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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 January 2009 (29.01.2009)

PCT

(10) International Publication Number
WO 2009/014493 A1

(51) International Patent Classification:
*G06F 11/30* (2006.01) *G06F 19/00* (2006.01)
*G06F 11/32* (2006.01)

(21) International Application Number:
PCT/SG2007/000217

(22) International Filing Date: 20 July 2007 (20.07.2007)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant *(for all designated States except US)*: **EG INNOVATIONS PTE. LTD.** [SG/SG]; 33A Tanjong Pagar Road, Singapore 088456 (SG).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **KANNAN, Raja** [IN/IN]; Old no:6, New no: 11, Patel Street, Kodambakkam, Chennai-600 024 (IN). **RAMANATHAN, Srinivas** [IN/US]; 6554 Fox Hills Road, Canton, MI 48187 (US). **SUBRAMANIAN, Sreedharan** [IN/IN]; No 16, First Street, Ex-Service man Colony, Adambakkam, Chennai - 600 088 (IN). **VAIDHINATHAN, Balamurugan** [IN/US]; 406 Astor Lane, Franklin Park, NJ 08823 (US).

(74) Agent: **YU SARN AUDREY & PARTNERS**; 190 Middle Road, #12-04, Singapore 188979 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

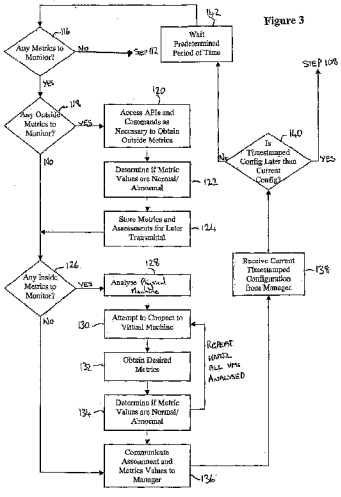
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, 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))*
— *of inventorship (Rule 4.17(iv))*

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

(54) **Title:** MONITORING SYSTEM FOR VIRTUAL APPLICATION ENVIRONMENTS

Figure 3




(57) **Abstract:** A monitoring system for virtual application environments comprising: at least one physical machine executing a first operating system; at least one virtual machine operating on at least one of the physical machines, each such virtual machine operating a second operating system; an agent program operating on each of the physical machines, where, each agent program is operable to obtain a first set of metrics from the first operating system, such first set of metrics including metrics in respect of each virtual machine as viewed by the first operating system, and operable to connect to the second operating system of each virtual machine hosted on the physical machine on which the agent program operates on to obtain a second set of metrics in respect of the virtual machine from the second operating system, the agent program further operable to communicate the first and second sets of metrics to a manager program.

WO 2009/014493 A1