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- (71) **Applicant (for all designated States except US):** MICROSOFT CORPORATION [US/US]; One Microsoft Way, Redmond, WA 98052-6399 (US).
- (72) **Inventors:** SPRADLIN, Jeremiah, C.; c/o Microsoft Corporation, LCA - International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US). HUNT, Galen; c/o Microsoft Corporation, LCA - International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US). THOMAS, Anil, F.; c/o Microsoft Corporation, LCA - International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US). MAILLET, Steven; c/o Microsoft Cor-

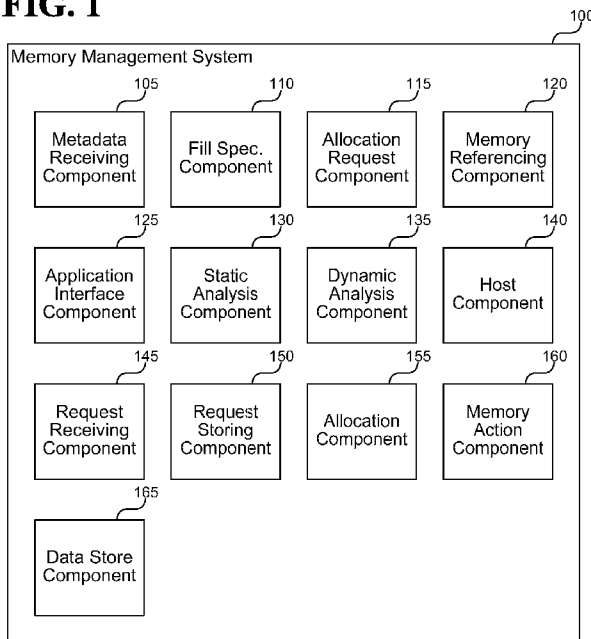
poration, LCA - International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US).

- (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.
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[Continued on next page]

(54) **Title:** MEMORY MANAGEMENT MODEL AND INTERFACE FOR UNMODIFIED APPLICATIONS

FIG. 1



(57) **Abstract:** A memory management system is described herein that receives information from applications describing how memory is being used and that allows an application host to exert more control over application requests for using memory. The system provides an application memory management application-programming interface (API) that allows the application to specify more information about memory allocations that is helpful for managing memory later. The system also provides an ability to statically and/or dynamically analyze legacy applications to give applications that are not modified to work with the system some ability to participate in more effective memory management. The system provides application host changes to leverage information provided by applications and to manage memory more effectively using information and hooks into application's use of memory. Thus, the system provides a new model for managing memory that improves application host behavior and allows applications to use computing resources more efficiently.

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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))*
- *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))*

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/043033**A. CLASSIFICATION OF SUBJECT MATTER***G06F 9/06(2006.01)i, G06F 9/30(2006.01)i, G06F 12/02(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 9/06; G06F 11/30; G06F 12/02; G06F 12/00; G11C 29/00

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: allocation, static analyzer, dynamic analyzer, application, memory, processor, host;

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 6742148 B1 (KORHONEN; AKI) 25 May 2004 See abstract; column 4, line 39 - column 5 line 22, and claim 1.	1 4,5 2,3,6-15
Y A	US 2005-0108562 A1 (ROGER KHAZAN et al.) 19 May 2005 See abstract; paragraphs [0038],[0043],[0061],[0067],[0072]; claims 1-10, and figures 8-10.	4,5,11,14 1-3,6-10,12,13,15
Y A	US 7552306 B2 (MADHAVARAO SANKARSHANA et al.) 23 June 2009 See abstract; column 2, lines 41-60, and claim 4.	11,14 1-10,12,13,15
A	US 6363467 B1 (WEEKS RICHARD) 26 March 2002 See abstract; column 5 lines 23-67, and claims 1-6.	1-15

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

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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

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Authorized officer

BOK, Jin Yo

Telephone No. 82-42-481-5113



INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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