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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 April 2007 (26.04.2007)

PCT

(10) International Publication Number
WO 2007/048132 A3

(51) International Patent Classification:
G06F 9/48 (2006.01)

(21) International Application Number:
PCT/US2006/060132

(22) International Filing Date: 20 October 2006 (20.10.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/256,350 20 October 2005 (20.10.2005) US

(71) Applicant *(for all designated States except US)*: **QUALCOMM INCORPORATED** [US/US]; 5775 Morehouse Drive, San Diego, California 92121 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **CODRESCU, Lucian** [US/US]; 12505 Glacier Parke Cove, Austin, Texas 78726 (US).

(74) Agents: **WADSWORTH, Philip R.** et al.; 5775 Morehouse Drive, San Diego, Califonia 92121 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

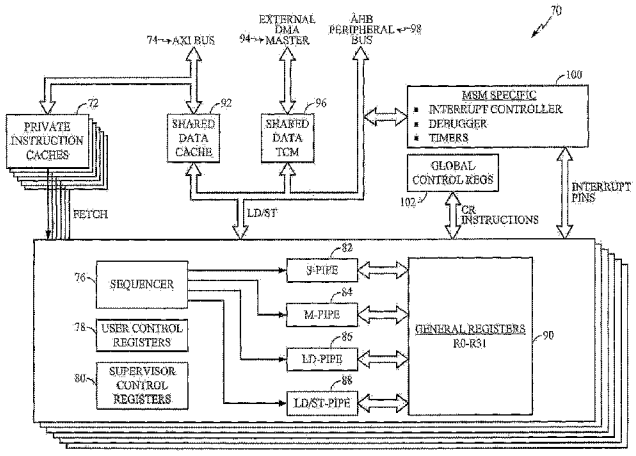
— *with international search report*

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

(88) Date of publication of the international search report:
7 June 2007

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.

(54) Title: BACKGROUND THREAD PROCESSING IN A MULTITHREAD DIGITAL SIGNAL PROCESSOR



(57) Abstract: Techniques for the design and use of a digital signal processor, including processing transmissions in a communications (e.g., CDMA) system. The disclosed method and system provide background thread processing in a multithread digital signal processor for backgrounding and other background operations. The method and system form a background thread interrupt as one of a plurality of interrupt types, the background thread interrupt initiates a low-priority background process using one of a plurality of processing threads of a multithread digital signal processor. The process includes storing the background thread interrupt in an interrupt register and a background processing mask for associating with a processing thread of the multithread digital signal processor, which associates with at least a subset of said plurality of processing threads. Upon sensing a cache miss in one of the processing threads during multithread processing, the interrupt register issues the background thread interrupt and the digital signal processor initiates background processing using one of the processing threads having an associated background processing mask.

WO 2007/048132 A3