU	11/08/2018
MANAS BHIKCHAND MUTHA	11/08/2018
PUSHPENDRA SINGH	11/08/2018

## **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: 3**

Property Type	Number
Application Number:	16130843
Application Number:	16130874
Application Number:	16130873

## CORRESPONDENCE DATA

Fax Number: (949)760-9502

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.

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> **PATENT** REEL: 048333 FRAME: 0850

505219408

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Address Line 2: 14TH FLOOR

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NAME OF SUBMITTER: VIKAS BHARGAVA	
SIGNATURE:	/Vikas Bhargava/
DATE SIGNED:	12/04/2018

## **Total Attachments: 84**

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> PATENT REEL: 048333 FRAME: 0851

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PATENT REEL: 048333 FRAME: 0852

# Assignment by inventors

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sal Enclave, 2nd Crose, Satya Sal Layout, WhiteField, Bengaluru 560066 INDIA;
- Sri Karthik BHAGI, a citizen of INDIA, and having a mailing address of 319 Devon Place, Morganville, NJ 07761, USA;
- Parag GOKHALE, a citizen of USA, and having a mailing address of 7 Breton Court, Mariboro, NJ 07746, USA;
- Rahul S. PAWAR, a citizen of USA, and having a mailing address of 99 Stevenson Drive.
   Mariboro, NJ 07746, USA;
- Arun Prebu DURAISAMY, a citizen of INDIA, and having a mailing address of D3010, Luxor Apartments, Prebhupeda Township, Maskibanda, Kondapur, Hyderabad 600084, INDIA;
- Manoj Kumar PRADHAN, a citizen of INDIA, and having a mailing address of 1617 Forest Haven Boulevard, Edison, NJ 08817, USA;
- Dmitrly Borlsovich ZAKHARKIN, a citizen of USA, and having a mailing address of 406 Culver Road, Monmouth Junction, NJ 08862, USA;
- Prosenjit SINHA, a citizen of INDIA, and having a mailing address of 18 Deepwater Circle.
   Manalapan, NJ 07728, USA;
- Vipul PAWALE, a citizen of INDIA, and having a meiling address of 23 Willow Drive Apt 10.
   Ocean, NJ 07712, USA;
- Jaya Rama Raju INAVOLU, a citizan of INDIA, and having a mailing address of 69 Lakeview Terrace, Eatontown, NJ 07724, USA;
- Manas Bhikchand MUTHA, a citizen of INDIA, and having a mailing address of 2 Saint Paul Ct, Tinton Falls, NJ 07712, USA;
- Pushpendra SINGH, a citizen of INDIA, and having a mailing address of 2816 Forest Haven Blvd., Edison, NJ 08817, 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 cisimed in an application for Patent of the United States listed in the table below (the "Applications"), each of which list the Assignor as inventors. The Assignor authorizes the Assignee, identified below, or its representatives to insert the application numbers and filing dates of the Applications after they are known.

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attomey Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100,564.US1.150	COMMV.355A1

Title	Application Serial No.	Filing Date	Aasignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	18/130,874	September 13, 2018	100.584.US2.160	COMMV.356A2
DISTRIBUTED ARCHITECTURE FOR CONTENT INDEXING EMAILS	18/130,873	September 13, 2018	100.564.US3.150	COMMV.366A3

Assignor desires to essign the entire right, title and interest in and to the invention(s), the Applications, 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 "Assignes") 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 Applications;
- (b) all provisional patent applications relating to the Invention(s) and Applications;
- (c) all patent applications claiming direct or indirect priority to the Applications and/or any patents leading from the Applications 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 cisuses (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 releases, reexaminations, inter parties reviews, post-grant reviews, covered business method patent reviews, suppliemental examinations, renewals, substitutes, and extensions of any of the foregoing in dauses (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 the Assignes.

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 cathe, declarations, and affirmations relating to the Assigned Patent Rights; and
- (c) sesisting (including by giving of testimony) in any litigation, interference, derivation, interparts review, post-grant review, covered business method patent review, supplemental examination, exparts 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.

Assigner'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 increate to the benefit of Assignee and its successors and assigns.

This Assignment is effective: June 12, 2017

Assignor's Signature:	
umey's Signature 1944 Cive C	
Attorney's Name: JOSEPHINE A. PALTIN, on the pursuant to N.J.S.A. 41:2-1, having identifument and who affirmed execution of same.	an Altomey-et-Law of the State of New Jeresy, lifled the person(s) who executed the foregoing
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Attorney's Name: JOSEPHINE A. PALTIN, horized pursuant to N.J.S.A. 41:2-1, having identifications.	an Attomay-at-Law of the State of New Jersey,
Attorney's Name: JOSEPHINE A. PALTIN, horized pursuant to N.J.S.A. 41:2-1, having identifications.	an Attomay-at-Law of the State of New Jersey,
Attorney's Name: JOSEPHINE A. PALTIN, horized pursuant to N.J.S.A. 41:2-1, having identifications.	an Attomay-at-Law of the State of New Jersey,
Attorney's Name: JOSEPHINE A. PALTIN, horized pursuant to N.J.S.A. 41:2-1, having identificant and who affirmed execution of same.	en Attomey-at-Law of the State of New Jersey, iffied the person(s) who executed the foregoing

Assignes Docket Nos.: 100.584.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Page 4 of 7

