(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 11 October 2001 (11.10.2001)

PCT

(10) International Publication Number WO 01/75605 A3

(51) International Patent Classification7:

- (21) International Application Number: PCT/US01/10251
- (22) International Filing Date: 30 March 2001 (30.03.2001)
- (25) Filing Language:

English

G06F 11/36

(26) Publication Language:

English

(30) Priority Data:

09/539,197

30 March 2000 (30.03.2000) US

- (71) Applicant (for all designated States except US): BROAD-COM CORPORATION [US/US]; 16215 Alton Parkway, Irvine, CA 92618-3616 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): JOHNSON, Kelly, Gene [US/US]; 465 Cascadita Terrace, Milpitas, CA 95035 (US). WILLIAMS, Mark [US/US]; 5030 Rio Vista Avenue, San Jose, CA 95129 (US).

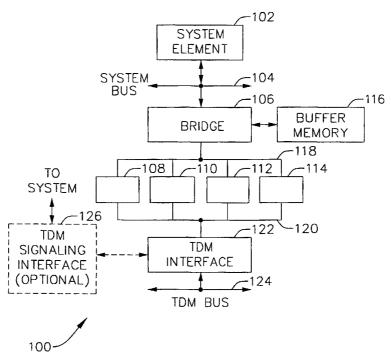
- Agent: GELFOUND, Craig, A.; Christie, Parker & Hale, LLP, Post Office Box 7068, Pasadena, CA 91109-7068 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

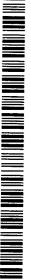
- with international search report
- (88) Date of publication of the international search report: 14 March 2002

[Continued on next page]

(54) Title: MULTI-CHANNEL, MULTI-SERVICE DEBUG ON A PIPELINED CPU ARCHITECTURE



(57) Abstract: A method and system for debugging an executing service on a pipelined CPU architecture are described. In one embodiment, a breakpoint within an executing service is set and a minimum state of the executing service is saved. In addition, a program counter of the executing service is altered. The program counter is restored and the state of the executing service is restored.





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

ional Application No. PCT/US 01/10251

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G06F11/36

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

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, PAJ, IBM-TDB, INSPEC

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
		
Υ	EP 0 849 673 A (TEXAS INSTRUMENTS INC) 24 June 1998 (1998-06-24)	1-4,6, 39,42
Α		13-15, 33-35, 40,43
	abstract	ĺ
	page 40, line 38 -page 41, line 51 page 47, line 17 - line 30	
Υ	US 5 922 070 A (BALMER KEITH ET AL) 13 July 1999 (1999-07-13)	1-4,6, 39,42
Α	13 duig 1333 (1333 d) 13)	9-11, 13-15, 18,33
	column 5, line 27 - line 38	10,33
	column 6, line 32 - line 42	
	claims 1-6	
	-/	

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. '&' document member of the same patent family
Date of the actual completion of the international search 4 October 2001	Date of mailing of the international search report $15/10/2001$
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 Renault, S

INTERNATIONAL SEARCH REPORT

Int ional Application No PCT/US 01/10251

	C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT										
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.									
А	US 5 488 688 A (CARICHNER GORDON A ET AL) 30 January 1996 (1996-01-30) 										

2

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. tional Application No PCT/US 01/10251

	Publication date	Patent family member(s)		Publication date
A	24-06-1998	EP JP US	0849673 A2 10187446 A 6081885 A	24-06-1998 21-07-1998 27-06-2000
Α	13-07-1999	NONE		
Α	30-01-1996	NONE		
	A	A 24-06-1998 A 13-07-1999	A 24-06-1998 EP JP US A 13-07-1999 NONE	A 24-06-1998 EP 0849673 A2 JP 10187446 A US 6081885 A A 13-07-1999 NONE