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09-11-2002

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	1022	17997 Attorney's Docket No. 0023-0088
	To the Honorable Commissioner of Patents and Trademarks	s. Please record and anached original document(s) or copy(ies)
]	thereof.	2. Name and address of magicing monty/ios):
	 Name of conveying party(ies): Pradeep SINDHU; Debashis BASU; Pankaj PATEL; 	2. Name and address of receiving party(ies):
	Raymond LIM; Avanindra GODBOLE; Tatao	Name: Juniper Networks, Inc.
	CHUANG; Chi-Chung K. CHEN; Jeffrey G. LIBBY;	Trainer variable received and
İ	Dennis FERGUSON; Philippe LACROUTE; and Gerald	Address: 1194 North Mathilda Avenue
	CHEUNG 19-05 (17)	Sunnyvale, California 94089-1206
	Additional name(s) of conveying party(ies) attached? Yes No	
	3. Nature of conveyance:	
	Assignment Merger	Additional name(s) & address(es) attached?
	☐ Security Agreement ☐ Change of Name	No les
	Other:	
	Ollier.	
	Execution Dates: August 13, 14, 15, 16, 20, 21, 22, 26,	
	and 29, 2002; and September 4, 2002	
	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:	
	A. Patent Application No.(s) 10/206,999	B. Patent No.(s)
	Additional numbers att	
	5. Name and address of party to whom correspondence	6. Total number of applications and patents involved: 1
	should be mailed:	7. Total fee (37 CFR 3.41): \$40.00
	Name: Paul A. Harrity	⊠ Enclosed
	Address: HARRITY & SNYDER, L.L.P.	Authorization to be charged to deposit account, if
	11240 Waples Mill Road	necessary.
	Suite 300 Fairfax, Virginia 22030	
	Fairiax, Viiginia 22030	8. Deposit account number:
		6. Deposit account number.
	26615	50-1070
	PATERI TRADEMARKOFFICE	
09/10/200		_
01 FC:581	40.00 OP DO NOT U	SE THIS SPACE
	9. Statement and signature. 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	
	Paul A. Harrity Name of Person Signing Reg. No. 39,574 Signat	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

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	if for which we filed an application for
United States Letters Patent on <u>July 30, 2002</u> under Ser	rial No. <u>10/206,999;</u> and

WHEREAS, <u>Juniper Networks</u>, <u>Inc.</u>, a corporation of <u>Delaware</u> whose post office address is <u>1194 North Mathilda Avenue</u>, <u>Sunnyvale</u>, <u>California 94089-1206</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, 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.

PATENT REEL: 013266 FRAME: 0088

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 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. HEIDI OPSTEDAL WITNESS my hand and official seal. Commission # 1205737 Heidi Sstedal
Signature of Notary Public Notary Public - California Santa Clara County My Comm. Expires Jan 19, 2003 My Commission Expires: 1/19/03 Notary's Sear Here Signature: 26 bhshu, Lusa
Date: 8/26/02 IN WITNESS WHEREOF, I hereto set my hand. Debashis Basu 3324 Loire Court San Jose, CA 95135 State of California) ss: County of Santa Clara) On this 24 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. WITNESS my hand and official seal. Helde Osteolal
Signature of Notary Public HEIDI OPSTEDAL Commission # 1205737 Notary Public - California

> PATENT REEL: 013266 FRAME: 0089

My Commission Expires: ///9/03

Santa Clara County

encomm. Expires Jan 19, 2003

IN WITNESS WHEREOF, I hereto set my hand		^ / .
Pankaj Patel	Signature:	n Natit
1273 Aster Lane	Date:	21 -1 2
Cupertino, CA 95014	Date:	8/3/202
State of California)		
) ss: County of Santa Clara)		
On this day of day of	on(s) whose name she/they executed r signature on the i	is/are subscribed to the within the same in his/her/their nstrument the person(s), or the
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California Santa Clara County Santa Clara County Notary's Seal Here	WITNESS my ha Leide Signature of Nota My Commission	nd and official seal. (Solutional Seal) ry Public Expires: 1/19/03
IN WITNESS WHEREOF, I hereto set my hand	,	
Raymond Lim	Signature: Ra	2/20/2002
25630 Darling Lane		
Los Altos Hills, CA 94022	Date:	8/20/2002
State of California)) ss: County of Santa Clara)		
On this day of		
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California Notary Publi	WITNESS my hat Signature of Nota My Commission	and official seal. Solution of the seal o