Assignor's Signature	^ a		
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		Rah	ui 8. Pawar
Attorney's Signature:			Date:
Attorney's Name: JOSEPHINE A. PALT authorized pursuant to N.J.S.A. 41:2-1, having document and who affirmed execution of same.	IN; an Atto dentified the	mey-at-Law	of the State of New Jers
Assignor's Signature	i.		
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		Arun Pi	rebu DURAISAMY
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Attorney's Signature:			
Attorney's Signature:  Attorney's Name: JOSEPHINE A. PALT authorized pursuant to N.J.S.A. 41:2-1, having document and who affirmed execution of same.	ĭiN, en Atto	mey-at-Law e person(s)	of the State of New Jers ) who executed the forego
Attorney's Name: JOSEPHINE A. PALT authorized pursuant to N.J.S.A. 41:2-1, having	TIN, en Alto Identified th	mey-at-Law e person(a)	of the State of New Jers ) who executed the forego
Attomey's Name: JOSEPHINE A. PALT authorized pursuant to N.J.S.A. 41:2-1, having document and who affirmed execution of same.	TIN, en Alto Identified th	e person(s)	of the State of New Jers ) who executed the forego  Kumar PRADHAN

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	*	Vipul PAWALE	
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		Prosenjit SINHA	
	Assignor's Signature:		
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áttomavía Nema:	JOSEPHINE A. PALTIN. MI	Attorney-et-Law of the State (	f New Jersey,
Samuel and Sam Children on order corpers		Date:	#/ #/
		Dmitrly Borlsovich ZAKH/	KKN)
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	Assignor's Signature:		

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mines a ciffuence	Date:
Attorney's Name: JOSEPHINE	E A. PALTIN, an Altorney-at-Law of the State of New Jersey 1, having identified the person(s) who executed the foregoing
, Assignor':	s Signatura:
	Manas Bhikohand MUTHA
	E <sup>rr</sup> box box*
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Assignor	s Signature:
	Pushpendra SINGH
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	ithorized pursuant to N.J.S.A. 41:2-focument and who affirmed execution of Assignor's  Assignor's Name: JOSEPHIN's uthorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Assignor's Assignor's Assignor's Name: JOSEPHIN Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Assignor's Name: JOSEPHIN Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Assignor's Assignor's Name: JOSEPHIN Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Assignor's Assignor's Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignor's Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignory Ithorized pursuant to N.J.S.A. 41:2-coument and who affirmed execution of Assignory Ithorized pursuant

Page 7 of 7

## ASSIGNMENT BY INVENTORS

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sal Enclave, 2nd Cross, Satya Sal Layout, WhiteField, Bengaluru 560066 INDIA;
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- Rahul S. PAWAR, a citizen of USA, and having a mailing address of 99 Stevenson Drive, Mariboro, NJ 07748, USA;
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- Pushpendra SINGH, a citizen of INDIA, and having a mailing address of 2816 Forest Haven Blvd., Edison, NJ 08817, 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 listed in the table below (the "Applications"), each of which list the Assignor as inventors. The Assignor authorizes the Assignee, identified below, or its representatives to insert the application numbers and filing dates of the Applications after they are known.

This	Application Serial No.	Filing Date	Assignee Docket No.	Attomey Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.584.US1.150	COMMV.355A1

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	16/130,874	September 13, 2018	100.564.US2.150	COMMV.355A2
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Assignor desires to assign the entire right, title and interest in and to the Invention(s), the Applications, 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 Applications;
- (b) all provisional patent applications relating to the Invention(s) and Applications;
- (c) all patent applications claiming direct or indirect priority to the Applications and/or any patents issuing from the Applications 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, interparter parter review, post-grant review, covered business method patent review, supplemental examination, exparte reexamination, and any other pre-issuance or post-issuance proceedings in any jurisdiction relating to the Assigned Patent Rights.

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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 incres to the benefit of Assignee and its successors and assigns.

This Assignment is effective: June 12, 2017

	Sanath KUMAR
tomey's Signature:	Date:
· ·	I, an Attorney-at-Law of the State of New Jersey, untified the person(s) who executed the foregoing
Assignor's Signature:	
V manager and a large content and	
torney's Signature	Sri Karthik BHAGI  Date: 164,082
Attorney's Name: JOSEPHINE A. PALTIN thorized pursuant to N.J.S.A. 41:2-1, having ide	i, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
cument and who anirmed execution of same.	
cument and who attirmed execution of same.  Assignor's Signature;	
ocument and who affirmed execution of same.  Assignor's Signature:	Parag GOKHALE
Assignor's Signature:	Parag GOKHALE Date:

Assignor's Signature:	
	Rahul S. PAWAR
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having idea document and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
Assignor's Signature:	
	Arun Prabu DURAISAMY
Attorney's Signature:	Date:
,	an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Manoj Kumar PRADHAN
Attorney's Signature:	Dete:
	an Attorney-at-Law of the State of New Jersey,

Page 5 of 7

Assignor's Signature:	
	Dmitrly Borisovich ZAKHARKIN
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Prosenjit SINHA
Attorney's Signature:	Date;
	an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Vipul PAWALE
Attorney's Signature:	Date:
• • • • • • • • • • • • • • • • • • • •	an Attorney-at-Law of the State of New Jersey,

Page 6 of 7

Assignor's Signature:	
	Jaya Rama Raju INAVOLU
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Manas Bhikchand MUTHA
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having iden document and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, tified the person(s) who executed the foregoing
Assignor's Signature:	
	Pushpendra SINGH
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey
27237661	

