PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4987407

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DAVID F CALLAN	06/22/2017
RAJAT GHAI	03/23/2018

RECEIVING PARTY DATA

Name:	BENU NETWORKS, INC.
Street Address:	300 CONCORD ROAD, SUITE 110
City:	BILLERICA
State/Country:	MASSACHUSETTS
Postal Code:	01821

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	62025842
Application Number:	14802850

CORRESPONDENCE DATA

Fax Number: (617)526-5000

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.

Phone: 617-526-6000

Email: becky.douglas@wilmerhale.com
Correspondent Name: BECKY DOUGLAS / WILMERHALE

Address Line 1: 60 STATE STREET

Address Line 4: BOSTON, MASSACHUSETTS 02109

ATTORNEY DOCKET NUMBER:	2204849.156US2
NAME OF SUBMITTER:	BECKY DOUGLAS
SIGNATURE:	/Becky Douglas/
DATE SIGNED:	06/01/2018

Total Attachments: 10

source=156_US1_Callan_Assignment#page1.tif source=156_US1_Callan_Assignment#page2.tif source=156_US1_Callan_Assignment#page3.tif source=156_US1_Callan_Assignment#page4.tif

PATENT 504940661 REEL: 046287 FRAME: 0172

source=156_US1_Callan_Assignment#page5.tif
source=Assignment_GhaiSignature_parent#page1.tif
source=Assignment_GhaiSignature_parent#page2.tif
source=Assignment_GhaiSignature_parent#page3.tif
source=Assignment_GhaiSignature_parent#page4.tif
source=Assignment_GhaiSignature_parent#page5.tif

PATENT REEL: 046287 FRAME: 0173

ASSIGNMENT

WHEREAS, the undersigned, to wit:

Shawn LEWIS residing at 4048 West Danby Court, Winter Springs, Florida 32708;

Rajat GHAI residing at 7 Wintergreen Lane, Sandwich, Massachusetts 02563;

David F. CALLAN residing at 25 Rockyledge Road, Swampscott, Massachusetts 01907

(hereinafter collectively ASSIGNORS), have made a certain new and useful invention as set forth in an application for United States Letters Patent, entitled:

"SYSTEM AND METHODS FOR PROVIDING VIRTUALIZED CLOUD PEERING EMULATION SERVICES"

(a)		g filed herewith in the United States Pate	mt and Trademark Office;
(b)	x which was fi	ed as U.S. Patent Application No.	62/025842
	on	July 17, 2014 ;	

AND WHEREAS, Benu Networks, Inc. (hereinafter ASSIGNEE), having its principal place of business at 300 Concord Road, Suite 110, Billerica, Massachusetts 01821, is desirous of acquiring the entire right, title, and interest in and to said invention and any and all patents that may be obtained therefor, and in and to said application and any and all patents that may issue therefrom;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, ASSIGNORS do hereby sell, assign, transfer, and set over unto said ASSIGNEE, its successors, assigns, and legal representatives, all right, title, and interest in and to said invention throughout the world, and any and all patents of the United States and foreign countries that may be obtained therefor, including the right to sue for past infringement and obtain past damages, and in and to said application, including any and all continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom, such right, title, and interest including the right to file applications and obtain patents, utility models, industrial models, and designs for said invention in the name of said ASSIGNEE, its successors, assigns, and legal representatives, throughout the world, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, and all rights to register said invention in appropriate registries;

ASSIGNORS also do hereby covenant that they have the full right to convey the entire right, title, and interest herein assigned, and that they have not and will not execute any agreement in conflict herewith;

ASSIGNORS also do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States on said invention or resulting from said application, including any continuations, continuations-in-part, divisions, reissues, reexaminations, substitutions, and extensions thereof, to said ASSIGNEE, its successors, assigns, and legal representatives as the ASSIGNEE of the entire right, title, and interest herein assigned;

ASSIGNORS also do hereby agree to, at any time, upon request, without further or additional consideration but at the expense of said ASSIGNEE, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to perfect the entire right, title, and interest in said application, including any and all continuations, continuations-in-part, divisionals, reissues, reexaminations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom said ASSIGNEE, its successors, assigns, and legal representatives, and generally do everything possible to vest the entire right, title, and interest herein assigned in said ASSIGNEE, its successors, assigns, and legal representatives;

ASSIGNORS also do hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

WILMER CUTLER PICKERING HALE AND DORR LLP

All practitioners at Customer Number 23483.

