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OMB No. 0651-0027 (exp. 5/31/2002)
P09A/REV03

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Patent and Trademark Office

PATENTS ONLY

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To the Honorable Director of the United States Patent and Trademark Office: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Timothy J. Dalton, Sanjit K. Das, Brett H. Engel, Brian W. Herbst, Habib Hichri, Bernd E. Kastenmeir, Kelly Malone, Jeffrey R. Marino, Arthur Martin, Vincent J. McGahay, Ian D. Melville, Chandrasekhar Narayan, Kevin S. Petrarca, Richard Volant

Additional names(s) of conveying party(ies)

☐ Yes ☒ No

2. Name and address of receiving party(ies):

Name: International Business Machines CorporationAddress: New Orchard RoadCity: ArmonkState/Prov.: NYCountry: USAZIP: 10504

3. Nature of conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name☐ OtherExecution Date: 12/6/02, 12/5/02, 12/5/02, 12/5/02, 12/29/02, 12/09/02, 12/10/02, 12/6/02, 12/6/02, 12/5/02, 12/5/02, 12/11/02, 12/5/02,

Additional name(s) & address(es)

☐ Yes☒ No

4. Application number(s) or patent numbers(s):

If this document is being filed together with a new application, the correspondence in the application is:

Patent Application No.

Filing date

10/319,032

12/12/02

HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER OF PATENTS AND TRADE MARKS, WASHINGTON, D.C. 20231, ON July 3, 2003

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☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: SEAN F. SULLIVAN, ESQ.Registration No. 38,328Address: CANTOR COLBURN LLP55 GRIFFIN ROAD SOUTHCity: BLOOMFIELDState/Prov.: CTCountry: USAZIP: 06002

6. Total number of applications and patents involved:

1

7. Total fee (37 CFR 3.41):.....\$ 40.00☐ Enclosed - Any excess or insufficiency should be credited or debited to deposit account☒ Authorized to be charged to deposit account

8. Deposit account number:

09-0458FI-255

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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.

Tiffany L. Townsend, Reg. No. 43,199

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Signature

Date

Total number of pages including cover sheet, attachments, and

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PATENT

REEL: 014086 FRAME: 0460

700050375

CH \$40.00 090458 10319032

Docket No. FIS920020164US1

A S S I G N M E N T

Whereas, We

- Inventor (1) Timothy J. Dalton of 72 Sarah Bishop Rd. of Ridgefield
County of Fairfield and State of CT 06877
- Inventor (2) Sanjit K. Das of 149 Academy Street City of Poughkeepsie
County of Dutchess and State of NY 12601
- Inventor (3) Brett H. Engel of 15 Fishkill Hook Rd. City of Hopewell Junction
County of Dutchess and State of NY 12533
- Inventor (4) Brian W. Herbst of 156 Palmer Circle of Poughquag
County of Dutchess and State of NY 12570
- Inventor (5) Habib Hichri of 3E Canterbury Lane City of Wappingers Falls
County of Dutchess and State of NY 12590
- Inventor (6) Bernd E. Kastenmeir of 2814 Pearl St. City of Austin
County of Travis and State of TX 78705
- Inventor (7) Kelly Malone of 118 Rinaldi Blvd. City of Poughkeepsie
County of Dutchess and State of NY 12601
- Inventor (8) Jeffrey R. Marino of 265 Osborne Hill Rd. City of Fishkill
County of Dutchess and State of NY 12524
- Inventor (9) Arthur Martin of 225-25 113th Ave. City of Queens Village
County of Queens and State of NY 11429
- Inventor (10) Vincent J. McGahay of 5 Yates Blvd. City of Poughkeepsie
County of Dutchess and State of NY 12601
- Inventor (11) Ian D. Melville of 233 Sterling Place City of Highland
County of Ulster and State of NY 12528
- Inventor (12) Chandrasekhar Narayan of 99 Country Club Rd.
City of Hopewell Junction
County of Dutchess and State of NY 12533
- Inventor (13) Kevin S. Petrarca of 28 Laurie Lane City of Newburgh
County of Orange and State of NY 12550
- Inventor (14) Richard P. Volant of 16 Fulton Dr. City of New Fairfield
County of Fairfield and State of CT 06812