Page 7 of 7

#### ASSIGNMENT BY INVENTORS

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sai Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
- Sri Karthik BHAGI, a citizen of INDIA, and having a mailing address of 319 Devon Place, Morganville, NJ 07751, USA;
- Parag GOKHALE, a citizen of USA, and having a mailing address of 7 Breton Court, Mariboro, NJ 07746, USA;
- Rehul S. PAWAR, a citizen of USA, and having a mailing address of 99 Stevenson Drive, Mariboro, NJ 07746, USA;
- Arun Prabu DURAISAMY, a citizen of INDIA, and having a mailing address of D3010, Luxor Apartments, Prabhupada Township, Masidbanda, Kondapur, Hyderabad 500084, INDIA;
- Manoj Kumar PRADHAN, a citizen of INDIA, and having a mailing address of 1517 Forest Haven Boulevard, Edison, NJ 08817, USA;
- Dmitriy Borisovich ZAKHARKIN, a citizen of USA, and having a mailing address of 406 Culver Road, Monmouth Junction, NJ 08852, USA;
- Prosenjit SINHA, a citizen of INDIA, and having a mailing address of 18 Deepwater Circle, Manalapan, NJ 07726, USA;
- Vipul PAWALE, a citizen of INDIA, and having a mailing address of 23 Willow Drive Apt 10, Ocean, NJ 07712, USA;
- Jaya Rama Raju INAVOLU, a citizen of INDIA, and having a mailing address of 6B Lakeview Terrace, Estontown, NJ 07724, USA;
- Manas Bhikchand MUTHA, a citizen of INDIA, and having a mailing address of 2 Saint Paul Ct. Tinton Falls, NJ 07712, USA;
- Pushpendra SINGH, a citizen of INDIA, and having a mailing address of 2816 Forest Haven Blvd., Edison, NJ 08817, 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 listed in the table below (the "Applications"), each of which list the Assignor as inventors. The Assignor authorizes the Assignee, identified below, or its representatives to insert the application numbers and filing dates of the Applications after they are known.

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attomey Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.564.US1.150	COMMV.355A1

· · · · · · · · · · · · · · · · · · ·	Title	Application Serial No.	Filing Date	Assignee Docket No.	Attomey Docket No.
Samme and the same	DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	16/130,874	September 13, 2018	100.584.US2.150	COMMV.355A2
hamananan	DISTRIBUTED ARCHITECTURE FOR CONTENT INDEXING EMAILS	16/130,873	September 13, 2018	100.584.US3.150	COMMV.355A3

Assignor desires to assign the entire right, title and interest in and to the Invention(s), the Applications, 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 Applications;
- (b) all provisional patent applications relating to the invention(s) and Applications;
- (c) all patent applications claiming direct or indirect priority to the Applications and/or any patents issuing from the Applications 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 relasues, 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:

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- (b) executing and making all rightful oaths, declarations, and affirmations relating to the Assigned Patent Rights; and
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This Assignment is effective: June 12, 2017

Assignor's Signature:	
	Seneth KUMAR
Attorney's Signature:	Dete:
Attorney's Name: JOSEPHINE A. PALTIN authorized pursuant to N.J.S.A. 41:2-1, having ide document and who affirmed execution of same.	, an Attorney-at-Law of the State of New Jersey, intified the person(s) who executed the foregoing
Assignor's Signature:	
	Sri Karthik BHAGI
Attorney's Signature:	Date:
	, an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
Attorney's Signeture Journal of the Signeture of the Sign	Parag GOKHALE  Date: 1/24/1
authorized pursuany to N.J.S.A. 41:2-1, having ide	, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing

Assignor's Signature:	
	Rahul S. PAWAR
Attorney's Signature:	Date:
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Assignor's Signature:	
	Arun Prebu DURAISAMY
Attorney's Signature:	Date:
	, an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Manoj Kumar PRADHAN
Attorney's Signature:	Date:
	, an Attorney-at-Law of the State of New Jersey,

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	Dmitrly Borisovich ZAKHARKIN
Attorney's Signature:	Date:
•	N, an Attorney-at-Law of the State of New Jersey, lentified the person(s) who executed the foregoing
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	Prosenjit SINHA
Attorney's Signature:	Date:
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	Vipul PAWALE
Attorney's Signature:	Date:
Attomey's Name: JOSEPHINE A. PALTI	N, an Attomey-at-Law of the State of New Jersey, lentified the person(s) who executed the foregoing

Page 6 of 7

	Assignor's Signature:	
		Jaya Rama Raju INAVOLU
Attorney's Signature:		Date:
Attorney's Name:	JOSEPHINE A. PALTIN, J.S.A. 41:2-1, having ider	an Attornay-at-Law of the State of New Jersey, httfied the person(s) who executed the foregoing
	Assignor's Signature:	
		Manas Bhikchand MUTHA
Attornev's Signature:		Date:
	J.S.A. 41:2-1, having ider	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
	Assignor's Signature:	
		Pushpendra SINGH
Attorney's Signature:		Date:
Attorney's Name:	JOSEPHINE A. PALTIN, J.S.A. 41:2-1, having ider	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
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Page 7 of 7

27237661

#### ASSIGNMENT BY INVENTORS

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sai Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
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DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.584.US1.150	COMMV.355A1

Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	16/130,874	September 13, 2018	100.564.US2.150	COMMV.355A2
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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);
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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.

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This Assignment is effective: June 12, 2017

Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Page 4 of 7

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

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.

Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150

Assignor's Signature	): 
	Arun Prabu DURAISAMY
Attorney's Signature:	Date:
Attomey's Name: JOSEPHINE A. PALT	FIN, an Attorney-at-Law of the State of New Jersey, identified the person(s) who executed the foregoing
Assignor's Signature	§.

