503371172 06/29/2015

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ZHAOHUI ZHANG	06/25/2015
ALEX BABAN	06/24/2015

RECEIVING PARTY DATA

Name:	JUNIPER NETWORKS, INC.
Street Address:	1133 INNOVATION WAY
City:	SUNNYVALE
State/Country:	CALIFORNIA
Postal Code:	94089

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14753313

CORRESPONDENCE DATA

Fax Number: (571)432-0808

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: 5714320800

Email: jrountree-jablin@harrityllp.com
Correspondent Name: HARRITY & HARRITY LLP
Address Line 1: 11350 RANDOM HILLS ROAD

Address Line 2: SUITE 600

Address Line 4: FAIRFAX, VIRGINIA 22030

ATTORNEY DOCKET NUMBER:	0023-0719
NAME OF SUBMITTER:	JAMES M. OLSEN
SIGNATURE:	/James M. Olsen, Reg. No. 40,408/
DATE SIGNED:	06/29/2015

Total Attachments: 4

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PATENT 503371172 REEL: 035927 FRAME: 0990

Attorney Docket No. <u>0023-0719</u> JOINT INVENTION (Worldwide Rights)

ASSIGNMENT

WHEREAS, WE, the below named inventors (hereinafter referred to as Assignors), have made an invention entitled:

BIT INDEX EXPLICIT REPLICATION (BIER) FORWARDING FOR NETWORK DEVICE COMPONENTS

for which an application is beir	ng filed herewith; or	🛚 🔀 for which we	filed an applicat	ion for
United States Letters Patent on	June 29, 2015	under Serial No.	14/753,313	; and
We hereby authorize Appli relating to the filing date and/or se	*	_	eding information	n

WHEREAS, <u>Juniper Networks</u>, <u>Inc.</u>, a corporation of <u>Delaware</u> whose post office address is <u>1133 Innovation Way</u>, <u>Sunnyvale</u>, <u>CA 94089</u> (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW THEREFORE, be it known that for good and valuable consideration the receipt of which from assignee is hereby acknowledged, we as assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention and this application, and including any previously or subsequently filed provisional applications, all divisions, continuations, and continuations-in-part thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such application, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE HEREBY covenant that we have the full right to convey the interest assigned by this Assignment, and we have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that we will, without further consideration, communicate with assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it

PATENT REEL: 035927 FRAME: 0991

Attorney Docket No. 0023-0719

being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

Date (Required):

IN TESTIMONY WHEREOF, WE have hereunto set our hand.

San Jose, CA 95129 US

Zhaohui ZHANG	Signature:		
2 Tyler Road Westford, MA 01886 US	Date (Required):		
Alex BABAN 6370 Canterbury Court	Signature:		

-2-

ASSIGNMENT

WHEREAS, WE, the below named inventors (hereinafter referred to as Assignors), have made an invention entitled:

BIT INDEX EXPLICIT REPLICATION (BIER) FORWARDING FOR NETWORK DEVICE COMPONENTS

for which an application is be	ing filed herewith; or	ix for which we	filed an applica	tion for
United States Letters Patent on	June 29, 2015	_under Serial No	14/753,313	; and
We hereby authorize Apprelating to the filing date and/or s	•	-	eding information	on

WHEREAS, Juniper Networks, Inc., a corporation of <u>Delaware</u> whose post office address is <u>1133 Innovation Way</u>, <u>Sunnyvale</u>, <u>CA 94089</u> (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW THEREFORE, be it known that for good and valuable consideration the receipt of which from assignee is hereby acknowledged, we as assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention and this application, and including any previously or subsequently filed provisional applications, all divisions, continuations, and continuations-in-part thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such application, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof, and we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE HEREBY covenant that we have the full right to convey the interest assigned by this Assignment, and we have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that we will, without further consideration, communicate with assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it

PATENT REEL: 035927 FRAME: 0993 being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

IN TESTIMONY WHEREOF, WE have hereunto set our hand.

Zhaohui ZHANG
2 Tyler Road
Westford, MA 01886 US

Alex BABAN 6370 Canterbury Court San Jose, CA 95129 US

Signature:	

Signature: Dawa

Date (Required):___

Date (Required): 6/24/20(5)

-2-