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[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR INTERFACING BETWEEN HARD LOGIC AND SOFT LOGIC IN A HYBRID INTEGRATED DEVICE

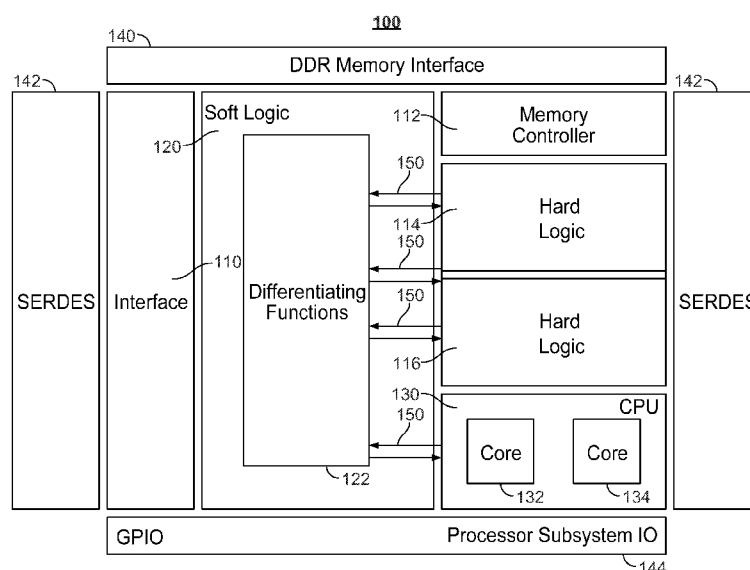


FIG. 1

(57) Abstract: Systems and methods are disclosed for interfacing between hard logic elements and soft logic elements implemented on an integrated device. In particular, a configurable interface is provided that includes interconnects between hard logic and soft logic, which enable signals to be selectively routed between the inputs and outputs of hard logic blocks and soft logic modules. The interconnects allow for certain hard logic blocks to be bypassed in favor of soft logic functionality. Moreover, the interconnects allow soft logic to augment the processing of hard logic blocks, e.g., by providing additional signals to the hard logic block.





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).

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F 13/14; G06F 17/50; H03K 19/173; H04N 5/44; H03K 19/177

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: FPGA, ASIC, interface, interconnect

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7389487 B1 (CHAN KING W. et al.) 17 June 2008	1, 10
A	See the abstract; figures 4-14 and their corresponding description; claims 1, 20	2-9, 11-20
Y	US 2003-0107399 A1 (ROBERT THOMAS BAILIS et al.) 12 June 2003	1, 10
A	See the abstract; figure 1; claims 1-10	2-9, 11-20
Y	US 2005-0041149 A1 (ANDREW, K. CHAN et al.) 24 February 2005	1, 10
A	See figures.1, 3A, 3B; paragraphs [0025]-[0035]; claims 1, 8, 14, 18	2-9, 11-20
A	US 2005-0183042 A1 (DANNY VOGEL et al.) 18 August 2005	1-20
	See the abstract; claims 1-2, 16, 20	
A	US 2010-0207659 A1 (HUTTON MICHAEL D. et al.) 19 August 2010	1-20
	See the abstract; claim 1	



Further documents are listed in the continuation of Box C.



See patent family annex.

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