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.

Attorney's Signature:

Manoj Kumar PRADHAN

Date:

Assignor's Signature:	
	Dmitriy Borisovich ZAKHARKIN
Attorney's Signature:	Date:
Attomey's Name: JOSEPHINE A. PALTIN, a authorized pursuant to N.J.S.A. 41:2-1, having ident document and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, ified the person(s) who executed the foregoing
Assignor's Signature:	
	Prosenjit SINHA
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,
	;ê
Assignor's Signature:	
	Vipul PAWALE
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jerse

Assignor's Signature:	8
	Jaya Rama Raju INAVOLU
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTII	N, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
Assignor's Signature:	
	Manas Bhikchand MUTHA
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Assignor's Signature;	·
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Attornev's Signature:	Date:
Attomey's Name: JOSEPHINE A. PALTII	N, an Attorney-at-Law of the State of New Jersey, lentified the person(s) who executed the foregoing
27237461	

Page 7 of 7

#### **ASSIGNMENT BY INVENTORS**

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

- 8anath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sai Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
- Sri Karthik BHAGI, a citizen of INDIA, and having a mailing address of 319 Devon Place, Morganylile, NJ 07751, USA;
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- Jaya Rama Raju INAVOLU, a citizen of INDIA, and having a mailing address of 68 Lakeview Terrece, Eatontown, NJ 07724, USA;
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- Pushpendra SINGH, a citizen of INDIA, and having a mailing address of 2816 Forest Haven Blvd., Edison, NJ 08817, 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 listed in the table below (the "Applications"), each of which list the Assignor as inventors. The Assignor authorizes the Assignee, identified below, or its representatives to insert the application numbers and filing dates of the Applications after they are known.

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	18/130,843	September 13, 2018	100.564.US1.150	COMMV.355A1

Assignes Docket Nos.: 100.564,US1.150, 100.564,US2.150, 100.564,US3.150 Altorney Docket Nos.: COMMV.356A1, COMMV.356A2, COMMV.356A3

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	16/130,874	Saptember 13, 2018	100.584.US2.150	COMMV.355A2
DISTRIBUTED ARCHITECTURE FOR CONTENT INDEXING EMAILS	16/130,873	September 13, 2018	100.5 <b>64</b> .U83.150	COMMV.355A3

Assignor desires to assign the entire right, title and interest in and to the invention(s), the Applications, 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 Applications;
- (b) all provisional patent applications relating to the invention(s) and Applications;
- (c) all patent applications claiming direct or indirect priority to the Applications and/or any patents issuing from the Applications 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);
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- (g) the right to file foreign and United States applications on the invention(s), including filing directly in the name of Assignes; 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, royalities, 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.

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- (c) sesisting (including by giving of testimony) in any stigation, interference, derivation, interparted review, post-grant review, covered business method patent review, supplemental examination, exparts reexamination, and any other pre-issuance or post-issuance proceedings in any jurisdiction relating to the Assigned Petent Rights.

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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 emendment, modification, or weiver of any provision of this Assignment.

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

This Assignment is effective: June 12, 2017

Assignes Dockst Nos.: 100.584.US1.150, 100.584.Ut Altomey Docket Nos.: COMMV.355A1, COMMV.355/	
Assignor's Signature:	
	Saneth KUMAR
Attomsy's Signeture:	Dats:
Altomey's Name: JOSEPHINE A PALTIN suthorized pursuant to N.J.S.A. 41:2-1, having ide document and who affirmed execution of same.	, an Attomey-at-Law of the State of New Jersey, intified the person(s) who executed the foregoing
Assignor's Signature:	
	Sri Karthik SHAGI
Attorney's Signature:	Date:
	i, an Attorney-at-Law of the State of New Jersey.
Assignor's Signature:	
	Parag GOKHALE
Attorney's Signature:	Date:
	I, an Attorney-at-Law of the State of New Jersey

Page 4 of 7

authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing

Assignor's Signature:	
	Rahul S. PAWAR
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
Attomey's Signature:	Arun Prebu DURAISAMY  Arun Prebu DURAISAMY  Arun Prebu DURAISAMY
Attomey's Name JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having ider document and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, tilled the person(s) who executed the foregoing
Assignor's Signature:	
	Manoj Kumar PRADHAN
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,

Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150

Page 5 of 7

Assignee Docket Nos.: 100,584,US1,150, 100,584,US2,150, 100,584,US3,150

Page 6 of 7

Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.356A1, COMMV.356A2, COMMV.358A3

22222881

Page 7 of 7

#### ASSIGNMENT BY INVENTORS

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sai Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
- Sri Karthik BHAGI, a citizen of INDIA, and having a mailing address of 319 Devon Place, Morganville, NJ 07751, USA;
- Parag GOKHALE, a citizen of USA, and having a mailing address of 7 Breton Court, Mar/boro, NJ 07746, USA;
- Rahul S. PAWAR, a citizen of USA, and having a mailing address of 99 Stevenson Drive, Mariboro, NJ 07746, USA;
- Arun Prabu DURAISAMY, a citizen of INDIA, and having a mailing address of D3010, Luxor Apartments, Prabhupada Township, Masidbanda, Kondapur, Hyderebad 500084, INDIA;
- Manoj Kumar PRADHAN, a citizen of INDIA, and having a mailing address of 1517 Forest Haven Boulevard, Edison, NJ 08817, USA;
- Dmitriy Borisovich ZAKHARKIN, a citizen of USA, and having a mailing address of 406 Culver Road, Monmouth Junction, NJ 08852, USA;
- Prosenjit SINHA, a citizen of INDIA, and having a mailing address of 18 Deepwater Circle, Manalapan, NJ 07726, USA;
- Vipul PAWALE, a citizen of INDIA, and having a mailing address of 23 Willow Drive Apt 10, Ocean, NJ 07712, USA;
- Jaya Rama Raju INAVOLU, a citizen of INDIA, and having a mailing address of 6B Lakeview Terrace, Eatontown, NJ 07724, USA;
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Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.564.US1.150	COMMV.355A1

