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| Louis L. HSU Gregory John FREDEMAN Rajiv V. JOSHI   | Name:   | International Business M<br>Corporation | <b>Aachines</b>                                 |
| Toshiaki KIRIHATA Additional name(s) of conveying party(ies) attached?  [] yes [X] no   | Internal Address:   |   | PTO   148                                       |
| 3. Nature of Conveyance   | Street Address:   | New Orchard Road                        | 153   |
| [X] Assignment [] Merger  | City:   | Armonk                                  | 0/1   |
| [] Security Agreement [] Change of Name [] Other  | Country/State/Zip:  | New York 10504                          | 310   |
| Execution Date: <u>03/26/02</u> , <u>03/27/02</u> , <u>04/03/02</u> , <u>03/27/0</u> 2  | Additional names and add  | dresses attached? [] yes []             | () no   |
| 4. Application number(s) or patent number(s):   |   |   |   |
| If this document is being filed together with a new application,  | the execution date of the ap  | oplication is 04/03/02;                 |   |
| A. Patent Application No.(s)  | B. Patent No.(s   |   |   |
| N/A   | N/A   | 10/11534                                | 0   |
| Additional numbers atta   | ched? [] Yes [X] No   | 10111019                                | 0   |
| 5. Name and address of party to whom correspondence concerning document should be mailed:   | 6. Total number of appl   | ications and patents involve<br>[1]     | ed:   |
| Name: Paul J. Farrell, Esq.   | 7. Total fee (37 C.F.R.   | 3.41)                                   | \$ 40.00  |
| Internal Address: Dilworth & Barrese, LLP   | [] Enclosed [X] Authorized to be  | charged to deposit accoun               | t   |
| Street Address: 333 Earle Ovington Boulevard  | 8. Deposit account number: 50-0510/IBM (Yorktown  |   |   |
| City: Uniondale State: NY ZIP: 11553  | Heights) (Attach duplicate copy of this page if paying by deposit account)  |   |   |
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| 9. Statement and signature.  To the best of my knowledge and belief, the foregoing informat original document.  Paul J. Farrell, Esq. Name of Person Signing Reg. No. 33,494  Total numbers | ion is true and correct and  Signature  mber of pages including co  | April 3, 2002                           |   |
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|---------------------------------------|-------------------------------------|---|
| ASSIGNOR(S):                          | Louis L. Hsu, Gregory J             | John Fredeman, Rajiv V. Joshi and Toshiaki Kirihata   |
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| (If assignment is<br>PTO add the foll |                                     | hom invention was previously assigned and this was recorded in  |
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| Frame                                 |                                     |   |
| nereby sells, as:                     | signs and transfers to              |   |
| ASSIGNEE:                             |                                     | International Business Machines Corporation (Type or print name of ASSIGNEE)  New Orchard Road  Armonk, New York 10504  Address |
|                                       |                                     | U.S.A. Nationality  |
| and the succes                        | sors, assigns and legal re          | epresentatives of the ASSIGNEE (complete one of the following)  |
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|                                       | (check                              | the following box if foreign rights   |
|                                       | ,                                   | (Assignment of Invention [16-3] - page 1 of 3)  |

PATENT REEL: 012776 FRAME: 0323 X

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| (c)  |          | U.S. application serial no. 0 / filed on   |  |
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ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment; Assignment of Invention [16-3] - page of 3)

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

(Assignment of Invention [16-3] - page 2 of 3)

PATENT REEL: 012776 FRAME: 0324

| IN WITNESS WHEREOF, I/We have             |   |
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|   | (Date of signing).  |
| WARNING: Date signing must be the same as | the date of execution of the application if item (a) was checked ab |
| John the                                  | 3-26-02   |
| LOUIS L. HSU                              | Dated   |
| Jugary John Firding                       | 3-17-02   |
| GRÉGORY JOHN FREDEMAN                     | Dated   |
| RAJIV V JOSHI                             | Dated   |
| Julia Ke                                  | 3-27-02   |

Dated

TOSHIAKI KIRIHATA

(Assignment of Invention [16-3] - page 3 of 3)

PATENT REEL: 012776 FRAME: 0325

| IN WITNESS WHEREOF, I/W                  | e have hereunto set hand and seal this(Date of signing). |  |  |
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| LOUIS L. HSU                             | Dated  |  |  |
| GREGORY JOHN FREDEMAN                    | Dated  |  |  |
| Rajiv V. Joshi                           | April 3, 2002  |  |  |
| RAJI♥ V. JOSHI                           | Dated  |  |  |
| TOSHIAKI KIRIHATA                        | Dated  |  |  |

(Assignment of Invention [16-3] - page 3 of 3)

PATENT REEL: 012776 FRAME: 0326

**RECORDED: 04/03/2002**