(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 March 2001 (08.03.2001)

PCT

(10) International Publication Number
WO 01/16753 A3

(51) International Patent Classification[7]: G06F 11/34

(21) International Application Number: PCT/US00/24303

(22) International Filing Date: 31 August 2000 (31.08.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/151,824 1 September 1999 (01.09.1999) US
09/484,686 17 January 2000 (17.01.2000) US

(71) Applicant: MERCURY INTERACTIVE CORPORATION [US/US]; 1325 Borregas Avenue, Sunnyvale, CA 94089 (US).

(72) Inventor: LANDAN, Amnon; 22855 Aspen Drive, Los Altos, CA 94022 (US).

(74) Agent: ALTMAN, Daniel, E.; Knobbe, Martens, Olson and Bear, LLP, 620 Newport Center Drive, 16th Floor, Newport Beach, CA 92660 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

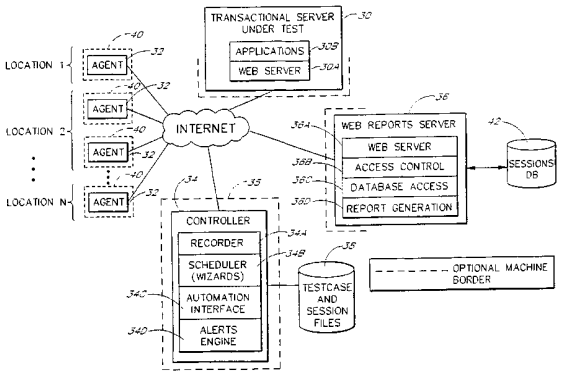
(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(88) Date of publication of the international search report:
29 November 2001

[Continued on next page]

(54) Title: POST-DEPLOYMENT MONITORING OF SERVER PERFORMANCE



(57) Abstract: A monitoring system allows users to monitor the post-deployment performance of a web-based or other transactional server (30). The system includes an agent component ("agent") (32) which can be installed on agent computers (40) that have access to the transactional server (30), including computers of actual users of the transactional server (30). The agent (32) simulates the actions of actual users of the transactional server (30) while monitoring the server's performance. The specific transactions to be performed by the agent computers (40) are specified by testcases that are dispatched to the agent computers (40) using a controller (34). As each agent computer (40) executes a testcase, it reports the execution results (performance data) in real-time to a web-based reports server (36) which stores the results in a centralized database (42). The performance data may include, for example, server response times, screen display sequences for failed transactions, measured segment delays along network paths, and identifiers of "broken" web site links. Authorized personnel can access the reports server (36) using a standard web browser to view the collected performance data via a series of customizable reports. Using the controller (34), the user can also assign testcase execution schedules to the agent computers (40), including periodic schedules that provide for continuous or near-continuous monitoring of the transactional server (30). In addition, the user can specify alert conditions which cause personnel to be immediately notified (e.g., by pager) of problems. The controller (34) and the reports server (36) also provide functions for allowing the user to monitor the operation of the transactional server (30) according to the attributes of the agent computers (40), such as the locations, organizations, and ISPs of such computers.

WO 01/16753 A3

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

Inte. onal Application No
PCT/US 00/24303

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F11/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
INSPEC, EPO-Internal, WPI Data, PAJ, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	C. NOLAN: "A Look at e-Test Suite 3.1 by RSW" SOFTWARE TESTING & QUALITY ENGINEERING, 'Online! July 1999 (1999-07), pages 60-61, XP002155308 Retrieved from the Internet: <URL:http://www.rswsoftware.com/news/articles/ja99.pdf> 'retrieved on 2000-11-28!	1,5,7, 11,17, 22-24, 27,31
A	the whole document	8,25,26

X	US 5 577 197 A (BECK LONNIE P) 19 November 1996 (1996-11-19)	1,2,5,6, 15,17, 19,23, 24,27,33
A	column 2, line 53 - last line column 4, line 35 - line 42 column 4, line 60 - last line column 6, line 31 -column 8, line 65	29

	-/--	

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 March 2001	23. 04 2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Herreman, G

2

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Inter onal Application No
PCT/US 00/24303

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X Y	GB 2 307 318 A (MITSUBISHI ELECTRIC CORP) 21 May 1997 (1997-05-21) abstract	17, 22-24,31 1-5,7, 11,13, 15,16, 18-21, 27,29, 30,32-35
A	page 1, line 9 - line 11 page 14, line 16 -page 16, last line page 25, line 15 - last line page 29, line 15 - line 22; claims	15,19, 28,39-43
Y	LARSEN A K: "ALL EYES ON IP TRAFFIC. NEW APPS CAN MONITOR INTERNET AND INTRANET TRADDIC, BUT DO THEY DELIVER ENOUGH DATA TO HOLD ISPS TO THEIR PROMISES?" DATA COMMUNICATIONS,US,MCGRAW HILL. NEW YORK, vol. 26, no. 4, 21 March 1997 (1997-03-21), pages 54,56-60,62, XP000659549 ISSN: 0363-6399 page 54, right-hand column, line 14 - line 25 page 57, right-hand column, line 1 - line 4 page 58, left-hand column, line 2 - line 6 page 59, left-hand column, line 18 -right-hand column, line 27 page 60, left-hand column, line 15 -page 62, left-hand column, line 11 page 62, left-hand column, line 27 -right-hand column, line 4	1-5,7, 11,13, 15,16, 18-21, 27,29, 30,32-35
A	"METHOD FOR PERFORMING AUTOMATED PSEUDO VIDEO RECORDING OF REMOTE COMPUTER SYSTEMS" IBM TECHNICAL DISCLOSURE BULLETIN,US,IBM CORP. NEW YORK, vol. 37, no. 4A, 1 April 1994 (1994-04-01), page 495 XP000446751 ISSN: 0018-8689 the whole document	14,44,47
A	US 5 684 945 A (CHEN JAMES NEWMAN ET AL) 4 November 1997 (1997-11-04) abstract column 6, line 61 -column 7, line 8 column 7, line 60 - line 65 column 10, line 46 -column 11, line 15 column 84, line 42 -column 85, line 27	14,44,47

-/--

2

INTERNATIONAL SEARCH REPORT

Inte. .onal Application No
PCT/US 00/24303

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 00 19320 A (NEXTPOINT NETWORKS) 6 April 2000 (2000-04-06) abstract page 3, line 1 -page 6, line 6 page 8, line 4 -page 11, line 20 page 19, line 12 - line 16; claims 1-33; figure 2 -----	1-3,9, 11, 14-16, 18,19, 21,34-43

2

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/24303

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-13 15-43 45-46

1.1. Claims: 1-8 11-13 15-28 31-33 39-43 45-46
Performance monitoring of deployed transactional server

1.2. Claim : 9 10 29 30 34
Alert management in a client/server environment

2. Claim : 14 44 47

Sequence of screen displays capturing for failed transactions

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter ional Application No
PCT/US 00/24303

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5577197 A	19-11-1996	NONE	
GB 2307318 A	21-05-1997	JP 9138777 A	27-05-1997
		US 5889955 A	30-03-1999
US 5684945 A	04-11-1997	US 5553235 A	03-09-1996
WO 0019320 A	06-04-2000	AU 1200000 A	17-04-2000
		AU 6274099 A	17-04-2000
		WO 0019664 A	06-04-2000