504285161 03/22/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YI ZHU	03/17/2017
VARADARAJAN GOPALAKRISHNAN	03/22/2017
KIRAN KUMAR EDARA	03/20/2017
SHEUNG MEI CHAN	03/20/2017

RECEIVING PARTY DATA

Name:	AMAZON TECHNOLOGIES, INC.
Street Address:	PO BOX 81226
City:	SEATTLE
State/Country:	WASHINGTON
Postal Code:	98108-1226

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15466506

CORRESPONDENCE DATA

Fax Number:

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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ATTORNEY DOCKET NUMBER:	33350.152 (L0152)
NAME OF SUBMITTER:	WILLIAM D. JACOBS JR.
SIGNATURE:	/Bill Jacobs/
DATE SIGNED:	03/22/2017

Total Attachments: 7

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U.S. Patent Appln. No. <u>15/466,506</u>

Attorney Docket No. 33350.152 (L0152)

Filing Date 22-MAR-17

Client Docket No. P37124-US

PARTIES TO THE ASSIGNMENT

Assignor(s):

Yi Zhu

410 Terry Avenue North Seattle, WA 98109-5210

Varadarajan Gopalakrishnan 410 Terry Avenue North Seattle, WA 98109-5210

Assignee: Amazon Technologies, Inc. PO Box 81226 Seattle, WA 98108-1226 Kiran Kumar Edara

410 Terry Avenue North Seattle, WA 98109-5210

Sheung Mei Chan

410 Terry Avenue North Seattle, WA 98109-5210

<u>AGREEMENT</u>

ASSIGNOR(S) hereby authorizes and requests ASSIGNEE'S legal representatives, of Lowenstein Sandler LLP, associated with Customer No. <u>14432</u>, to insert in the header above and here in parentheses (U.S. Patent Application No. <u>15/466,506</u>, filed <u>22-MAR-17</u>) this application's U.S. application number and filing date, when known.

WHEREAS, ASSIGNEE, a corporation of the State of Nevada, is desirous of acquiring the entire right, title and interest in and to the Invention and in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries.

Page 1 of 7

U.S. Patent Appln. No. 15/466,506

Attorney Docket No. 33350.152 (L0152)

Filing Date 22-MAR-17

Client Docket No. P37124-US

Title of Invention: HOP-AWARE MULTICAST IN A MESH NETWORK BACKGROUND

Inventors: Yi Zhu, Varadarajan Gopalakrishnan, Kiran Kumar Edara, Sheung Mei Chan

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto ASSIGNEE its successors and assigns, the entire right, title and interest in and to said Invention and any improvements thereto, said Application and any and all letters patent which may be granted for said Invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all provisional, divisions, reissues, re-examinations and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said Application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said Invention, Application and all letters patent on said Invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks, as well as all other applicable patent offices throughout the world, to issue all letters patent on said Invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said Invention, for litigation regarding said letters patent, or for the purpose of protecting title to said Invention or letters patent therefor.

AND ASSIGNOR(S) DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out

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U.S. Patent Appln. No. 15/466,506

Attorney Docket No. 33350.152 (L0152)

Filing Date 22-MAR-17

Client Docket No. P37124-US

Title of Invention: HOP-AWARE MULTICAST IN A MESH NETWORK BACKGROUND

Inventors: Yi Zhu, Varadarajan Gopalakrishnan, Kiran Kumar Edara, Sheung Mei Chan

of any violation of the rights assigned hereby that may have accrued prior to the date of

assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue

for, collect, and retain damages for past infringements of said letters patent before or after

issuance.

AND ASSIGNOR(S) DOES HEREBY covenant and agree that ASSIGNOR(S) will

communicate to ASSIGNEE, its successors, legal representatives and assigns, any facts known to

ASSIGNOR respecting the Invention or said Application, and testify in any legal proceeding, assist

in the preparation of any other patent property relating to the Application and the Invention or

any improvements made thereto, sign/execute all lawful papers, provide all requested

documents, execute and make all rightful oaths and/or declarations in connection with the

Application and the Invention including any improvements made thereto, any patent

applications filed therefrom, and any continuing application filed from any of the

aforementioned applications, and generally do everything possible to aid ASSIGNEE, its

successors, legal representatives and assigns, to obtain and enforce proper patent protection for

the Invention in all countries. These provisions are binding upon ASSIGNOR's heirs, legal

representatives, administrators, and assigns.

