200 30133 15
18/03/03

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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 February 2003 (27.02.2003)

PCT

(10) International Publication Number
WO 03/017099 A1

(51) International Patent Classification[7]: G06F 9/455, 17/50

(21) International Application Number: PCT/US01/25558

(22) International Filing Date: 14 August 2001 (14.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant *(for all designated States except US)*: **AXIS SYSTEMS, INC.** [US/US]; 209 Java Drive, Sunnyvale, CA 94089 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **TSENG, Ping-Sheng** [US/US]; 992 Coeur D'Alene Way, Sunnyvale, CA 94087 (US). **GOEL, Yogesh, Kumar** [US/US]; 44216 Iberi Way, Fremont, CA 94539 (US). **SHEN, Quincy, Kun-Hsu** [US/US]; 19263 Brockton Lane, Saratoga, CA 94070 (US).

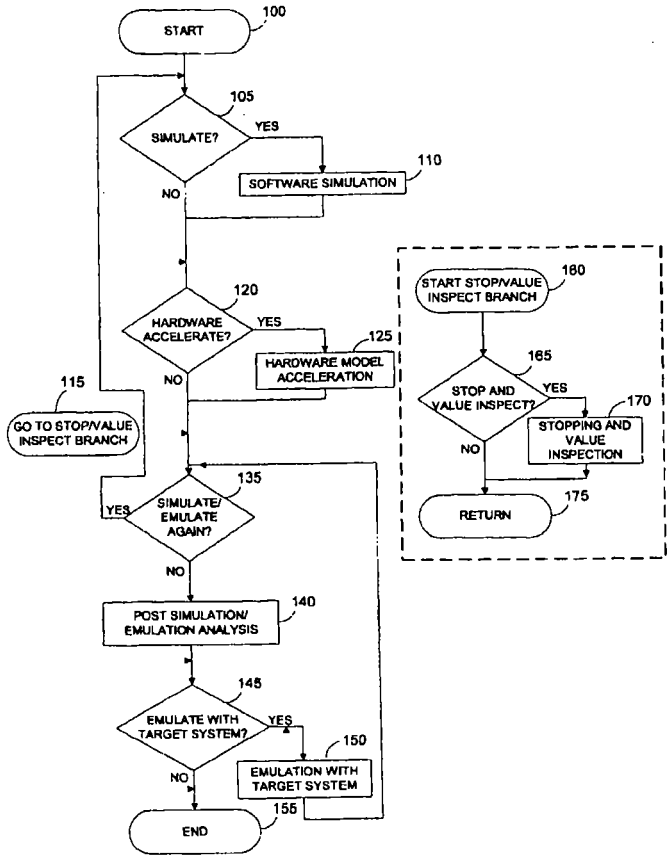
(74) Agents: **CHOU, Chien-Wei** et al.; Oppenheimer Wolff & Donnelly LLP, 1400 Page Mill Road, Palo Alto, CA 94304 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, 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, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, 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,

*[Continued on next page]*

(54) Title: VCD-ON-DEMAND SYSTEM AND METHOD




(57) Abstract: The disclosed technology is called VCD on demand. In a typical system, the EDA tool incorporating the VCD on-demand technology has the following high level attributes: (1) RCC-based parallel simulation history compression and recording, (2) RCC-based parallel simulation history decompression and VCD file generation, and (3) On-demand software regeneration for a selected simulation target range and design review without simulation rerun. Each of these attributes will be discussed in greater detail below. When the user selects a simulation range (item 105), the RCC System records a highly compressed version of the primary inputs from the test bench process. The user then selects a narrower region, called the simulation target range (item 135), within the simulation session range for a more focused analysis. The RCC System dumps the hardware state information (i.e., primary outputs) of the hardware model into a VCD file. The RCC System then allows the user to proceed directly to view the VCD file from the beginning of the simulation target range (item 105) without having to rerun the entire simulation from the very beginning of the simulation session range.

*ACTION*

*162162*

WO 03/017099 A1

IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**
— *of inventorship (Rule 4.17(iv)) for US only*

**Published:**
— *with international search report*

*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.*