

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5127372

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ZHAOHUI ZHANG	09/05/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	JUNIPER NETWORKS, INC.
<b>Street Address:</b>	1133 INNOVATION WAY
<b>City:</b>	SUNNYVALE
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	94089
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16122371
<b>Application Number:</b>	16012595
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>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.</i>	
<b>Phone:</b>	5714320800
<b>Email:</b>	rpetras@harrityllp.com
<b>Correspondent Name:</b>	HARRITY & HARRITY, LLP
<b>Address Line 1:</b>	11350 RANDOM HILLS RD
<b>Address Line 2:</b>	SUITE 600
<b>Address Line 4:</b>	FAIRFAX, VIRGINIA 22030
<b>ATTORNEY DOCKET NUMBER:</b>	0023-0929CP1
<b>NAME OF SUBMITTER:</b>	RYAN K. THELEN
<b>SIGNATURE:</b>	/Ryan K. Thelen, Reg. No. 65,830/
<b>DATE SIGNED:</b>	09/06/2018
<b>Total Attachments: 2</b>	
source=0023-0929CP1_Assignment_FINAL#page1.tif	
source=0023-0929CP1_Assignment_FINAL#page2.tif	

Attorney Docket No. 0023-0929CP1

SOLE INVENTION  
(Worldwide Rights)

**ASSIGNMENT**

WHEREAS, I, the below named inventor (hereinafter referred to as Assignor), have made an invention entitled:

**FORWARDING MULTICAST DATA PACKETS USING BIT INDEX EXPLICIT REPLICATION  
(BIER) FOR BIER-INCAPABLE NETWORK DEVICES**

for which an application is being filed herewith; or  for which an application was filed for United States Letters Patent on September 5, 2018 under Serial No. 16/122,371; and

I hereby authorize Applicant's representative to fill in the preceding information relating to the filing date and/or serial number, as appropriate.

WHEREAS, Juniper Networks, Inc., a corporation of Delaware whose post office address is 1133 Innovation Way, Sunnyvale, CA 94089 (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, I as assignor, 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 I 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, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I HEREBY further covenant and agree that I 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 being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

Attorney Docket No. 0023-0929CP1

IN TESTIMONY WHEREOF, I have hereunto set my hand.

Zhaohui ZHANG  
2 Tyler Road  
Westford, MA 01886 US

Signature: 

9/5/2018

Date: \_\_\_\_\_