



- (51) International Patent Classification:  
*G06F 9/46* (2006.01)      *G06F 9/38* (2006.01)
- (21) International Application Number:  
PCT/US2011/065297
- (22) International Filing Date:  
15 December 2011 (15.12.2011)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
12/972,563    20 December 2010 (20.12.2010)    US
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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, 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, QA, RO, RS, RU, RW, 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, RW, 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).

**Declarations under Rule 4.17:**

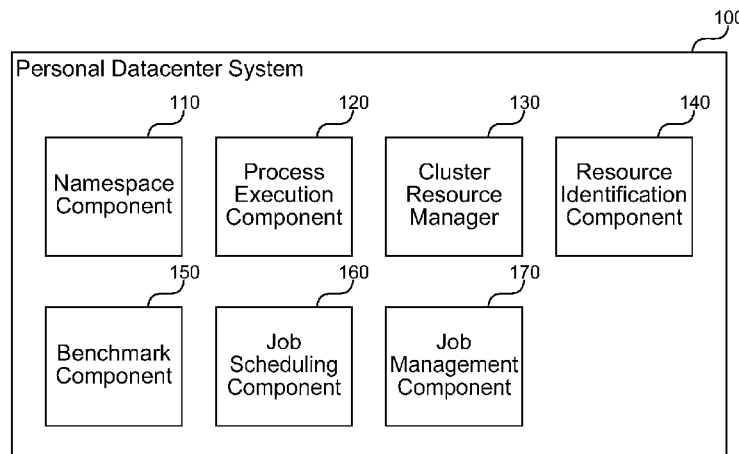
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

**Published:**

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: SCHEDULING AND MANAGEMENT IN A PERSONAL DATACENTER



**FIG. 1**

(57) Abstract: A personal datacenter system is described herein that provides a framework for leveraging multiple heterogeneous computers in a dynamically changing environment together as an ad-hoc cluster for performing parallel processing of various tasks. A home environment is much more heterogeneous and dynamic than a typical datacenter, and typical datacenter scheduling strategies do not work well for these types of small clusters. Machines in home are likely to be powered on and off, be removed and taken elsewhere, and be connected by an ad-hoc network topology with a mix of wired and wireless technologies. The personal data center system provides components to overcome these differences. The system identifies a dynamically available set of machines, characterizes their performance, discovers network topology, and monitors available communications bandwidth between machines. This information is then used to compute an efficient execution plan for data-parallel and/or High Performance Computing (HPC)-style applications.

WO 2012/087767 A3

**(88) Date of publication of the international search report:**  
4 October 2012

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2011/065297****A. CLASSIFICATION OF SUBJECT MATTER****G06F 9/46(2006.01)i, G06F 9/38(2006.01)i**

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 9/46; G06F 15/16; G06F 15/173; G06F 7/00; G06F 17/30

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) &amp; Keywords: "distributed parallel processing", heterogeneous"

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007-0067310 A1 (PUNEET GUPTA et al.) 22 March 2007 See paragraphs [0002], [0007]-[0009], [0018], [0019], [0021]-[0023], [0026]-[0028], [0044]-[0049], [0052], claims 12-14, 17-20, 23, and figures 1, 4.	1, 3, 5, 8, 11
A		2, 4, 6, 7, 9, 10, 12-15
A	US 2007-0143765 A1 (YARIV ARIDOR et al.) 21 June 2007 See paragraphs [0001], [0003], [0004], [0006], [0008], [0009], [0022]-[0025], [0028], claim 1, and figures 1, 4.	1-15
A	US 7003547 B1 (EDWARD A. HUBBARD) 21 February 2006 See column 2, lines 65-67, column 3, lines 1-27, and claims 11-16.	1-15
A	US 2005-0204040 A1 (RICHARD FERRI et al.) 15 September 2005 See paragraphs [0003], [0004], [0006]-[0008], [0020], [0026], [0035], claim 1, and figure 4.	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

27 JULY 2012 (27.07.2012)

Date of mailing of the international search report

**30 JULY 2012 (30.07.2012)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan  
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

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