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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.

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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))*

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))*

- (88) **Date of publication of the international search report:**
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- (54) Title:** PREDICTING, DIAGNOSING, AND RECOVERING FROM APPLICATION FAILURES BASED ON RESOURCE ACCESS PATTERNS

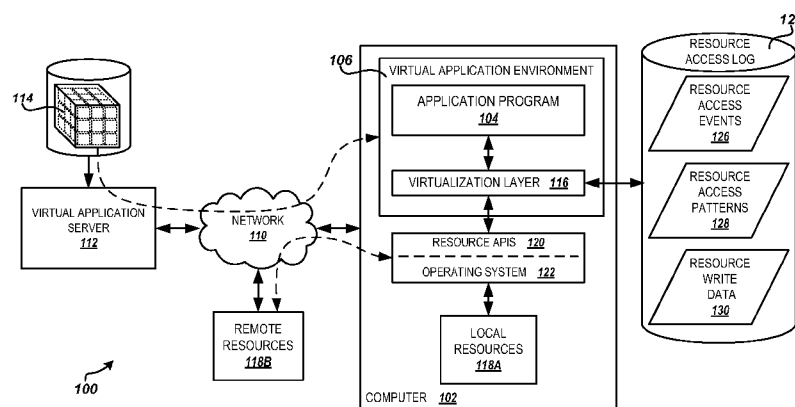


FIG. 1

- (S7) Abstract:** Technologies are described herein for differentiating normal operation of an application program from error conditions to predict, diagnose, and recover from application failures. Access to resources by the application program is monitored, and resource access events are logged. Resource access patterns are established from the logged resource access events utilizing computer pattern recognition techniques. If subsequent access to resources by the application program deviates from the established patterns, then a user and/or administrator of the application program is notified of a potential error condition based on the detected deviation. In addition, sequences of resource access events that deviate from the established resources access patterns are correlated with an error condition based on a temporal proximity to the time of occurrence of the error to provide diagnostic information regarding the error.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/066821**A. CLASSIFICATION OF SUBJECT MATTER****G06F 11/28(2006.01)i, G06F 9/44(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 11/28; G06F 15/173; G06T 11/00; G06F 21/00; G06F 11/00

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: "resource, access, patten, potential, error, alert"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2006-0242288 A1 (MASURKAR VIJAY B.) 26 October 2006 See abstract; paragraphs [0048]-[0123] and figures 2-6.	1-10
A	US 2009-0165135 A1 (LOMONT CHRIS C. et al.) 25 June 2009 See abstract; paragraphs [0017]-[0045] and claim 1.	1-10
A	US 7165190 B1 (ALOK KUMAR SRIVASTAVA et al.) 16 January 2007 See abstract; column 3 line 1 - column 5 line 35; claims 1,2 and figures 1-5.	1-10
A	US 2005-0102567 A1 (MCGUIRE CYNTHIA A. et al.) 12 May 2005 See abstract; paragraphs [0022]-[0038] and figure 1.	1-10

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

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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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

Date of the actual completion of the international search

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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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US 7165190 B1	16.01.2007	None	
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