



- (51) International Patent Classification:
G06F 9/455 (2006.01) *G06F 9/50* (2006.01)
- (21) International Application Number:
PCT/EP2015/055442
- (22) International Filing Date:
16 March 2015 (16.03.2015)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
14/226,986 27 March 2014 (27.03.2014) US
- (71) Applicant: **INTERNATIONAL BUSINESS MACHINES CORPORATION** [US/US]; New Orchard Road, Armonk, New York 10504 (US).
- (71) Applicant (for MG only): **IBM UNITED KINGDOM LIMITED** [GB/GB]; PO Box 41, North Harbour, Portsmouth Hampshire PO6 3AU (GB).

- (72) Inventors: **HELLER, Lisa, Cranton**; IBM Corporation, Mail Drop A85/p310, 2455 South Rd, Poughkeepsie, New York 12601-5400 (US). **BRADBURY, Jonathan, David**; IBM Corporation, 2455 South Rd, Poughkeepsie, NY 12601-5400 (US). **KUBALA, Jeffrey, Paul**; IBM Corporation, Mail Drop P340, 2455 South Rd, Poughkeepsie, NY 12601-5400 (US). **FARRELL, Mark**; IBM Corporation, Mail Drop P310, 2455 South Rd, Poughkeepsie, NY 12601-5400 (US). **OSISEK, Damian, Leo**; IBM Corporation, Mail Drop G28g/250-2, Ibm 1701 North St, Endicott, NY 13760-5553 (US). **GREINER, Dan**; IBM Corporation, Mail Drop Svl/090/f374, 555 Bailey Ave, Santa Teresa Lab, San Jose, CA 95141-1003 (US). **SLEGEL, Timothy**; IBM Corporation, Mail Drop Ms-p310, 2455 South Rd, Poughkeepsie, NY 12601-5400 (US). **BUSABA, Fadi, Yusuf**; IBM Corporation, Mail Drop P312, 2455 South Rd, Poughkeepsie, NY 12601-5400 (US). **SCHMIDT, Donald, William**; IBM Corporation, Mail Drop 7q4a/p334, 2455 South Rd, Poughkeepsie, NY 12601-5400 (US).

- (72) Inventor: **GAINEY JR, Charles** (deceased).

[Continued on next page]

- (54) Title: CONTROL AREA FOR MANAGING MULTIPLE THREADS IN A COMPUTER

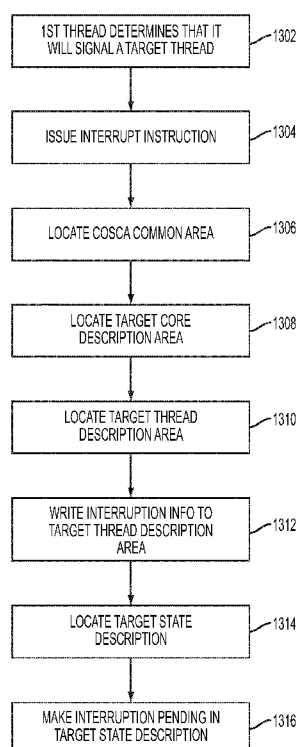


FIG. 13

- (57) Abstract: A computer system includes a virtual machine (VM) configuration with one or more cores. Each core is enabled to operate in a single thread (ST) mode or a multithreading (MT) mode. The ST mode consists of a single thread and the MT mode consists of a plurality of threads on shared resources of a respective core. The computer system includes a core-oriented system control area (COSCA) having a common area representing all of the cores of the VM configuration and separate core description areas for each of the cores in the VM configuration. Each core description area indicates a location of one or more thread description areas each representing a thread within the respective core, and each thread description area indicates a location of a state description of the respective thread.



(74) **Agent:** LITHERLAND, David; IBM United Kingdom Limited, Intellectual Property Law, Hursley Park, Winchester Hampshire SO21 2JN (GB).

(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))