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|  | | 09-11-2002  102217997 | Attorney's Docket No. 0023-0088 | | |
| Form PTO-1595 U.S. RE: | | | | | |
| To the Honorable Commissioner of Patents and Trademarks. Please record the attached original document(s) or copy(ies) thereof. | | | | | |
| 1. Name of conveying party(ies): Pradeep SINDHU; Debashis BASU; Pankaj PATEL; Raymond LIM; Avanindra GODBOLE; Tatao CHUANG; Chi-Chung K. CHEN; Jeffrey G. LIBBY; Dennis FERGUSON; Philippe LACROUTE; and Gerald CHEUNG Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | 2. Name and address of receiving party(ies): Name: Juniper Networks, Inc. Address: 1194 North Mathilda Avenue Sunnyvale, California 94089-1206 Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | |
| 3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name Other: Execution Dates: <u>August 13, 14, 15, 16, 20, 21, 22, 26,</u> <u>and 29, 2002; and September 4, 2002</u> | | | | | |
| 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution dates of the application is/are: <table style="width: 100%;"> <tr> <td style="width: 50%;"> A. Patent Application No.(s) 10/206,999 </td> <td style="width: 50%;"> B. Patent No.(s) </td> </tr> </table> Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | A. Patent Application No.(s) 10/206,999 | B. Patent No.(s) |
| A. Patent Application No.(s) 10/206,999 | B. Patent No.(s) | | | | |
| 5. Name and address of party to whom correspondence should be mailed: Name: Paul A. Harrity Address: HARRITY & SNYDER, L.L.P. 11240 Waples Mill Road Suite 300 Fairfax, Virginia 22030  26615 <small>PATENT TRADEMARK OFFICE</small> | | 6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41): \$40.00 <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorization to be charged to deposit account, if necessary. 8. Deposit account number: 50-1070 | | | |
| 9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document</i> Paul A. Harrity Reg. No. 39,574 Name of Person Signing Signature | | DO NOT USE THIS SPACE September 5, 2002 Date | | | |
| Total number of pages including cover sheet, attachments, and document: 8 | | | | | |

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks
 Box Assignments
 Washington, D.C. 20231

PATENT
REEL: 013266 FRAME: 0087

JOINT INVENTION
(Worldwide Rights)

ASSIGNMENT

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

SYSTEMS AND METHODS FOR EFFICIENT MULTICAST HANDLING

☐ for which an application is being filed herewith; or ☒ for which we filed an application for United States Letters Patent on July 30, 2002 under Serial No. 10/206,999; and

WHEREAS, Juniper Networks, Inc., a corporation of Delaware whose post office address is 1194 North Mathilda Avenue, Sunnyvale, California 94089-1206 (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, including any previously or subsequently filed provisional applications, and 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 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.

IN WITNESS WHEREOF, I hereto set my hand.

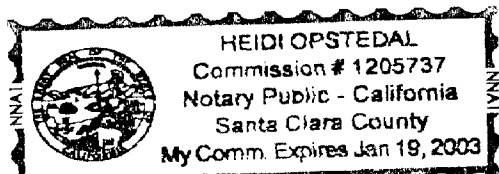
Pradeep Sindhu
26000 Alicante Lane
Los Altos Hills, CA 94022

Signature: *Pradeep Sindhu*

Date: 2 Aug. 02

State of California)
) ss:
County of Santa Clara)

On this 21 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Pradeep Sindhu personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



[Notary's Seal Here]

WITNESS my hand and official seal.

Heidi Opstedal

Signature of Notary Public

My Commission Expires: 1/19/03

IN WITNESS WHEREOF, I hereto set my hand.

Debashis Basu
3324 Loire Court
San Jose, CA 95135

Signature: *Debashis Basu*

Date: 8/26/02

State of California)
) ss:
County of Santa Clara)

On this 26 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Debashis Basu personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



[Notary's Seal Here]

WITNESS my hand and official seal.

Heidi Opstedal

Signature of Notary Public

My Commission Expires: 1/19/03

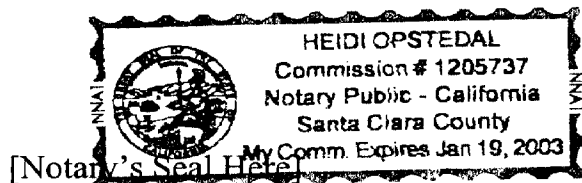
IN WITNESS WHEREOF, I hereto set my hand.