This ASSIGNMENT i	is effective as of	July 17, 2014	33

Date	Shawn Lewis	
Witness:		
Date		

3

Witness:	Date	Rajat Ghai	
Witness:			

 $\frac{\mathcal{E}-2z-17}{\text{Date}} \qquad \frac{\mathcal{D}_{avid} \, \mathcal{F}_{avid} \, \mathcal$

ASSIGNMENT

WHEREAS, the undersigned, to wit:

Shawn LEWIS residing at 300 Concord Road, Suite 110, Billerica, Massachusetts 01821;

Rajat GHAl residing at 7 Wintergreen Lane, Sandwich, Massachusetts 02563;

David F. CALLAN residing at 25 Rockyledge Road, Swampscott, Massachusetts 01907

(hereinafter collectively ASSIGNORS), have made a certain new and useful invention as set forth in an application for United States Letters Patent, entitled:

"SYSTEM AND METHODS FOR PROVIDING VIRTUALIZED CLOUD PEERING EMULATION SERVICES"

	on	July 17, 2014				
(b)	x which w	as filed as U.S. Patent A	application No.		62/025842	
(a)	which is	being filed herewith in	the United States	Patent and Tra-	demark Office;	

AND WHEREAS, Benu Networks, Inc. (hereinafter ASSIGNEE), having its principal place of business at 300 Concord Road, Suite 110, Billerica, Massachusetts 01821, is desirous of acquiring the entire right, title, and interest in and to said invention and any and all patents that may be obtained therefor, and in and to said application and any and all patents that may issue therefrom;

NOW, THEREPORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged. ASSIGNORS do hereby sell, assign, transfer, and set over unto said ASSIGNEE, its successors, assigns, and legal representatives, all right, title, and interest in and to said invention throughout the world, and any and all patents of the United States and foreign countries that may be obtained therefor, including the right to sue for past infringement and obtain past damages, and in and to said application, including any and all continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom, such right, title, and interest including the right to file applications and obtain patents, utility models, industrial models, and designs for said invention in the name of said ASSIGNEE, its successors, assigns, and legal representatives, throughout the world, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, and all rights to register said invention in appropriate registries;

1

ASSIGNORS also do hereby covenant that they have the full right to convey the entire right, title, and interest herein assigned, and that they have not and will not execute any agreement in conflict herewith:

ASSIGNORS also do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States on said invention or resulting from said application, including any continuations, continuations-in-part, divisions, reissues, re-examinations, substitutions, and extensions thereof, to said ASSIGNEE, its successors, assigns, and legal representatives as the ASSIGNEE of the entire right, title, and interest herein assigned;

ASSIGNORS also do hereby agree to, at any time, upon request, without further or additional consideration but at the expense of said ASSIGNEE, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to perfect the entire right, title, and interest in said application, including any and all continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom said ASSIGNEE, its successors, assigns, and legal representatives, and generally do everything possible to vest the entire right, title, and interest herein assigned in said ASSIGNEE, its successors, assigns, and legal representatives;

ASSIGNORS also do hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

WILMER CUTLER PICKERING HALE AND DORR LLP

All practitioners at Customer Number 23483.

This ASSIGNMENT is effective as of _July 17, 2014 _____.

Date	Shawn Lewis	
Witness:		
Date	······································	

Date Witness:

Date

Date	 David F. Callan	······
Witness:		
Date		

5