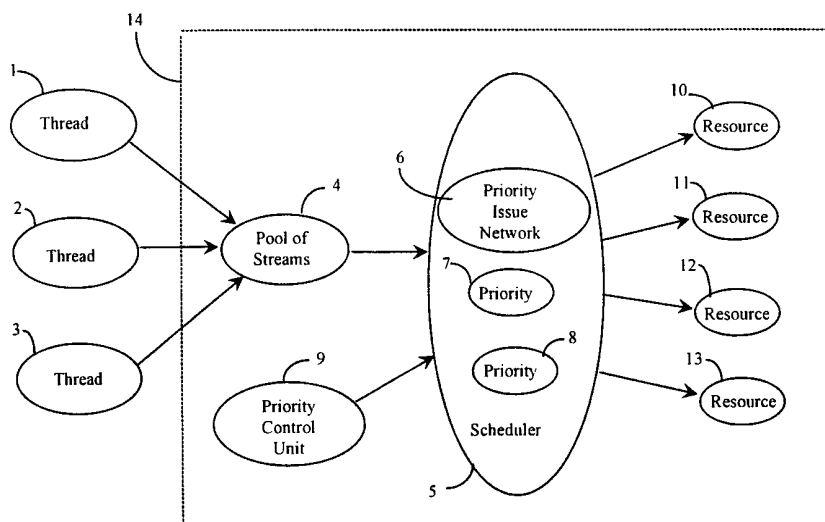




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| (21) International Application Number: PCT/US99/29645 (22) International Filing Date: 13 December 1999 (13.12.99) (30) Priority Data: 09/216,017 16 December 1998 (16.12.98) US (71) Applicant: XSTREAM LOGIC, INC. [US/US]; 750 University Avenue, Suite 270, Los Gatos, CA 95032 (US). (72) Inventors: NEMIROVSKY, Mario, D.; 19750 Northampton Drive, Saratoga, CA 95070 (US). NEMIROVSKY, Adolfo, M.; 1044 Alderbrook Lane, San Jose, CA 95129 (US). SANKAR, Narendra; 450 Oak Grove Drive, Apt. 313, Santa Clara, CA 95054 (US). (74) Agent: BOYS, Donald, R.; P.O. Box 187, Aromas, CA 95004 (US). | | (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, 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 <i>With international search report.</i> (88) Date of publication of the international search report: 23 November 2000 (23.11.00) |

(54) Title: PRIORITIZED INSTRUCTION SCHEDULING FOR MULTI-STREAMING PROCESSORS**(57) Abstract**

A multi-streaming processor (14) has multiple streams (4) for processing multiple threads (1-3), and an instruction scheduler (5) including a priority record of priority codes (7, 8) for one or more of the streams (4). The priority codes (7, 8) determine in some embodiments relative access to resources (10-13) as well as which stream (4) has access at any point in time. In other embodiments priorities are determined dynamically and altered on-the-fly, which may be done by various criteria, such as on-chip processing statistics, by executing one or more priority algorithms, by input from off-chip (9), according to stream loading, or by combinations of these and other methods. In one embodiment a special code is used for disabling a stream, and streams may be enabled and disabled dynamically by various methods, such as by on-chip events, processing statistics, input from off-chip, and by processor interrupts. Some specific applications are taught, including for IP-routers and digital signal processors.

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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 9/00

US CL : 709/103; 712/206

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)

U.S. : 709/103; 712/206

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 practicable, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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