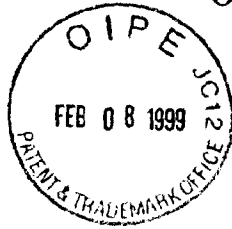


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PATENTS
TRADEMARKS
& RELATED MATTERS

SEYMOUR ROTHSTEIN
OF COUNSEL

February 3, 1999

02-12-1999

Box Assignments
Assistant Commissioner for Patents
Washington, D.C. 20231



100964894

Re: Recordation of Patent Application Assignment
(Atty Ref: MM-98130-A)

Dear Sir:

Please record the enclosed original document:

1. The name of the conveying party is: Satoshi Ono, Kazuyuki Terao, and Shin Miyakawa.
2. The name and address of the receiving party is: Nippon Telegraph and Telephone Corporation, 19-2, Nishi-Shinjuku 3-chome, Shinjuku, Tokyo, Japan; and NTT Multimedia Communications Laboratories, Inc., 1013 Centre Road, New Castle County, Wilmington, Delaware 19805.
3. The conveyance is an Assignment executed by Satoshi Ono and Kazuyuki Terao on January 12, 1999 and Shin Miyakawa on January 20, 1999.
4. The Patent Application against which the document is to be recorded is Serial No. 09/160,516, which was filed on September 24, 1998.
5. All correspondence concerning this document should be mailed to: Olson & Hierl, Ltd., 20 North Wacker Drive, 36th Floor, Chicago, IL 60606. Please return the original document to the attention of the undersigned.
6. One application is involved at a recordal fee of \$40.00 (37 C.F.R. 1.21[h]).
7. The total fee (37 C.F.R. 3.41) of \$40.00 (check no. 1311) is enclosed.

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8. Please charge any deficiency or credit any overpayment to Deposit Account No. 15-0508.
9. To the best of my knowledge and belief, the foregoing information is true and correct, and the enclosed is the original document.

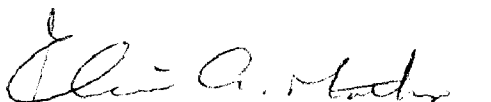
Respectfully submitted,

By 
Seymour Rothstein
(Reg. No. 19,369)

SR:eam
Enclosure

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Box Assignments, Assistant Commissioner for Patents, Washington, D.C. 20231 on February 3, 1999.


Elaine A. Mathis

ASSIGNMENTCase No.: **MM-98130-A**Serial No.: 09/160,516Inventors: **Satoshi ONO, Kazuyuki TERAOKA, and Shin MIYAKAWA**Date of Execution January 12, 1999
of Application: and January 20, 1999Filing Date: September 24, 1998

In consideration of One Dollar (\$1.00) and other good and valuable considerations in hand paid, the receipt and sufficiency whereof are hereby acknowledged, the undersigned hereby assign to:

**Nippon Telegraph and Telephone Corporation, a Japanese Corporation
and**

NTT Multimedia Communications Laboratories, Inc., a Delaware Corporation

their successors and assigns, the entire right, title and interest in the invention or improvements of the undersigned disclosed in an application for Letters Patent of the United States, entitled:

**Packet Multiplexer With Automatic Communication
Path Optimization Based on Loop Detection**

and identified as:

Case No. MM-98130-A

in the offices of Olson & Hierl, Ltd. and in said application and any and all other applications, both United States and foreign, which the undersigned may file, either solely or jointly with others, on said invention or improvements, and in any and all Letters Patent of the United States and foreign countries, which may be obtained on any of said applications, and in any reissue or extension of such patents, and further assign to said assignees the priority right provided by the International Convention.

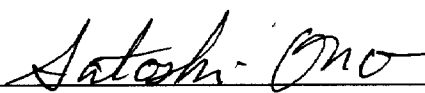
The undersigned hereby authorize and request the Commissioner of Patents and Trademarks to issue said Letters Patent to said assignees.

The undersigned hereby authorize and request the attorneys of record in said application to insert in this assignment the filing date and serial number of said application when officially known.

The undersigned warrant themselves to be the owner of the entire right, title and interest in said invention or improvements and to have the right to make this assignment, and further warrant that there are no outstanding prior assignments, licenses, or other encumbrances on the interest herein assigned.

For said considerations the undersigned hereby agree, upon the request and at the expense of said assignees, their successors and assigns, to execute any and all divisional, continuation and substitute applications for said invention or improvements, and any necessary oath, affidavit or declaration relating thereto, and any application for the reissue or extension of any Letters Patent that may be granted upon said application, and any and all applications and other documents for Letters Patent in foreign countries on said invention or improvements, that said assignees, their successors or assigns may deem necessary or expedient, and for the said considerations the undersigned authorize said assignees to apply for patents for said invention or improvements in their own name in such countries where such procedure is proper and further agrees, upon the request of said assignees, their successors and assigns, to cooperate to the best of the ability of the undersigned with said assignees, their successors and assigns, in any proceedings or transactions involving such applications or patents, including the preparation and execution of preliminary statements, giving and producing evidence, and performing any and all other acts necessary to obtain said Letters Patent, both United States and foreign, and vest all rights therein hereby conveyed in the assignees, their successors and assigns, whereby said Letters Patent will be held and enjoyed by the said assignees, their successors and assigns, to the full end of the term for which said Letters Patent will be granted, as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment had not been made.

WITNESS my hand and seal this 12th day of January, ~~1998~~ 1999.



Satoshi ONO

Country of JAPAN

The foregoing instrument was acknowledged before me this _____ day of

_____, 1998 by Satoshi ONO.

NOTARY PUBLIC

WITNESS my hand and seal this 12th day of January, ~~1998~~ 1999.

Kazuyuki Terao
Kazuyuki TERA0

Country of Japan

The foregoing instrument was acknowledged before me this _____ day of _____, 1998 by **Kazuyuki TERA0**.

NOTARY PUBLIC

WITNESS my hand and seal this 20th day of January, ~~1998~~ 1999.

Shin Miyakawa
Shin MIYAKAWA

Country of Japan

The foregoing instrument was acknowledged before me this _____ day of _____, 1998 by **Shin MIYAKAWA**.

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