Assignee Docket Nos.; 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.; COMMV.355A1, COMMV.355A2, COMMV.355A3

	Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
1181	DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	16/130,874	September 13, 2018	100.564.US2.150	COMMV.365A2
Di	STRIBUTED ARCHITECTURE FOR CONTENT INDEXING EMAILS	16/130,873	September 13, 2018	100.564.US3.160	COMMV.365A3

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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: June 12, 2017

Attorney's Signature:

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.

Parag GOKHALE

Attorney's Signature:  Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, sufficient and who affirmed execution of same.  Assignor's Signature:  Arun Prabu DURAISAMY  Attorney's Signature:  Date:  Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, sufficient to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing identified the person(s) who executed the foregoing identified the person(s) who executed the foregoing identified and who affirmed execution of same.		Assignor's Signature:			
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 locument and who affirmed execution of same.  Assignor's Signature:  Arun Prabu DURAISAMY  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 incurrent and who affirmed execution of same.			Rahı	il S. PAWAR	
Assignor's Signature:  Arun Prabu DURAISAMY  Attorney's Signature:  Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-st-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 incurrent and who affirmed execution of same.	Attorney's Signature:			Data:	
Arun Prabu DURAISAMY  Attorney's Signature:	authorized pursuant to N.J.:	S.A. 41:2-1, having ide		ž.	
Attorney's Signature:		Assignor's Signature:			
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Assignor's Signature: Name Kund Kund Kund Kund Kund Kund Kund Kund	suthorized pursuant to N.J.:	S.A. 41:2-1, having ide			
		Assignor's Signature:	Nanj Kun	allodan	
Manoj Kumar PRADHAN  Attornev's Signature  Attornev's Signature	Attorney's Signature	Mind	Manoj K	10/21.00	. 20
Attorney's Name: JOSEPHINE A. PALTIN, an Attorney-at-Law of the State of New Jersey, authorized pursuans to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing	Attomey's Name: J	The Control of the Co	•	-	

Page 5 of 7

Assignor's Signature:	
	Dmitrly Borlsovich ZAKHARKIN
Attorney's Signature:	Date:
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	Vipul PAWALE
Attorney's Signature:	Date;
Attorney's Name: JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having iden	an Attorney-at-Law of the State of New Jersey, itified the person(s) who executed the foregoing

Page 6 of 7

Assignor's Signature:	
	Jaya Rama Raju INAVOLU
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having idea document and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
Assignor's Signature:	
	Manas Shikchand MUTHA
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Pushpendra SINGH
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,

27237661

## ASSIGNMENT BY INVENTORS

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sai Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
- Sri Karthik BHAGI, a citizen of INDIA, and having a mailing address of 319 Devon Place, Morganville, NJ 07751, USA;
- Parag GOKHALE, a citizen of USA, and having a mailing address of 7 Breton Court, Mariboro, NJ 07748, USA;
- Rahul S. PAWAR, a citizen of USA, and having a mailing address of 99 Stevenson Drive, Mariboro, NJ 07746, USA;
- Arun Prabu DURAISAMY, a citizen of INDIA, and having a mailing address of D3010, Luxor Apartments, Prabhupada Township, Masidbanda, Kondapur, Hyderabad 500084, INDIA;
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DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.584.US1.150	COMMV.355A1

Assignes Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

	Titie	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
INDEXING WITH SEPA	UTED CONTENT ARCHITECTURE ARATELY STORED PREVIEWS	16/130,874	September 13, 2018	100.564.US2.150	COMMV.355A2
FOR CON	O ARCHITECTURE ITENT INDEXING EMAILS	18/130,873	September 13, 2018	100.564.US3.150	COMMV.355A3

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

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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: June 12, 2017

Assignee Docket Nos.: 100,584,US1,150, 100,564,US2,150, 100,564,US3,150

Page 4 of 7

Assignor's Sign	sture:
	Rahul S. PAWAR
Attorney's Signature:	Date:
*	PALTIN, an Attorney-at-Law of the State of New Jersey, ving identified the person(s) who executed the foregoing e.
Assignor's Sign	sture:
	Arun Prabu DURAISAMY
Attorney's Signature:	Date:
Attomey's Name: JOSEPHINE A. I	PALTIN, an Attorney-at-Law of the State of New Jersey, ving identified the person(s) who executed the foregoing
Assignor's Sign	ature:
	Manoj Kumar PRADHAN
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A.	PALTIN, an Attomey-at-Law of the State of New Jersey, ving identified the person(s) who executed the foregoing

Page 5 of 7

S2.150, 100.564,US3.150 A2, COMMV.355A3
Comitriy Borisovich ZAKHARKIN  Date:
I, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
Prosenjit SINHA
Date:
I, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
Vipul PAWALE

