FORM PTO-1595 (Rev. 4-93) MPD //97 OMG Na. 0651-0011 (exp. 4/94) //97 10082	TO 88942099 P.04 .SFTET U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office press Mail Label No.: EM602149955U te of Deposit: 1 August 1997 marks: Please record the attached original documents or copy thereof.	
1. Name of conveying party(ies) James R. H. Challenger, Paul M. Dantzig, Arun K. Iyengar and Gerald A. Spivak	<ol> <li>Name and address of receiving party(ies)</li> <li>Name: IBM Corporation</li> </ol>	
Additional name(s) of conveying party(ies) attached? Yes <u>x</u> No	Internal Address:	
3. Nature of conveyance: <u>x</u> Assignment Merger	Street Address: Old Orchard Road City: Armonk State: New York Zip: 10504	
Security Agreement Change of Name Other		
Execution Date: 1st August 1997	Additional name(s) & address(es) attached?Yes _x_No	
A. Patent Application No. (s) YO997-167 Additional numbers attache	B. Patent No. (s) $/20.$ $/30.$ /6. $/6.$ $/6./6.$ $/6./6.$	
<ul> <li>5. Name and address of party to whom correspondence concerning document should be mailed:</li> <li>Name: Kevin M. Jordan</li> <li>Internal Address: Intellectual Property Law 39-249 Yorktown</li> <li>Street Address: P. O. Box 218, Route 134</li> <li>City: Yorktown Heights State: NY Zip: 10598</li> </ul>	<ul> <li>6. Total number of applications and patents involved: 1</li></ul>	
chy. Torkiowi Holgins Blate. 141 Zip. 10596	(Attach duplicate copy of this page is paying by deposit account)	
9. Statement and signature. To the best of my knowledge and belief, the foregoing it	USE THIS SPACE <i>Juse This space</i> <i>formation</i> is true and correct and any attached copy is a true	
copy of the original document.         Kevin M. Jordan (Reg. No. 40,277)         Name of person signing         Total number of pages including cover sheet         Mail documents to be recorded	Signature $g/i/97$ $K_i$ attachments and document: _3 with required cover sheet information to:	

Commissioner of Patents & Trademarks, Box Assignments TENT Washington, D. (2023) L: 9394 FRAME: 0200

Signed and sealed

TO 88942099 Date of Deposit: 1 August 1997 (IBM Docket) YO997-167

(JOINT FORM)

## Assignment

INVENTOR	Whereas, we		
AND CITY	(1) James Robert Harold Challenger County of Putnam	of Garrison and State of New York	
INVENTOR			
AND CITY	(2) Paul Michael Dantzig County of Westchester	of Scarsdale and State of New York	
INVENTOR			
AND CITY	(3) Arun K. Iyengar County of Westchester	of Yorktown Heights and State of New York	
INVENTOR			
AND CITY	(4) Gerald A. Spivak County of Westchester	of Mohegan Lake and State of New York	
,			
	have invented certain improvements in		
TITLE	Determining How Changes to Underlying Data Affect Cached Objects		
	and executed, respectively, a United States patent ap	plication therefor on	
DATES THAT	(1) August 1, 1997, and (2) August 1	, 1997 ,	
INVENTORS	(3) August 1, 1997, and (4) August 2	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.

(1) at Yorktown Heights, NY CITY AND 19 97 SIGNATURE DATE on August 1, Challenger )INVENTOR R. H. (James MIDDLE INITIAL LAST NAME FIRST NAME CITY AND (2) at Yorktown Heights, NY TT SIGNATURE DATE on Auguet 1, 1997. (Paul M. Dantzig ) INVENTOR MIDDLE INITIAL LAST NAME FIRST NAME (3) at Yorkcown Heights, NY CITY AND On August 1, 19 97, SIGNATURE DATE Ivengar ) INVENTOR Κ. (Anın MIDDLE INITIAL LAST NAME ATENT FIRST NAME

TO 88942099 DCT 22 '98 13:32 FR . ... Page 2 of 2 CITY AND (4) at Yorktown Heights, NY DATE on August 1, 1997. SIGNATURE Gerald Spivak ) INVENTOR FIRST NAME MIDDLE INITIAL LAST NAME State of New York )ss.: County of Westchester On this 1stday of August 1997, before me personally came INVENTOR James Robert Harold Challenger to me personally know, and known to me to be the (1) 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. LUNELE FOURGEOT State of New York )ss.: NOTARY PUBLIC, JIAN O New York County of Westchester No. 4502670 Qualified in Westchester County Commission Expires 06 ( 30) 99 1997, before me personally came On this 1st day of August INVENTOR 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 (2) that he executed the same as his free act and deed. Notary LUCILLE FOURGEOT NOTARY PUELIC, Jake of New York No. 4502670 State of New York )ss.: Qualified in Westchester County County of Westchester Commission Expires 05/30/79 On this lat day of August 1997, before me personally came INVENTOR Arun K. Iyengar to me personally know, and known to me to be the (3) 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. Notary LUCILLE FOURGEON NOTARY PUBLIC, Jtale of New York No. 4502870 State of New York )\$5.: Qualified in Westchester County Commission Expires 26 / 30 / 49 County of Westchester ) On this lst day of August 19 97 before me personally came INVENTOR Geraid A. Spivak to me personally know, and known to me to be the (4) 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 ) LUCILLE FOURGEDT NOTARY PUBLIC. Jate of New York No. 4502670 Qualified in Westchester County Commission Expires 06/30

PATENT \*\* TOTAL PAGE.06 \*\* REEL: 9394 FRAME: 0202

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RECORDED: 08/01/1997