

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 February 2004 (19.02.2004)

PCT

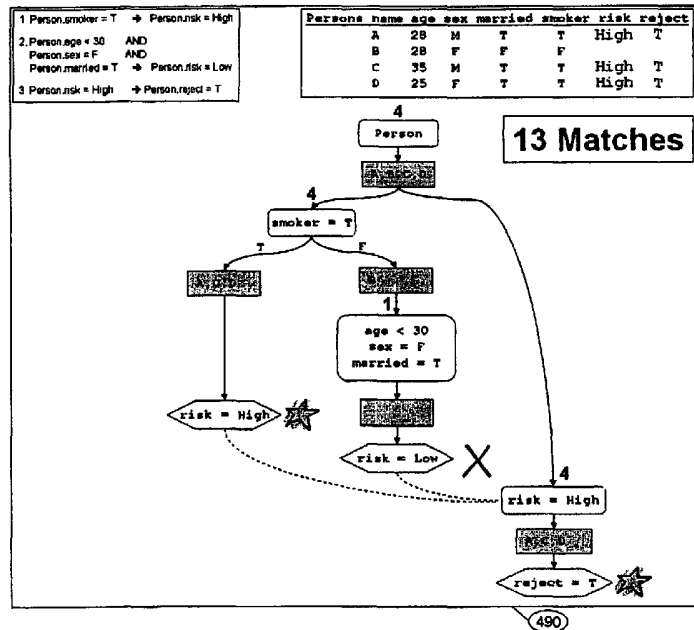
(10) International Publication Number
WO 2004/015627 A3

- (51) International Patent Classification⁷: **G06N 5/04**
- (21) International Application Number: PCT/US2003/025076
- (22) International Filing Date: 11 August 2003 (11.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/402,160 9 August 2002 (09.08.2002) US
- (71) Applicant (for all designated States except US): **CORTI-CON TECHNOLOGIES, INC.** [US/US]; Suite 100, 3130 La Selva Street, San Mateo, CA 94403 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ABRARI, Pedram** [US/US]; 3200 S. Sepulveda Blvd. #K30, Los Angeles, CA 90034 (US). **MOORE, Eric, Andrew** [US/US]; 1251 14th Street #208, Santa Monica, CA 90404 (US).
- (74) Agent: **TROESCH, Hans, R.**; Fish & Richardson P.C., 500 Arguello Street #500, Redwood City, CA 94063 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, 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, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, 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: RULE ENGINE



(57) Abstract: Methods and apparatus, including computer program products, for inference processing in a fact-based business automation system, including receiving a rule set as a single package, generating a dependency graph for the rule set, and generating a sequence of processing logic for optimal processing of inputted facts.

WO 2004/015627 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:

16 December 2004

INTERNATIONAL SEARCH REPORT

International Application No

●/US 03/25076

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06N5/04

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 G06N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KIERNAN G ET AL: "COMPILING A RULE DATABASE PROGRAM INTO A C/SQL APPLICATION" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON DATA ENGINEERING. KOBE, JP, APRIL 8 - 12, 1991, LOS ALAMITOS, IEEE COMP. SOC. PRESS, US, vol. CONF. 7, 8 April 1991 (1991-04-08), pages 388-395, XP000325900 ISBN: 0-8186-2138-9 abstract page 390, left-hand column, line 14 - line 28 page 390, right-hand column, line 4 - line 13 page 390, right-hand column, line 26 - page 391, left-hand column, line 48 page 393, right-hand column, line 3 - line 9 <div style="text-align: center;">----- -/--</div>	1-6, 26-28

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

Date of the actual completion of the international search

27 October 2004

Date of mailing of the international search report

05/11/2004

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

Kingma, Y

INTERNATIONAL SEARCH REPORT

International Application No

P/US 03/25076

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 355 287 A (IBM) 28 February 1990 (1990-02-28) column 1, line 49 - column 2, line 11 column 3, line 43 - column 4, line 40 column 5, line 16 - line 29 column 6, line 4 - line 8 -----	1-3, 5-14, 16, 18-24, 26-29
X A	US 5 423 041 A (BURKE FRED H ET AL) 6 June 1995 (1995-06-06) abstract; figure 1 column 1, line 52 - column 2, line 5 column 3, line 10 - line 35 column 4, line 1 - line 7 column 4, line 34 - line 39 -----	1,6, 17-25 15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/25076

Patent document cited in search report	A	Publication date		Patent family member(s)	Publication date
EP 0355287	A	28-02-1990	US	4924408 A	08-05-1990
			DE	68922800 D1	29-06-1995
			DE	68922800 T2	30-11-1995
			EP	0355287 A2	28-02-1990
			JP	2076034 A	15-03-1990
			JP	2092428 C	18-09-1996
			JP	8007683 B	29-01-1996
<hr style="border-top: 1px dashed black;"/>					
US 5423041	A	06-06-1995	JP	6103071 A	15-04-1994
			US	5644770 A	01-07-1997
<hr style="border-top: 1px dashed black;"/>					