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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G06F 13/00, 7/00 — A1

(11) International Publication Number: WO 96/18152

(43) International Publication Date: 13 June 1996 (13.06.96)

(21) International Application Number: PCT/US95/15837

(22) International Filing Date: 29 November 1995 (29.11.95)

(30) Priority Data:
08/350,415 6 December 1994 (06.12.94) US

(71) Applicant: INTEL CORPORATION [US/US]; 2200 Mission College Boulevard, Santa Clara, CA 95052 (US).

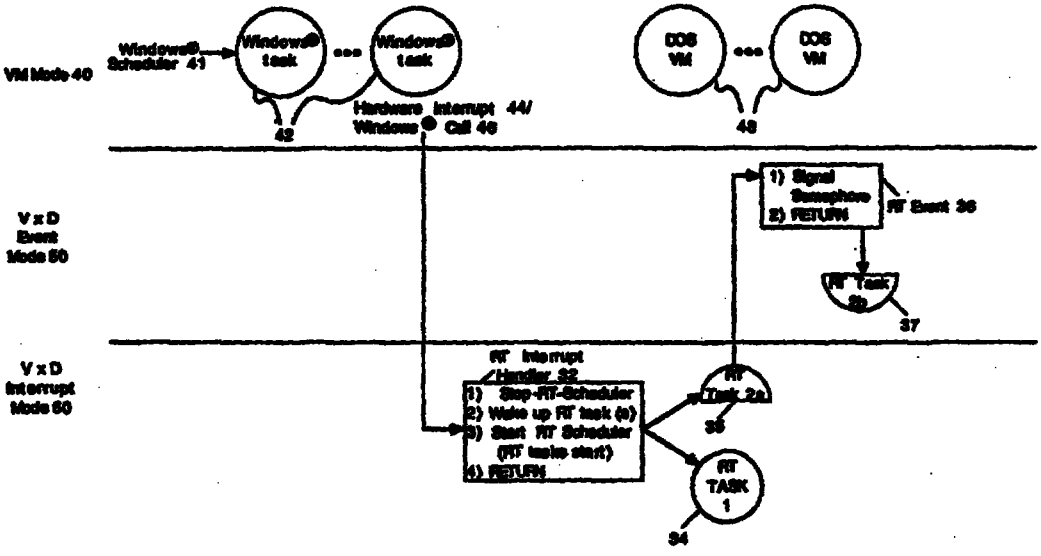
(72) Inventors: DINGWALL, Thomas, J.; 2211 N.E. 25th Avenue, Hillsboro, OR 97124 (US). KUMAR, Narasimha; 5154 N.W. 177th Avenue, Portland, OR 97229 (US).

(74) Agents: SALTER, James, H. et al.; Blakely, Sokoloff, Taylor & Zafman, 7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025-1026 (US).

(81) Designated States: AL, AM, AT, AT (Utility model), AU, BB, BG, BR, BY, CA, CH, CN, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), TJ, TM, TT, UA, UG, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, LS, MW, SD, SZ, UG).

Published
With international search report.

(54) Title: AN IMPROVED METHOD AND APPARATUS FOR EMBEDDING A REAL-TIME MULTI-TASKING KERNEL IN A NON-REAL-TIME OPERATING SYSTEM



(57) Abstract

An improved method and apparatus for embedding a real-time (34) multi-tasking kernel (26) in a non-real-time operating system is disclosed. Through encapsulating a real-time kernel into the interrupte handling environment of a non-real-time operating system, such as Windows®, the method of the present invention allows for an entire real-time environment to be supported within the operating system. The scheduler of the real-time kernel supports multiple threads of execution all running at higher priority than the application tasks. By using synchronization mechanisms of the operating system, e.g. V x D events in enhanced mode Windows® (figure 3), the real-time tasks are able to make use of system services of the operating system. Real-time tasks not requiring system services execute more quickly from interrupt mode. Real-time tasks (34) requiring system services execute partially from interrupt mode and partially from event mode (figure 9).