

P.04

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Commissioner of Patents & Trademarks, Box Assignment  
Washington, D. C. 20231  
PATENT  
REF: 9394 FRAME: 0200

Date of Deposit: 1 August 1997  
(IBM Docket) YO997-167

(JOINT FORM)

## Assignment

Whereas, we

INVENTOR  
AND CITY(1) James Robert Harold Challenger  
County of Putnamof Garrison  
and State of New YorkINVENTOR  
AND CITY(2) Paul Michael Dantzig  
County of Westchesterof Scarsdale  
and State of New YorkINVENTOR  
AND CITY(3) Arun K. Iyengar  
County of Westchesterof Yorktown Heights  
and State of New YorkINVENTOR  
AND CITY(4) Gerald A. Spivak  
County of Westchesterof Mohegan Lake  
and State of New York

TITLE

have invented certain improvements in  
Determining How Changes to Underlying Data Affect Cached Objects

DATES THAT

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

INVENTORS

(1) August 1, 1997, and (2) August 1, 1997,  
(3) August 1, 1997, and (4) August 1, 1997,SIGNED THE  
DECLARATION

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;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, we, 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 to issue any Letters Patent granted upon the inventions set forth in said applications 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 and sealed


CITY AND  
DATE(1) at Yorktown Heights, NY  
on August 1, 1997

 SIGNATURE  
(James R. H. Challenger) INVENTOR  
FIRST NAME MIDDLE INITIAL LAST NAME

CITY AND  
DATE(2) at Yorktown Heights, NY  
on August 1, 1997

 SIGNATURE  
(Paul M. Dantzig) INVENTOR  
FIRST NAME MIDDLE INITIAL LAST NAME

CITY AND  
DATE(3) at Yorktown Heights, NY  
on August 1, 1997

 SIGNATURE  
(Arun K. Iyengar) INVENTOR  
FIRST NAME MIDDLE INITIAL LAST NAME

REEL: 9394 FRAME: 0201

CITY AND (4) at Yorktown Heights, NY  
DATE on August 1, 1997,

*[Signature]*  
(Gerald A. Spivak) SIGNATURE  
FIRST NAME MIDDLE INITIAL LAST NAME INVENTOR

State of New York )ss.:  
County of Westchester )

INVENTOR (1) On this 1st day of August 1997, before me personally came James Robert Harold Challenger to me personally know, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

State of New York )ss.:  
County of Westchester )

*[Signature]*  
Notary  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/99

INVENTOR (2) On this 1st day of August 1997, before me personally came Paul Michael Dantzig to me personally know, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

State of New York )ss.:  
County of Westchester )

*[Signature]*  
Notary  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/99

INVENTOR (3) On this 1st day of August 1997, before me personally came Arun K. Iyengar to me personally know, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

State of New York )ss.:  
County of Westchester )

*[Signature]*  
Notary  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/99

INVENTOR (4) On this 1st day of August 1997 before me personally came Gerald A. Spivak to me personally know, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

State of )ss.:  
County of Westchester )

*[Signature]*  
Notary  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/99