PATENT REEL: 013266 FRAME: 0090

IN WITNESS WHEREOF, I nereto set my hand	1. / ~
Avanindra Godbole	Signature: MM (Avanindia (144)
3276 Ravenswood Way San Jose, CA 95148	Date: 8/14/02
State of California)) ss: County of Santa Clara)	
me on the basis of satisfactory evidence) to within instrument and acknowledged to me	, 2002, before me, Heidi Opstedal, eta Godbole personally known to me (or proved to be the person(s) whose name is/are subscribed to the that he/she/they executed the same in his/her/their ir signature on the instrument the person(s), or the cted, executed the instrument.
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California Santa Clara County My Comm. Expires Jan 19, 2003 [Notary Seal Hers]	WITNESS my hand and official seal. Linci Systectal Signature of Notary Public My Commission Expires: 1/19/03
IN WITNESS WHEREOF, I hereto set my hand	d.
Tatao Chuang 1603 Ardenwood Drive San Jose, CA 95129	Signature: Date: 8/15/07
State of California)) ss:	'
County of Santa Clara)	
the basis of satisfactory evidence) to be the instrument and acknowledged to me that he	, 2002, before me, Heidi Opstedal, huang personally known to me (or proved to me on person(s) whose name is/are subscribed to the within e/she/they executed the same in his/her/their ir signature on the instrument the person(s), or the cted, executed the instrument.
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California Santa Clara County [Notary Library]. Expires Jan 19, 2003	WITNESS my hand and official seal. Signature of Notary Public My Commission Expires: 1/19/03

PATENT REEL: 013266 FRAME: 0091

IN WITNESS WHEREOF, I hereto set my hand	1.
Chi-Chung K. Chen 22960 Cricket Hill Road Cupertino, CA 95014	Signature: 2n-Ching Chen Date: 8/22/2002
State of California)) ss: County of Santa Clara)	
On this <u>22</u> day of <u>At</u> Notary Public, personally appeared <u>Chi-Chi</u> me on the basis of satisfactory evidence) to within instrument and acknowledged to me	, 2002, before me, Heidi Opstedal, ung K. Chen personally known to me (or proved to be the person(s) whose name is/are subscribed to the that he/she/they executed the same in his/her/their ir signature on the instrument the person(s), or the cted, executed the instrument.
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California Santa Chara County My Comm. Expires Jan 19, 2003 Notary 's Society Public - California Santa Chara County My Comm. Expires Jan 19, 2003	WITNESS my hand and official seal. Let a Steda Signature of Notary Public My Commission Expires: 1/19/03
IN WITNESS WHEREOF, I hereto set my hand	i.
Jeffrey G. Libby	Signature:
21404 Shannon Court	Date: 8/16/02
Cupertino, CA 95014	Date
State of California)) ss: County of Santa Clara)	
Notary Public, personally appeared <u>Jeffrey</u> on the basis of satisfactory evidence) to be within instrument and acknowledged to me	, 2002, before me, Heidi Opstedal, G. Libby personally known to me (or proved to me the person(s) whose name is/are subscribed to the that he/she/they executed the same in his/her/their ir signature on the instrument the person(s), or the cted, executed the instrument.
HEIDT OPSTEDAL Commission # 1205737 Notary Public - California \$ Santa Clara County Seaty Comm. Expires Jan 18, 2003	WITNESS my hand and official seal. Leide Gastedae Signature of Notary Public My Commission Expires: 1/19/03

IN WITNESS WHEREOF, I hereto set my hand	\mathcal{L}
Dennis Ferguson 896 Melville Avenue	Signature: Lis Ly
Palo Alto, CA 94301	Date: Aug. 29, 2002
State of California)) ss: County of Santa Clara)	
Notary Public, personally appeared <u>Dennis</u> on the basis of satisfactory evidence) to be t within instrument and acknowledged to me	, 2002, before me, Heidi Opstedal, Ferguson personally known to me (or proved to me he person(s) whose name is/are subscribed to the that he/she/they executed the same in his/her/their r signature on the instrument the person(s), or the sted, executed the instrument.
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California Santa Chara County Ny Comm. Expires Jan 19, 2003	WITNESS my hand and official seal. Signature of Notary Public My Commission Expires: ///9/03
IN WITNESS WHEREOF, I hereto set my hand	
Philippe Lacroute	Signature: the Laurent
1556 Magpie Lane Sunnyvale, CA 94087	Signature: The Laurent Date: 4 Sept. 2002
State of California)) ss:	
County of Santa Clara)	
On this	
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California [Notary Seal Hereita Clara County My Comm. Expires Jan 19, 2003	WITNESS my hand and official seal. Signature of Notary Public My Commission Expires: 1/19/03

IN WITNESS WHEREOF, I hereto set my hand	
Gerald Cheung	Signature: Gerald Cherry Date: August 20th, 2002
725 Ashby Drive Palo Alto, CA 94301	Date: August 20H 2002
	Parc
State of California)) ss:	
County of Santa Clara)	
Notary Public, personally appeared Gerald the basis of satisfactory evidence) to be the prinstrument and acknowledged to me that he/	signature on the instrument the person(s), or the
HEIDI OPSTEDAL Commission # 1205737 Notary Public - California Santa Clara County Ny Corpm. Expires Jan 19, 2003 [Notary's Seal Flore]	WITNESS my hand and official seal. Lich Syste Sal Signature of Notary Public My Commission Expires: //19/03

RECORDED: 09/05/2002