

(51) International Patent Classification:
G06F 13/16 (2006.01) *G06F 12/10* (2006.01)(21) International Application Number:
PCT/EP2010/067043(22) International Filing Date:
8 November 2010 (08.11.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/821,170 23 June 2010 (23.06.2010) US(71) Applicant (for all designated States except US): **INTERNATIONAL BUSINESS MACHINES CORPORATION** [US/US]; New Orchard Road, Armonk, New York 10504 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CRADDOCK, David** [GB/US]; IBM Corporation, MD P318, 2455, South Road, Poughkeepsie, New York 12601-5400 (US). **GREGG, Thomas** [US/US]; IBM Corporation, MD P314, 2455, South Road, Poughkeepsie, New York 12601-5400 (US). **GREINER, Dan** [US/US]; IBM Corporation, MD SVL/090/F374, 555, Bailey Ave, Santa Teresa Lab, San Jose, California 95141-1003 (US). **LAIS, Eric Norman** [US/US]; IBM Corporation, MD P964, 2455, South Road, Poughkeepsie, New York 12601-5400 (US).(74) Agent: **ROBERTS, Scott**; 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, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Published:

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

(54) Title: TRANSLATION OF INPUT/OUTPUT ADDRESSES TO MEMORY ADDRESSES

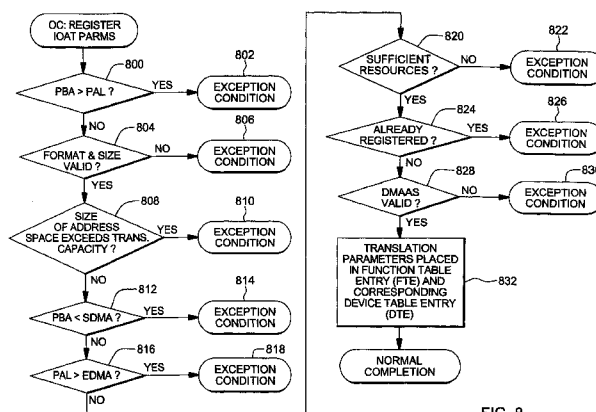


FIG. 8

(57) Abstract: An address provided in a request issued by an adapter is converted to an address directly usable in accessing system memory. The address includes a plurality of bits, in which the plurality of bits includes a first portion of bits and a second portion of bits. The second portion of bits is used to index into one or more levels of address translation tables to perform the conversion, while the first portion of bits are ignored for the conversion. The first portion of bits are used to validate the address.