Docket No. FIS920020164US1

Page 2 of 4

ASSIGNMENT (Continued)

have invented certain improvements in

STRUCTURE AND METHOD FOR REDUCING THERMO-MECHANICAL STRESS IN STACKED VIAS

and executed, respectively, a United States patent application therefore on

(1) <u>12/6/02</u>	(2) <u>12-5-02</u>
(3) <u>12/5/02</u>	(4) <u>12-5-02</u>
(5) <u>12/25/02</u>	(6) _____
(7) <u>12/10/02</u>	(8) <u>12/6/02</u>
(9) _____	(10) <u>12/5/02</u>
(11) <u>12/5/02</u>	(12) <u>12/11/02</u>
(13) <u>12-5-02</u>	(14) <u>12-5-02</u>

Whereas, **INTERNATIONAL BUSINESS MACHINES CORPORATION**, a corporation of New York, having a place of business at Armonk, New York 10504, (hereinafter called IBM,) desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefor;

Docket No.FIS920020164US1

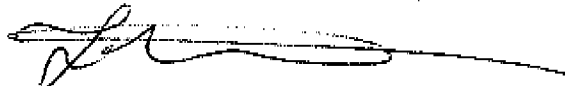
Page 3 of 4

ASSIGNMENT (Continued)


Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, and, the above named, hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents and Trademarks to issue any Letters Patent granted upon the inventions set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

Signed

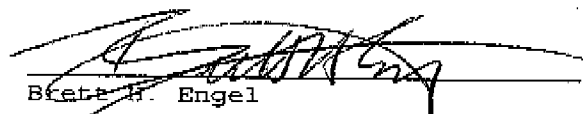
(1) at East Fishkill, NY
on 12/6/02


Timothy J. Dalton


(2) at East Fishkill, NY
on 12/5/02


Sanjit K. Das

(3) at EAST FISHKILL, NY
on 12/5/02


Brett H. Engel

(4) at East Fishkill, NY
on 12-5-02


Brian W. Herbst

(5) at East Fishkill, NY
on 12/29/02


Habib Hachri


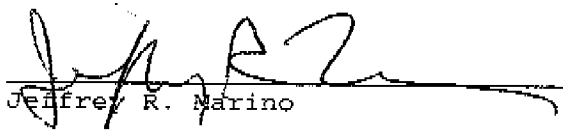
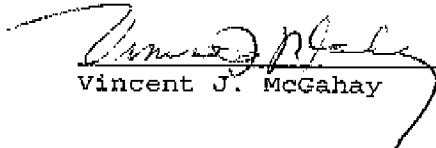

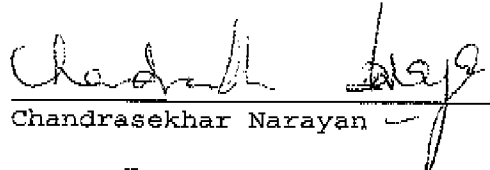

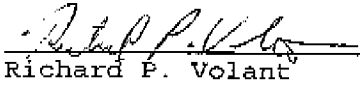
(6) at _____
on _____

Bernd E. Kastenmeier

Docket No. FIS920020164US1

Page 4 of 4

ASSIGNMENT (Continued)

- (7) at East Fishkill
on 12/10/02

Kelly Malone
- (8) at East Fishkill, NY
on 12/6/02

Jeffrey R. Marino
- (9) at _____
on _____
Arthur Martin
- (10) at East Fishkill, NY
on 12/5/02