Pankaj Patel
1273 Aster Lane
Cupertino, CA 95014

Signature: *Pankaj Patel*
Date: 8/13/2002

State of California)
) ss:
County of Santa Clara)

On this 13 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Pankaj Patel personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Heidi Opstedal
Signature of Notary Public
My Commission Expires: 1/19/03

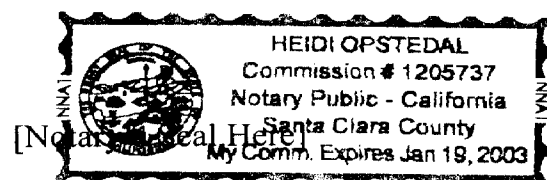
IN WITNESS WHEREOF, I hereto set my hand.

Raymond Lim
25630 Darling Lane
Los Altos Hills, CA 94022

Signature: *Raymond M. Lim*
Date: 8/20/2002

State of California)
) ss:
County of Santa Clara)

On this 20 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Raymond Lim personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Heidi Opstedal
Signature of Notary Public
My Commission Expires: 1/19/03

PATENT
REEL: 013266 FRAME: 0091

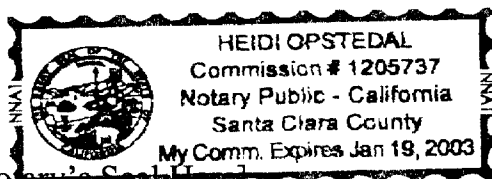
IN WITNESS WHEREOF, I hereto set my hand.

Chi-Chung K. Chen
22960 Cricket Hill Road
Cupertino, CA 95014

Signature: Chi-Chung K. Chen
Date: 8/22/2002

State of California)
) ss:
County of Santa Clara)

On this 22 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Chi-Chung K. Chen personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



[Notary's Seal Here]

WITNESS my hand and official seal.

Heidi Opstedal
Signature of Notary Public
My Commission Expires: 1/19/03

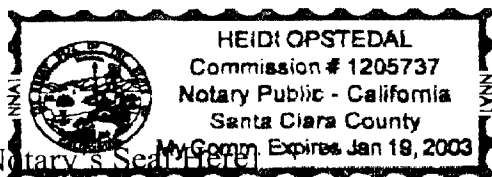
IN WITNESS WHEREOF, I hereto set my hand.

Jeffrey G. Libby
21404 Shannon Court
Cupertino, CA 95014

Signature: Jeffrey G. Libby
Date: 8/16/02

State of California)
) ss:
County of Santa Clara)

On this 16 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Jeffrey G. Libby personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



[Notary's Seal Here]

WITNESS my hand and official seal.

Heidi Opstedal
Signature of Notary Public
My Commission Expires: 1/19/03

IN WITNESS WHEREOF, I hereto set my hand.

Dennis Ferguson
896 Melville Avenue
Palo Alto, CA 94301

Signature: *Dennis Ferguson*Date: Aug. 29, 2002

State of California)
) ss:
County of Santa Clara)

On this 29 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Dennis Ferguson personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Heidi Opstedal
Signature of Notary Public
My Commission Expires: 1/19/03

IN WITNESS WHEREOF, I hereto set my hand.

Philippe Lacroute
1556 Magpie Lane
Sunnyvale, CA 94087

Signature: *Philippe Lacroute*Date: 4 Sept. 2002

State of California)
) ss:
County of Santa Clara)

On this 4 day of Sept., 2002, before me, Heidi Opstedal, Notary Public, personally appeared Philippe Lacroute personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Heidi Opstedal
Signature of Notary Public
My Commission Expires: 1/19/03

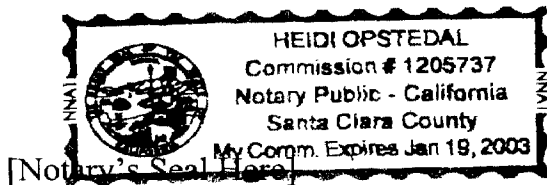
IN WITNESS WHEREOF, I hereto set my hand.

Gerald Cheung
725 Ashby Drive
Palo Alto, CA 94301

Signature: Gerald Cheung
Date: August 20th, 2002

State of California)
) ss:
County of Santa Clara)

On this 20 day of August, 2002, before me, Heidi Opstedal, Notary Public, personally appeared Gerald Cheung personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Heidi Opstedal
Signature of Notary Public
My Commission Expires: 1/19/03