Page 6 of 7

authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing

Assignor's Signature:	
	Jaya Rama Raju INAVOLU
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTII	N, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
Assignor's Signature:	
	Manas Bhikchand MUTHA
Attornav'a Signatura	Date:
The state of the s	N, an Attorney-at-Law of the State of New Jersey, lentified the person(s) who executed the foregoing
Assignor's Signature:	
	Pushpendra SINGH
Attornev's Signeture:	Date:
Attomey's Name: JOSEPHINE A. PALTII	N, an Attorney-at-Law of the State of New Jersey, lentified the person(s) who executed the foregoing
27237661	

Page 7 of 7

#### ASSIGNMENT BY INVENTORS

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sai Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
- Sri Karthik BHAGI, a citizen of INDIA, and having a mailing address of 319 Devon Place, Morganville, NJ 07751, USA;
- Parag GOKHALE, a citizen of USA, and having a mailing address of 7 Breton Court, Mariboro, NJ 07748, USA;
- Rahul S. PAWAR, a citizen of USA, and having a mailing address of 99 Stevenson Drive, Mariboro, NJ 07748, USA;
- Arun Prabu DURAISAMY, a citizen of INDIA, and having a mailing address of D3010, Luxor Apartments, Prabhupada Township, Masidbanda, Kondapur, Hyderabad 500084, INDIA;
- Manoj Kumar PRADHAN, a citizen of INDIA, and having a mailing address of 1517 Forest Haven Boulevard, Edison, NJ 08817, USA;
- Dmltrly Bortsovich ZAKHARKIN, a citizen of USA, and having a mailing address of 406 Culver Road, Monmouth Junction, NJ 08852, USA;
- Prosenjit SINHA, a citizen of INDIA, and having a mailing address of 18 Deepwater Circle, Manalapan, NJ 07726, USA;
- Vipul PAWALE, a citizen of INDIA, and having a mailing address of 23 Willow Drive Apt 10, Ocean, NJ 07712, USA;
- Jaya Rama Raju INAVOLU, a citizen of INDIA, and having a mailing address of 6B Lakeview Terrace, Eatontown, NJ 07724, USA;
- Manas Bhikchand MUTHA, a citizen of INDIA, and having a mailing address of 2 Saint Paul Ct, Tinton Falls, NJ 07712, USA;
- Pushpendra SINGH, a citizen of INDIA, and having a mailing address of 2816 Forest Haven Blvd., Edison, NJ 08817, 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 listed in the table below (the "Applications"), each of which list the Assignor as inventors. The Assignor authorizes the Assignee, identified below, or its representatives to insert the application numbers and filing dates of the Applications after they are known.

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.5 <del>8</del> 4.US1.150	COMMV.355A1

***************************************	Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
	DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	16/130,874	September 13, 2018	100.584.US2.150	COMMV.355A2
***************************************	DISTRIBUTED ARCHITECTURE FOR CONTENT INDEXING EMAILS	18/130,873	September 13, 2018	100.564.US3.150	COMMV.355A3

Assignor desires to assign the entire right, title and interest in and to the Invention(s), the Applications, 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 Applications;
- (b) all provisional patent applications relating to the invention(s) and Applications;
- (c) all patent applications claiming direct or indirect priority to the Applications and/or any patents issuing from the Applications 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.

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Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Page 4 of 7

Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Page 5 of 7

authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing

Assignor's Signature:	
	Omitriy Borisovich ZAKHARKIN
ttomey's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, uthorized pursuant to N.J.S.A. 41:2-1, having ider ocument and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
Assignor's Signature:	
/ <b>*</b>	
ttorney's Signature	Prosenjit SINHA  Date: 160,08
	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
Assignor's Signature:	
: · *	Vipul PAWALE
ttorney's Signature:	Dete:
p 90	

Page 6 of 7

authorized pursuant to N.J.S.A. 41:2-1, having identified the person(s) who executed the foregoing

	Jaya Rama Raju INAVOLU
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, ar authorized pursuant to N.J.S.A. 41:2-1, having identifi document and who affirmed execution of same.	Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Manas Bhikchand MUTHA
Attorney's Signature:	Date;
Attorney's Name: JOSEPHINE A. PALTIN, ar	. Atternaciate assert the State of New Jersey
authorized pursuant to N.J.S.A. 41:2-1, having identifi	•
*	•
authorized pursuant to N.J.S.A. 41:2-1, having identifi document and who affirmed execution of same.	· · · · · · · · · · · · · · · · · · ·
authorized pursuant to N.J.S.A. 41:2-1, having identifi document and who affirmed execution of same.	ed the person(s) who executed the foregoing  Pushpendra SINGH

Page 7 of 7

27237661

## **ASSIGNMENT BY INVENTORS**

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- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sai Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
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Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
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- (c) all patent applications claiming direct or indirect priority to the Applications and/or any patents issuing from the Applications 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);
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- (b) executing and making all rightful oaths, declarations, and affirmations relating to the Assigned Patent Rights; and
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This Assignment is effective: June 12, 2017

Assignor's Signature:	

# Parag GOKHALE

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:	
	Rahul S. PAWAR
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN	I, an Attorney-at-Law of the State of New Jarsey, antified the person(s) who executed the foregoing
Assignor's Signature:	
	Arun Prabu DURAISAMY
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN	I, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
Assignor's Signature:	
	Manoj Kumar PRADHAN
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIF	vi, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing

Page 5 of 7

Assignor's Signature:	
	Dmitrly Borisovich ZAKHARKIN
ttorney's Signature:	Date:
Attomey's Name: JOSEPHINE A. PALTIN, a uthorized pursuant to N.J.S.A. 41:2-1, having identi ocument and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, ified the person(s) who executed the foregoing
Assignor's Signature:	99
	Prosenjit SINHA
Attorney's Signature:	Date:
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Assignor's Signature:	
Attorney's Signature:	Vipul PAWALE  Date: \( \lambda \text{OU, 08, 2.} \)
	an Attorney-at-Law of the State of New Jersey,
authorized pursuant to N.J.S.A. 41:2-1, having identi	•

