

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 November 2003 (20.11.2003)

PCT

(10) International Publication Number
WO 2003/096227 A3

(51) International Patent Classification⁷: G06F 17/30

(21) International Application Number:
PCT/US2003/014431

(22) International Filing Date: 9 May 2003 (09.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/140,818 9 May 2002 (09.05.2002) US

(71) Applicant (for all designated States except US): ORACLE INTERNATIONAL CORPORATION [US/US]; 500 Oracle Parkway, M/S 50P7, Redwood Shores, CA 94065 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): NORCOTT, William, D. [US/US]; 18 Powers Road, Hollis, NH 03049 (US). BREY, Michael [—/US]; c/o Oracle International Corporation, 500 Oracle Parkway, Redwood Shores, CA 94065 (US). GALANES, John [—/US]; c/o Oracle International Corporation, 500 Oracle Parkway, Redwood-shores, CA 94065 (US). BINGHAM, Paula [—/US]; c/o Oracle International Corporation, 500 Oracle Parkway,

Redwood Shores, CA 94065 (US). GUZMAN, Raymond [—/US]; c/o Oracle International Corporation, 500 Oracle Parkway, Redwood Shores, CA 94065 (US).

(74) Agents: CARLSON, Stephen, C. et al.; Ditthavong & Carlson, P.C., 10507 Braddock Rd, Suite A, Fairfax, VA 22032 (US).

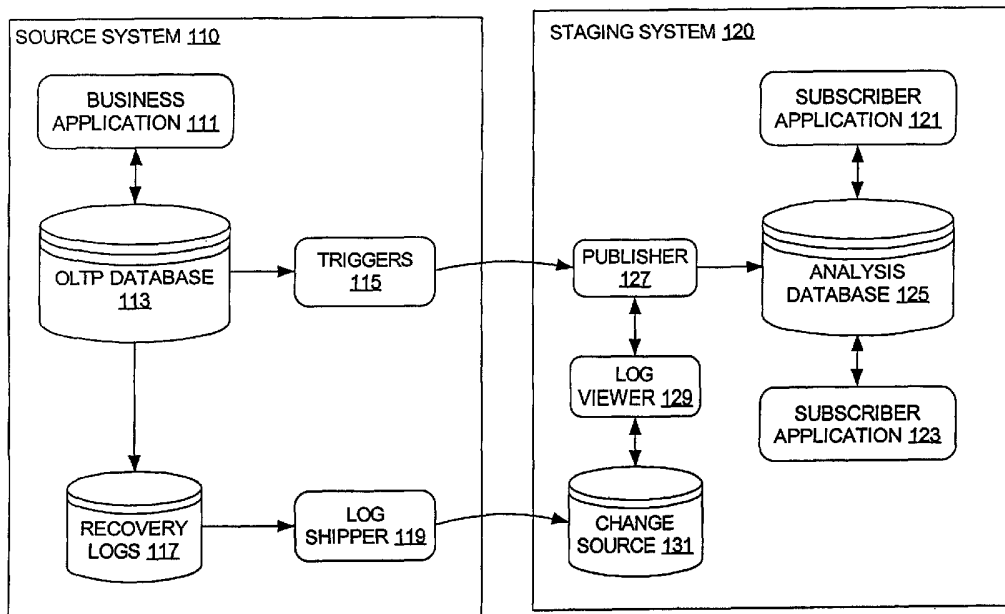
(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD,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

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

Published:
— with international search report

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR CHANGE DATA CAPTURE IN A DATABASE SYSTEM



(57) Abstract: A method of change data captured is disclosed, in which modifications made to on-line transaction processing (OLTP) tables(e.g. inserts, updates, and deletes) are maintained in a database object, referred to as a change table. The change data in the change table is then made available to analysis applications in a controlled manner, such as in accordance with a publication-subscription model.

WO 2003/096227 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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.

(88) Date of publication of the international search report:

3 June 2004

INTERNATIONAL SEARCH REPORT

Int. Patent Application No
PCT/US 03/14431

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/30

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

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)

EPO-Internal, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 603 024 A (GOLDRING ROBERT D) 11 February 1997 (1997-02-11) abstract column 1, line 22 -column 2, line 19 column 2, line 66 -column 3, line 47 column 4, line 29 -column 5, line 47 column 6, line 28 -column 7, line 56 --- -/--	1-15

Further documents are listed in the continuation of box C.

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.
- *G* document member of the same patent family

Date of the actual completion of the international search

7 April 2004

Date of mailing of the international search report

16/04/2004

Name and mailing address of the ISA

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

Authorized officer

Boyadzhiev, Y

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/14431

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>BELLO R G ET AL: "Materialized views in Oracle" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON VERY LARGE DATA BASES, XX, 24 August 1998 (1998-08-24), pages 659-664, XP002233164 abstract page 659, right-hand column, line 13 -page 660, left-hand column, line 37 page 661, left-hand column, line 11 -page 661, right-hand column, line 48</p>	1-15
A	<p>CHAUDHURI S ET AL: "An Overview of Data Warehousing and OLAP Technology" SIGMOD RECORD, SIGMOD, NEW YORK, NY, US, vol. 26, no. 1, March 1997 (1997-03), pages 65-74, XP002193792 ISSN: 0163-5808 abstract page 66, right-hand column, line 28 -page 67, left-hand column, line 2 page 68, left-hand column, line 5 -page 68, left-hand column, line 46 page 69, left-hand column, line 4 -page 69, left-hand column, line 14 page 71, left-hand column, line 26 -page 71, right-hand column, line 16</p>	1-15
A	<p>GALL W ET AL: "Moving time window aggregates over patient histories" INTERNATIONAL JOURNAL OF MEDICAL INFORMATICS, ELSEVIER SCIENTIFIC PUBLISHERS, SHANNON, IR, vol. 63, no. 3, October 2001 (2001-10), pages 133-145, XP004299476 ISSN: 1386-5056 abstract page 135, left-hand column, line 1 -page 136, right-hand column, line 2</p>	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/14431

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 5603024	A	11-02-1997	US 5553279 A	03-09-1996