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U.S. Patent Appln. No. <u>15/466,506</u>	Attorney Docket No. <u>33350.152</u> (L0152)
Filing Date	Client Docket No. <u>P37124-US</u>
Title of Invention: <u>HOP-AWARE MULTICAST IN A MESH</u>	NETWORK BACKGROUND
Inventors: Yi Zhu, Varadarajan Gopalakrishnan, Kira r	Kumar Edara, Sheung Mei Chan
DECLARATION As a below named inventor, I hereby declare that:	
This declaration is directed to:	
the attached application; or	
United States Patent Application number	filed on; or
PCT International Application number	filed on
The above-identified application was made or author	ized to be made by me.
I believe that I am the original inventor or an original application.	joint inventor of a claimed Invention in the
I have reviewed and understand the contents of the a	bove-identified application, and
acknowledge the duty to disclose to the US Patent &	Trademark Office all information known to
me to be material to the patentability as defined in 3	7 CFR 1.56.
I hereby acknowledge that any willful false statement	made in this declaration is punishable
under 18 USC 1001 by fine or imprisonment of not m	ore than five (5) years, or both.
DocuSigned by: DocuSigned by:	
1A0DB1294D384EA	
Yi Zhu	
March 17, 2017	
Date	

U.S. Patent Appln. No. <u>15/466,506</u>	å	Attorney Docket No. <u>33</u>	350.152 (L0152)
Filing Date 22-MAR-17		Client Docke	t No. <u>P37124-US</u>
Title of Invention: <u>HOP-AWARE MULTICAST</u>	IN A MESH NET	TWORK BACKGROUND	
Inventors: Yi Zhu, Varadarajan Gopalakris	hnan, Kiran Ku	mar Edara, Sheung Me	Chan
<u>DECLARATION</u>			
As a below named inventor, I hereby decla	re that:		
This declaration is directed to:			
igotimes the attached application; or			
United States Patent Application	on number	filed on	; or
PCT International Application r	umber	filed on	nnnnn ^d
The above-identified application was made	e or authorized	to be made by me.	
I believe that I am the original inventor or application.	an original join	t inventor of a claimed	invention in the
I have reviewed and understand the conte	nts of the abov	e-identified application	, and
acknowledge the duty to disclose to the US	S Patent & Trac	lemark Office all inform	ation known to
me to be material to the patentability as d	efined in 37 CF	R 1.56.	
I hereby acknowledge that any willful false under 18 USC 1001 by fine or imprisonmer			
Naradarajan Gopalakrishnan/ 373ABE84ABA2443			
Varadarajan Gopalakrishnan			
March 22, 2017			
Date			

U.S. Patent Appln. No. <u>15/466,506</u>	Attorney Docket No. <u>33350.152 (L0152)</u>
Filing Date 22-MAR-17	Client Docket No. <u>P37124-US</u>
Title of Invention: <u>HOP-AWARE MULTICAST IN A M</u>	ESH NETWORK BACKGROUND
Inventors: Yi Zhu, Varadarajan Gopalakrishnan, K	iran Kumar Edara, Sheung Mei Chan
DECLARATION	
As a below named inventor, I hereby declare that:	
This declaration is directed to:	
the attached application; or	
United States Patent Application numb	oer; or
PCT International Application number	
The above-identified application was made or auti	horized to be made by me.
I believe that I am the original inventor or an original application.	nal joint inventor of a claimed Invention in the
I have reviewed and understand the contents of the	ne above-identified application, and
acknowledge the duty to disclose to the US Patent	& Trademark Office all information known to
me to be material to the patentability as defined in	n 37 CFR 1.56.
I hereby acknowledge that any willful false statem	ent made in this declaration is punishable
under 18 USC 1001 by fine or imprisonment of not	t more than five (5) years, or both.
847E4158B2654AF	
Kiran Kumar Edara	
March 20, 2017	
Date	

U.S. Patent Appln. No. <u>15/466,506</u>	Attorney Docket No. <u>33350.152 (L0152)</u>
Filing Date 22-MAR-17	Client Docket No. <u>P37124-US</u>
Title of Invention: <u>HOP-AWARE MULTICAST IN A MES</u>	H NETWORK BACKGROUND
Inventors: Yi Zhu, Varadarajan Gopalakrishnan, Kira	n Kumar Edara, Sheung Mei Chan
<u>DECLARATION</u>	
As a below named inventor, I hereby declare that:	
This declaration is directed to:	
the attached application; or	
United States Patent Application numbe	r filed on; or
PCT International Application number	filed on
The above-identified application was made or autho	rized to be made by me.
I believe that I am the original inventor or an origina application.	l joint inventor of a claimed Invention in the
I have reviewed and understand the contents of the	above-identified application, and
acknowledge the duty to disclose to the US Patent 8	Trademark Office all information known to
me to be material to the patentability as defined in	37 CFR 1.56.
I hereby acknowledge that any willful false statemer	nt made in this declaration is punishable
under 18 USC 1001 by fine or imprisonment of not n	nore than five (5) years, or both.
Docusigned by: /Shewng Mei Chan/	
Sheung Mei Chan	
March 20, 2017	
Date	

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PATENT REEL: 041688 FRAME: 0410

RECORDED: 03/22/2017