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Name of Person Signing

Henry M. Zykorie, Reg. # 27,477

01-18-2002

017.39926X00 101953268 Form PTO-1595 R SHEET U.S. DEPARTMENT OF COMMERCE (Rev. 03/01) U.S. Patent and Trademark Office PATENTS ONLY OMB No. 0651-0027 (exp. 5/31/2002) To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(les) TROSSEN, DIRK Additional name(s) of conveying party(ies) attached?

Yes
No Name: Nokia Networks Internal Address: Street Address: Nokia Networks Kellallahdentle 4 01250 Espoo, Finland 3. Nature of conveyance: ☐ Merger Assignment Change of Name Security Agreement Other ___ Additional name(s) & address(es) attached?

Yes

No. Execution Date: June 5, 2001. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: A. Patent Application No.(s) B. Patent Registration No.(s) U.S. Serial No. 09/875,877 filed June 8, 2001 Additional number(s) attached 🔲 Yes 🖾 No 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved concerning document should be malled: 7. Total fee (37 CFR 3.41)...... \$40.00 Name: Antonelli Terry Stout & Kraus, LLP ☑ Enclosed Internal Address: Authorized to be charged to deposit account 1300 North Seventeenth Street 8. Deposit account number: **Suite 1800** Arlington, VA 22209 USA 01-2135 City: State: Zip: (Attach duplicate copy of this page if paying by deposit account) DO NOT USE THIS SPACE 9. Statement and signature.

> Total number of pages including cover sheet, attachments, and document: Mail documents to be recorded with required cover sheet information to: Commissioner of Patent & Trademarks, Box Assignments

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true

Washington, D.C. 20231

PATENT REEL: 012469 FRAME: 0065

January 18, 2002

Date

cket No.: 017.3997280

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To the Honorable Commissioner of Pate 101750	ached original documents or copy thereof.			
1. Name of conveying party(ies): Dirk ROSSEN	2. Name and address of receiving party(ies):			
06/08/01	Name: Nokia Corp.			
00/0/	Internal Address:			
Additional name(s) of conveying party(ies) attached? Yes No				
3. Nature of conveyance: Assignment Merger	Street Address: Keilalahdentie 4			
	City, Country: FIN-02150 ESPOO			
Execution Date: June 5, 2001	Additional name(s) & address(es) attached? Yes 🔀 No			
4. Application number(s) or patent number(s):				
If this document is being filed together with a new application	a, the execution date of the application is: June 5, 2001			
A. Patent Application No.(s)	B. Patent No.(s)			
A. Patent Application No.(s) 06/12/1201 m 612UNES 000000 6 04875877 03 FC: 581				
03 Fc: 581				
Additional numbers att	ached? Yes 😾 No			
5. Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1			
Name: ANTONELLI, TERRY, STOUT & KRAUS, LLP	7. Total fee (37 CFR 3.41)\$40.00			
Internal Address:	Enclosed			
	Authorized to be charged to deposit account Authorized to be charged to deposit account			
Street Address: 1300 North Seventeenth Street	8. Deposit account number: 01-2135			
Suite 1800	(Attach duplicate copy of this page if paying by deposit account)			
City: Arlington State: VA Zip: 22209				
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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.				
Henry M. Zykorie	June 8, 2001			
Name of Person Signing Signature	Date			
Attorney Registration No. 27,477 Total number of pages including cover sheet, attachments, and document: 2				
OMB No. 0651-0011 (exp. 4/94)				
6/12/2001 MBIZUMES 00000006 09875877				
03 FC:581 40.00 QP				
<i>)</i>				

PATENT REEL: 012469 FRAME: 0066

ASSIGNMENT

ATTY. DOCKET NO.:

, designating the United States.

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

RECEIVER-DRIVEN LAYERED MULTICAST RATE-CONTROL PROTOCOL

For which an application for Letters Patent to be filed in the United States Patent and Trademark Office was executed on even date.

For which U.S. Application Serial No.

for Letters Patent was filed in the U.S. Patent and Trademark Office on

for which an International Application was filed on

AND WHEREAS

NOKIA NETWORKS Keilalahdentie 4 01250 Espoo

Finland

hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.

NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, recxaminations and extensions thereof, and in and to any and all priority countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.

AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assign the same to said ASSIGNEE, its assigns and legal representatives and to execute any other papers that may be needed in connection with filing said applications and securing Letters Patents thereon.

AND ASSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on said application, and on any and all divisions and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.

The undersigned hereby grant(s) the law firm of Antonelli, Terry, Stout, Kraus, LLP the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

201	FULL NAME OF SOLE OR FIRST NAMED INVENTOR DIPK TROSSEN	INVENTERIS SIGNATURE	6-5-200 (
202	FULL NAME OF SECOND JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
203	FULL NAME OF THIRD JOINT INVENTOR	INVENTOR'S SICNATURE	DATE
204	FULL NAME OF FOURTH JOINT INVENTOR	inventor's signature	DATE
205	FULL NAME OF FIFTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
206	FULL NAME OF SIXTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
212	FULL NAME OF TWELFTH JOINT INVENTOR	inventor's signature	DATE
212		inventor's signature	DATE

PATENT REEL: 012469 FRAME: 0067

RECORDED: 01/18/2002