PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4265759

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MARK KALMAN	11/01/2015
BIN WANG	03/30/2015
YON-SEO KIM	02/04/2017

RECEIVING PARTY DATA

Name:	AMAZON TECHNOLOGIES, INC.	
Street Address:	P.O. BOX 8102	
City:	RENO	
State/Country:	NEVADA	
Postal Code:	89507	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14317441

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Address Line 4: PHILADELPHIA, PENNSYLVANIA 19104-2891

TTORNEY DOCKET NUMBER: PM7120-US-ORG1/101058.155		
NAME OF SUBMITTER:	DEBORAH WHIPPLE	
SIGNATURE:	/Deborah Whipple/	
DATE SIGNED: 02/08/2017		
	This document serves as an Oath/Declaration (37 CFR 1.63).	

Total Attachments: 7

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> **PATENT REEL: 041205 FRAME: 0140** 504219082

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PATENT REEL: 041205 FRAME: 0141

U.S. Patent Appln. No. <u>14/317,441</u> Filing Date <u>June 27, 2014</u>

Attorney Docket No. <u>101058.000155</u> Client Docket No. <u>PM7120-US-ORG1</u>

PARTIES TO THE ASSIGNMENT

Assignor(s):

MARK KALMAN 410 Terry Avenue North Seattle, WA 98109-5210

BIN WANG 410 Terry Avenue North

Seattle, WA 98109-5210

YON-SEO KIM

410 Terry Avenue North Seattle, WA 98109-5210

Assignee:

Amazon Technologies, Inc. PO Box 8102 Reno, NV 89507

AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled "EFFICIENT BANDWIDTH ESTIMATION" (Invention) for which a non-provisional application for United States Letters Patent

Was filed on June 27, 2014 and accorded U.S. application no. 14/317,441; or

	recordation.
	will be filed concurrently with the submission of this executed PATENT ASSIGNMENT for
\boxtimes	was filed on June 27, 2014 and accorded U.S. application no. 14/317,441; or

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U.S. Patent Appln. No. 14/317,441 Filing Date June 27, 2014

Attorney Docket No. 101058.000155 Client Docket No. PM7120-US-ORG1

ASSIGNOR(S) hereby authorizes and requests ASSIGNEE'S legal representatives, of

Baker & Hostetler, LLP, associated with Customer No. 23377, to insert in the header above and here in

parentheses (U.S. application no. 14/317,441, filed June 27, 2014) 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;

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 to issue all letters patent on said Invention to ASSIGNEE. ASSIGNOR(S) agree to execute

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PATENT

REEL: 041205 FRAME: 0143

U.S. Patent Appln. No. <u>14/317,441</u> Filing Date <u>June 27, 2014</u> Attorney Docket No. 101058.000155 Client Docket No. PM7120-US-ORG1

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 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 said 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 the 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 our heirs, legal representatives,

administrators, and assigns.

CORRESPONDENCE ADDRESS

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U.S. Patent Appln. No. <u>14/317,441</u> Filing Date <u>June 27, 2014</u> Attorney Docket No. 101058.000155 Client Docket No. PM7120-US-ORGI

I hereby direct all correspondence and telephone calls in connection with this application be addressed to the number associated with the customer number listed below, which is:

Customer No.

23377

U.S. Patent Appln. No. <u>14/317,441</u> Filing Date <u>June 27, 2014</u> Attorney Docket No. <u>101058.000155</u> Client Docket No. <u>PM7120-US-ORG1</u>

DECLARATION	
As a below named inventor, I hereby declare that:	
This declaration is directed to:	
the attached application; or	
☑ United States application number 14/317,4	41 filed on June 27, 2014; or
PCT international application number	filed on
The above-identified application was made or authoriz	ted to be made by me.
I believe that I am the original inventor or an original japplication.	oint inventor of a claimed Invention in the
I have reviewed and understand the contents of the about to disclose to the US Patent & Trademark Office patentability as defined in 37 CFR 1.56.	
I hereby acknowledge that any willful false statement i	made in this declaration is punishable under 18
USC 1001 by fine or imprisonment of not more than fi	
Legal name of inventor: MARK KALMAN 4/6/70/5 Date	Inventor Signature
WITNESSED BY: 4/1/2015 Date	Witness (Signature)

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Kaitlyh Laine Witness (Printed Name)

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U.S. Patent Appln. No. <u>14/317,441</u> Filing Date <u>June 27, 2014</u> Attorney Docket No. <u>101058.000155</u> Client Docket No. <u>PM7120-US-ORG1</u>

DECLARATION
As a below named inventor, I hereby declare that:
This declaration is directed to:
the attached application; or
☑ United States application number 14/317,441 filed on June 27, 2014; or
PCT international application number filed on
The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application.
I have reviewed and understand the contents of the 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 37 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 more than five (5) years, or both.
Legal name of inventor: YON-SEO KIM
— Docusigned by: //ON-Sed kim/
Inventor Signature
February 4, 2017
Date

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PATENT REEL: 041205 FRAME: 0148

RECORDED: 02/08/2017