FORM PTO-1595 1-31-92 08 - 17 - 2001	EET	Patent and Trademark Office
		Attorney Docket No. 7937.0002-02 Attorney Customer Number: 22,85
To the Honorable Commissione Please record the attached origi 101814438		ATTN. BOX ASSIGNMENTS
Name of conveying party(jes)	2.	Name and address of receiving party(ies):
Samuel Bendinelli John Keane Christopher Macey	Name:	Openreach, Inc. \(\frac{\frac{13.01}{}}{}
Additional name(s) of conveying party (stratus) of ? ☐ Yes ☑ No	Internal	Address: Woburn, MA
3. Nature of conveyance:	Street A	ddress: 660 Main Street
⊠ Assignment □ Merger	City:	Woburn
☐ Security ☐ Change of Name Agreement	State:	MA Zip Code: 01801
Other:	Addition	al name(s) & Address(es) attached?
Execution Date: 7/13/01		☐ Yes
 Application number(s) or patent number(s): If this document is b the application: 	eing filed to	ogether with a new application, the execution date o
A. Patent Application Number(s):	В.	Patent Number(s):
09/832,363		1.06
Additional numbers attached?	│ ☐ Yes	⊠ No
5. Name and address of party to whom correspondence concerning document should be mailed:		Total number of applications and registrations involved:
Name: Pedro F. Suarez	7.	Total fee (37 CFR 3.41): \$40
	\boxtimes	Enclosed (Please charge deficiency to deposit account)
		Authorized to be charged to deposit account
nternal Address: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.		
Street Address: 1300 I Street, N.W.		
City: Washington, D.C.		
State: Zip: 20005-3315	8.	Deposit Account No.: <u>06-0916</u>
9. Statement and signature.		
To the best of my knowledge and belief, the foregoing information is true document.	and correct	t and any attached copy is a true copy of the origina
		_
Pedro F. Suarez, Reg. No. 45,895 Sign	ature	August 13, 2001 Date
Total number of pages including cover sheet,		
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PATENT REEL: 012071 FRAME: 0270

ASSIGNMENT

WHEREAS I/We, the below named inventors, hereinafter referred to as Assignors, have made an invention entitled:

METHODS AND SYSTEMS FOR HAIRPINS IN VIRTUAL NETWORKS

for which I/We executed an application for United States Letters Patent concurrently herewith or filed an application for United States Letters Patent on April 11, 2001 (Serial No. 09/832,363); and

WHEREAS, OPENREACH, INC., a corporation of Delaware whose post office address is 660 Main Street, Woburn, MA 01801 (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 and in consideration of the sum of One Dollar (\$1.00) in hand paid and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/We, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention, provisional application Serial No. 60/196,297, filed April 12, 2000 (if any), and this application, and all divisions, and continuations 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 the above provisional application (if any), as well as all rights to claim priority on the basis of this 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/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, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment;

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/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, I/We have hereunto set our hands.

County of Middle Sty

Samuel Bendinelli

36 Harvard Circle

Princeton, NJ 08540,

By:

Subscribed and sworn to before me this 13 day of Mary Public

OFFICIAL SEAL

SANDRA S. BAUM

NOTARY PUBLIC OF NEW JERSEY

My Commission Expires October 12, 2003

PATENT REEL: 012071 FRAME: 0271

SOLE/JOINT INVENTION (Worldwide Rights) Attorney Docket No. 7937.0002-02

County of middle sex)	SS.	Name: John Keane Address: 37 Memorial Parkway //
State of New Jersey)		Metuchen NJ 08840-2/387 By: Dete: 7 7 3 61
Subscribed and sworn to before me this	1371c day	
Jauana & Jy Juli Motary E	TIPIIC	OFFICIAL SEAL SANDRA S. BAUM NCTARY PUBLIC OF NEW JERSEY My Commission Expires October 10, 2003
County of middleset	SS.	Name: Christopher Macey Address: 54 Elm Place
State of New Jersey	13 TU	By: Red Bark, Ny107701-1928 By: Dato:
Subscribed and sworn to havore me this	day Public	of July 20 0 /
OFFICIAL SEAL SANDRA S. BA' NOTARY PUBLIC OF NEW My Commission Expires Octob	UM {	

RECORDED: 08/13/2001

PATENT REEL: 012071 FRAME: 0272