Assignor's Signature	ç
	Jaya Rama Raju INAVOLU
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALT	TIN, an Attomey-at-Law of the State of New Jersey, identified the person(s) who executed the foregoing
Assignor's Signature	<b>:</b>
	Manas Shikchand MUTHA
Attorney's Signature:	Date:
•	TN, an Attomey-at-Law of the State of New Jersey, identified the person(s) who executed the foregoing
Assignor's Signature	s:
	Pushpendra SINGH
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALT	TN, an Attorney-at-Law of the State of New Jersey, identified the person(s) who executed the foregoing
27237861	

Page 7 of 7

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DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.564.US1.150	COMMV.355A1

housessesse	Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
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***************************************	DISTRIBUTED ARCHITECTURE FOR CONTENT INDEXING EMAILS	18/130,873	September 13, 2018	100.584.US3.150	COMMV.355A3

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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 Applications;
- (b) all provisional patent applications relating to the Invention(s) and Applications;
- (c) all patent applications claiming direct or indirect priority to the Applications and/or any patents issuing from the Applications 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 relisaues, 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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This Assignment is effective: June 12, 2017

Assignor's Signature:	
	Seneth KUMAR
Attorney's Signature:	Date:
<u>n</u>	I, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
Assignor's Signature:	Sri Karthik BHAGI
Attorney's Signature:	Date:
*	I, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing
Assignor's Signature:	
	Parag GOKHALE
Attorney's Signeture:	Date:
Attorney's Name: JOSEPHINE A. PALTIF	N, an Attorney-at-Law of the State of New Jersey, entified the person(s) who executed the foregoing

Page 4 of 7

Assignor's Signature:	
	Rahul S. PAWAR
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN authorized pursuant to N.J.S.A. 41:2-1, having ide document and who affirmed execution of same.	, an Attorney-at-Law of the State of New Jersey, intified the person(s) who executed the foregoing
Assignor's Signature:	
	Arun Prabu DURAISAMY
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN authorized pursuant to N.J.S.A. 41:2-1, having ide document and who affirmed execution of same.	, an Attorney-at-Law of the State of New Jersey, intified the person(s) who executed the foregoing
Assignor's Signature:	
	Manoj Kumar PRADHAN
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN	, an Attorney-at-Law of the State of New Jersey, intified the person(s) who executed the foregoing

Page 5 of 7

nitriy Borisovich ZAKHARKIN  Date:  Sy-at-Law of the State of New Jersey, person(s) who executed the foregoing
sy-at-Law of the State of New Jersey,
*
Prosenjit SINHA
Date:
ey-at-Law of the State of New Jersey, person(s) who executed the foregoing
Vipul PAWALE
Date:

Page 6 of 7

	Assignor's Signature:	Callet Comme Carter
∖ttorney's Signature: ∠	Jughine G	Jaya Rama Reju INAVOLU  Date: 160,08
	N.J.S.A. 41:2-1, having idea	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
	Assignor's Signature:	
		Manes Shikchand MUTHA
\ttornev's Signature:		Dete:
		an Attorney-at-Law of the State of New Jersey,
· ·	<del>-</del>	
· •	<del>-</del>	
iocument and who affirm	ned execution of same.	ntified the person(s) who executed the foregoing  Pushpendra SINGH
locument and who affirm	ned execution of same.  Assignor's Signature:	ntified the person(s) who executed the foregoing

27237661

## ASSIGNMENT BY INVENTORS

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

- Sanath KUMAR, a citizen of INDIA, and having a mailing address of 205, 2nd Floor, CJN Sal Enclave, 2nd Cross, Satya Sai Layout, WhiteField, Bengaluru 560066 INDIA;
- Sri Karthik BHAGI, a citizen of INDIA, and having a mailing address of 319 Devon Place,
   Morganville, NJ 07751, USA;
- Parag GOKHALE, a citizen of USA, and having a mailing address of 7 Breton Court, Mariboro, NJ 07746, USA;
- Rahul S. PAWAR, a citizen of USA, and having a mailing address of 99 Stevenson Drive, Mariboro, NJ 07746, USA;
- Arun Prabu DURAISAMY, a citizen of INDIA, and having a mailing address of D3010, Luxor Apartments, Prabhupada Township, Masidbanda, Kondapur, Hyderabad 500084, INDIA;
- Manoj Kumar PRADHAN, a citizen of INDIA, and having a mailing address of 1517 Forest Haven Boulevard, Edison, NJ 08817, USA;
- Dmitrly Bortsovich ZAKHARKIN, a citizen of USA, and having a mailing address of 406.
   Culver Road, Monmouth Junction, NJ 08852, USA;
- Prosenjit SINHA, a citizen of INDIA, and having a mailing address of 18 Deepweter Circle, Manalapan, NJ 07728, USA;
- Vipul PAWALE, a citizen of INDIA, and having a mailing address of 23 Willow Drive Apt 10, Ocean, NJ 07712, USA;
- Jaya Rama Raju INAVOLU, a citizen of INDIA, and having a mailing address of 6B Lakeview Terrace, Eatontown, NJ 07724, USA;
- Manas Bhikchand MUTHA, a citizen of INDIA, and having a mailing address of 2 Saint Paul Ct, Tinton Falls, NJ 07712, USA;
- Pushpendra SINGH, a citizen of INDIA, and having a mailing address of 2816 Forest Haven Blvd., Edison, NJ 08817, 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 listed in the table below (the "Applications"), each of which list the Assignor as inventors. The Assignor authorizes the Assignee, identified below, or its representatives to insert the application numbers and filing dates of the Applications after they are known.

