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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 July 2007 (12.07.2007)

PCT

(10) International Publication Number
WO 2007/078792 A1

(51) International Patent Classification:
G05B 19/418 (2006.01) *G06Q 50/00* (2006.01)
G06Q 10/00 (2006.01)

(21) International Application Number:
PCT/US2006/047608

(22) International Filing Date:
13 December 2006 (13.12.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10 2005 063 132.0
30 December 2005 (30.12.2005) DE
10 2006 001 257.7 10 January 2006 (10.01.2006) DE
11/535,327 26 September 2006 (26.09.2006) US

(71) Applicant *(for all designated States except US)*: **ADVANCED MICRO DEVICES, INC.** [US/US]; ONE AMD PLACE, MAIL STOP 68, P.O. Box 3453, Sunnyvale, CA 94088-3453 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **DIERKS, Ulrich** [DE/DE]; Koenigsbruecker Landstr 93, 01109 Dresden (DE). **SCHUMACHER, Hardy** [DE/DE]; Lauchhammer Str 4, 01987 Schwarzheide (DE).

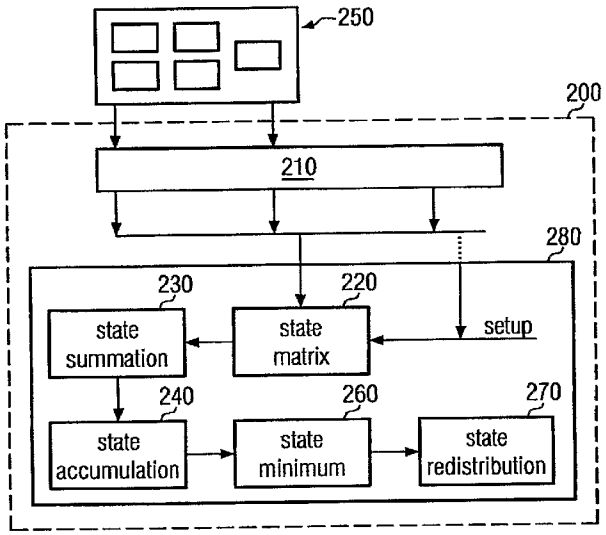
(74) Agent: **DRAKE, Paul, S.**; ADVANCED MICRO DEVICES, INC., 5204 East Ben White Boulevard, Mail Stop 562, Austin, TX 78741 (US).

(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).

[Continued on next page]

(54) Title: AN AUTOMATED STATE ESTIMATION SYSTEM FOR CLUSTER TOOLS AND A METHOD OF OPERATING THE SAME



(57) Abstract: By using weighted entity states for representing a state of a cluster tool, a highly efficient technique for the measurement and monitoring of cluster tool characteristics, such as reliability, availability and maintainability, is provided. For example, individual entities of the cluster tool may be weighted according to their capacity and corresponding entity states may be ranked in accordance with a predefined hierarchy structure, thereby enabling an efficient combination of weighted entity states so as to represent the cluster tool state.

WO 2007/078792 A1

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*

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.