Vincent J. McGahay
- (11) at East Fishkill, NY
on 12/5/02

Ian D. Melville
- (12) at East Fishkill
on Dec - 11 - 02

Chandrasekhar Narayan
- (13) at East Fishkill
on 12/5/02

Kevin S. Petrarca
- (14) at East Fishkill
on 12-5-02

Richard P. Volant

Docket No.FIS920020164US1

A S S I G N M E N T

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County of Dutchess and State of NY 12533
- Inventor (4) Brian W. Herbst of 156 Palmer Circle of Poughquag
County of Dutchess and State of NY 12570
- Inventor (5) Habib Michri of 3E Canterbury Lane City of Wappingers Falls
County of Dutchess and State of NY 12590
- Inventor (6) Bernd R. Kastenmeir of 2814 Pearl St. City of Austin
County of Travis and State of TX 78705
- Inventor (7) Kelly Malone of 118 Rinaldi Blvd. City of Poughkeepsie
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County of Dutchess and State of NY 12524
- Inventor (9) Arthur Martin of 225-25 113th Ave. City of Queens Village
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- Inventor (11) Ian D. Melville of 233 Sterling Place City of Highland
County of Ulster and State of NY 12528
- Inventor (12) Chandrasekhar Naxayan of 99 Country Club Rd.
City of Hopewell Junction
County of Dutchess and State of NY 12533
- Inventor (13) Kevin S. Petzarca of 29 Laurie Lane City of Newburgh
County of Orange and State of NY 12550
- Inventor (14) Richard P. Volant of 16 Fulton Dr. City of New Fairfield
County of Fairfield and State of CT 06812

Docket No.FIS920020164US1
Page 2 of 4

ASSIGNMENT (Continued)

have invented certain improvements in

STRUCTURE AND METHOD FOR REDUCING THERMO-MECHANICAL STRESS IN STACKED VIAS

and executed, respectively, a United States patent application therefore on

- | | |
|---------------------|---------------------|
| (1) _____ | (2) <u>12-5-02</u> |
| (3) <u>12/5/02</u> | (4) <u>12-5-02</u> |
| (5) _____ | (6) <u>12/09/02</u> |
| (7) _____ | (8) <u>12/6/02</u> |
| (9) _____ | (10) <u>12/5/02</u> |
| (11) <u>12/5/02</u> | (12) _____ |
| (13) <u>12-5-02</u> | (14) <u>12-5-02</u> |

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10506, (hereinafter called IBM,) desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefor;

Docket No. FTS920020164US1

Page 3 of 4

ASSIGNMENT (Continued)

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, and, the above named, hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents and Trademarks to issue any Letters Patent granted upon the inventions set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

Signed

(1) at _____
on _____

Timothy J. Dalton

(2) at East Fishkill, NY
on 12/5/02

Sanjit K. Das

(3) at EAST FISHKILL, NY
on 12/5/02

Brett H. Engel

(4) at East Fishkill, NY
on 12-5-02

Brian W. Herbst

(5) at _____
on _____

Habib Michri

(6) at Austin, TX
on 12/09/02




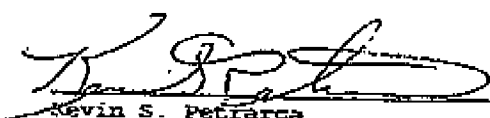
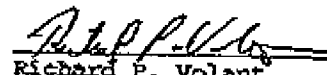
Bernd E. Kastenmeier

PATENT

REEL: 014086 FRAME: 0467

Docket No. F15920020164US1
Page 4 of 4

ASSIGNMENT (Continued)

- (7) at _____
on _____
Kelly Malone
- (8) at East Fishkill, NY
on 12/6/02

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- (9) at _____
on _____
Arthur Martin
- (10) at East Fishkill, NY
on 12/5/02

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- (11) at East Fishkill, NY
on 12/5/02

Ian D. Melville
- (12) at _____
on _____
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- (13) at East Fishkill
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Kevin S. Petrarca
- (14) at East Fishkill
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Richard P. Volant

Docket No. FIS920020164US1

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Docket No. FIS920020164US1

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Docket No.FIS920020164US1

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Signed

(1)	at _____	_____
	on _____	Timothy J. Dalton
(2)	at _____	_____
	on _____	Sanjit K. Das
(3)	at _____	_____
	on _____	Brett H. Engel
(4)	at _____	_____
	on _____	Brian W. Herbst
(5)	at _____	_____
	on _____	Habib Hichri
(6)	at _____	_____
	on _____	Bernd E. Kastenmeier

Docket No.FIS920020164US1

Page 4 of 4

ASSIGNMENT (Continued)

(7)	at _____	_____
	on _____	Kelly Malone
(8)	at _____	_____
	on _____	Jeffrey R. Marino
(9)	at <u>QUEENS VILLAGE, NY</u>	<u>Arthur Martin</u>
	on <u>12/6/02</u>	Arthur Martin
(10)	at _____	_____
	on _____	Vincent J. McGahay
(11)	at _____	_____
	on _____	Ian D. Melville
(12)	at _____	_____
	on _____	Chandrasekhar Narayan
(13)	at _____	_____
	on _____	Kevin S. Petrarca
(14)	at _____	_____
	on _____	Richard P. Volant