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attomey Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.564.US1.150	COMMV.355A1

Assignes Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attorney Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH SEPARATELY STORED FILE PREVIEWS	16/130,874	September 13, 2018	100.584.US2.150	COMMV.355A2
DISTRIBUTED ARCHITECTURE FOR CONTENT INDEXING EMAILS	16/130,673	September 13, 2018	100.584.US3.150	COMMV.355A3

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Date:
orney-at-Law of the State of New Jersey, ne person(s) who executed the foregoing
Srl Karthik BHAGI
Date:
orney-at-Law of the State of New Jersey, ne person(s) who executed the foregoing
Parag GOKHALE
<b>%</b>

Page 4 of 7

Assignor's Signature:	
	Rahul S. PAWAR
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Arun Prebu DURAISAMY
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having idea document and who affirmed execution of same.	an Attornay-at-Law of the State of New Jersey,
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	Manoj Kumar PRADHAN
Attorney's Signature:	Date:
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Page 5 of 7

Assignor's Sign	ature:
	Dmitrly Borlsovich ZAKHARKIN
Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A.	PALTIN, an Attorney-at-Law of the State of New Jersey, ving identified the person(e) who executed the foregoing
Assignor's Sign	sature:
	Prosenjit SINHA
Attorney's Signature:	Date:
•	PALTIN, an Attorney-at-Law of the State of New Jersey, ving identified the person(s) who executed the foregoing e.
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	Vipul PAWALE
Attorney's Signature:	Date:
Attomey's Name: JOSEPHINE A.	PALTIN, an Attorney-et-Law of the State of New Jersey, ving identified the person(s) who executed the foregoing

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	Assignor's Signature:	
		Jeya Rama Raju INAVOLU
attorney's Signature:		Date:
Attorney's Name: JC	OSEPHINE A. PALTIN, an Atto i.A. 41:2-1, having identified th	ornay-at-Law of the State of New Jersey, ne person(s) who executed the foregoing
	Annie wyka Wilmanie	
,	Assignor's Signature:	
Attorney's Signature:	Zaphinet.S.	Mapas Bhikchand MUTHA
Attorney's Name: JC	A. 41:2-1, having identified the	orney-at-Law of the State of New Jersey, ne person(s) who executed the foregoing
	Assignor's Signature:	
	Assignor's Signature:	Pushpendra SINGH
		Pushpendra SINGH  Date:

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DISTRIBUTED CONTENT INDEXING ARCHITECTURE WITH COMBINED BACKUP AND CONTENT INDICES	16/130,843	September 13, 2018	100.564.US1.150	COMMV.355A1

Assignee Docket Nos.: 100.564.US1.150, 100.564.US2.150, 100.564.US3.150 Attorney Docket Nos.: COMMV.355A1, COMMV.355A2, COMMV.355A3

Title	Application Serial No.	Filing Date	Assignee Docket No.	Attomey Docket No.
DISTRIBUTED CONTENT INDEXING ARCHITECTUR WITH SEPARATELY STORE FILE PREVIEWS	E 16/130 874	September 13, 2018	100.564.US2.150	COMMV.355A2
DISTRIBUTED ARCHITECTU FOR CONTENT INDEXING EMAILS		September 13, 2018	100.564.US3.150	COMMV.355A3

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Attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having ide document and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey, ntified the person(s) who executed the foregoing
Assignor's Signature:	Sri Karthik BHAGI
Ribbarra an Ja Cliara abi izan	Mades.
Attorney's Signature:  Attorney's Name: JOSEPHINE A. PALTIN, authorized pursuant to N.J.S.A. 41:2-1, having ide document and who affirmed execution of same.	an Attorney-at-Law of the State of New Jersey
Assignor's Signature:	
	Parag GOKHALE
Attorney's Signature:	Date:
	an Attorney-at-Law of the State of New Jersey

Page 4 of 7

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	Rahul S. PAWAR
Attorney's Signature:	Date:
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Assignor's Signature:	
	Arun Prabu DURAISAMY
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Assignor's Signature:	
	Dmitriy Borisovich ZAKHARKIN
Attorney's Signature:	Date:
	in Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
	Prosenjit SINHA
Attorney's Signature:	Date:
Andrea Antonio and	in Attomey-at-Law of the State of New Jersey,
Assignor's Signature:	
	Vipul PAWALE
Attorney's Signature:	Date:
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Assignor's Signature:	
	Jaya Rama Raju INAVOLU
attorney's Signature:	Date:
Attorney's Name: JOSEPHINE A. PALTIN, a authorized pursuant to N.J.S.A. 41:2-1, having identiful accument and who affirmed execution of same.	in Attorney-at-Law of the State of New Jersey, fied the person(s) who executed the foregoing
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	in Attorney-at-Law of the State of New Jersey,
Assignor's Signature:	
Attorney's Signature:	Pushpendra SINGH  Date: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Attorney's Name: JOSEPHINE A. PALTIN, a	in Attorney-at-Law of the State of New Jersey,
authorized pursuant & N.J.S.A. 41:2-1, having identificument and who affirmed execution of same.	fied the person(s) who executed the foregoing

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