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- (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, DJ, DK, DM, DO,

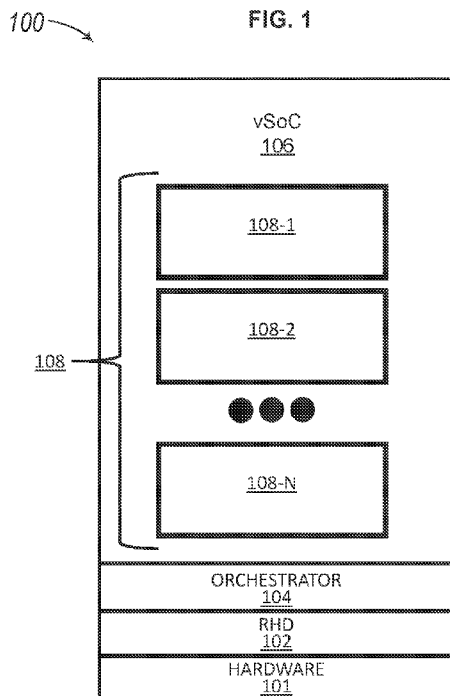
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

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13 October 2022 (13.10.2022)

(54) **Title:** SYSTEMS AND METHODS FOR PROVIDING VIRTUAL SYSTEM-ON-CHIP (vSOC) INSTANCES



(57) **Abstract:** In an approach to providing virtualized hardware resources, one or more reconfigurable hardware devices (RHDs) are configured to instantiate a first virtual System-on-Chip (vSoC) instance of one or more vSoC instances, the first vSoC instance implementing at least one virtualized system component.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US22/18624

A. CLASSIFICATION OF SUBJECT MATTER IPC - G06F 9/455; G06F 9/445 (2022.01) CPC - G06F 9/455; G06F 9/5077; G06F 9/45533; G06F 9/445 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) See Search History document Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched See Search History document Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) See Search History document																									
C. DOCUMENTS CONSIDERED TO BE RELEVANT																									
<table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y --- A</td> <td>US 2017/0308408 A1 (CAVIUM, INC.) 26 October 2017; abstract, figure 2, paragraphs [0012], [0054]-[0056], [0058], [0059], [0062]-[0065], [0082], [0096], [0102]-[0103], claims 1, 8</td> <td>1-11, 14-24, 26-30 --- 12, 13, 25</td> </tr> <tr> <td>Y --- A</td> <td>US 2009/0228684 A1 (RAMESH, T ET AL.) 10 September 2009; figure 2, paragraphs [0018], [0020]-[0024], [0029], [0039]-[0040]</td> <td>1-11, 14-24, 26-30 --- 12, 13, 25</td> </tr> <tr> <td>Y --- A</td> <td>US 2011/0296412 A1 (BANGA, G ET AL.) 01 December 2011; figure 2, paragraphs [0033]-[0035], [0048]-[0050], claims 1, 2</td> <td>2, 4-8, 10, 24, 29 --- 12, 25</td> </tr> <tr> <td>Y</td> <td>US 2014/0380028 A1 (ATI TECHNOLOGIES ULC) 25 December 2014; paragraph [0009], claims 1, 6, 7</td> <td>9, 22</td> </tr> <tr> <td>Y</td> <td>US 2010/0325278 A1 (HEIM, I ET AL.) 23 December 2010; figure 2, paragraphs [0029]-[0031], claim 1</td> <td>11</td> </tr> <tr> <td>Y</td> <td>US 2013/0091498 A1 (INTERNATIONAL BUSINESS MACHINES CORPORATION) 11 April 2013; paragraphs [0014], [0015], [0020]</td> <td>16-20, 27</td> </tr> <tr> <td>A</td> <td>US 2015/0339144 A1 (VMWARE, INC.) 26 November 2015; the entire document</td> <td>1-30</td> </tr> </tbody> </table>	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y --- A	US 2017/0308408 A1 (CAVIUM, INC.) 26 October 2017; abstract, figure 2, paragraphs [0012], [0054]-[0056], [0058], [0059], [0062]-[0065], [0082], [0096], [0102]-[0103], claims 1, 8	1-11, 14-24, 26-30 --- 12, 13, 25	Y --- A	US 2009/0228684 A1 (RAMESH, T ET AL.) 10 September 2009; figure 2, paragraphs [0018], [0020]-[0024], [0029], [0039]-[0040]	1-11, 14-24, 26-30 --- 12, 13, 25	Y --- A	US 2011/0296412 A1 (BANGA, G ET AL.) 01 December 2011; figure 2, paragraphs [0033]-[0035], [0048]-[0050], claims 1, 2	2, 4-8, 10, 24, 29 --- 12, 25	Y	US 2014/0380028 A1 (ATI TECHNOLOGIES ULC) 25 December 2014; paragraph [0009], claims 1, 6, 7	9, 22	Y	US 2010/0325278 A1 (HEIM, I ET AL.) 23 December 2010; figure 2, paragraphs [0029]-[0031], claim 1	11	Y	US 2013/0091498 A1 (INTERNATIONAL BUSINESS MACHINES CORPORATION) 11 April 2013; paragraphs [0014], [0015], [0020]	16-20, 27	A	US 2015/0339144 A1 (VMWARE, INC.) 26 November 2015; the entire document	1-30	<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.
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