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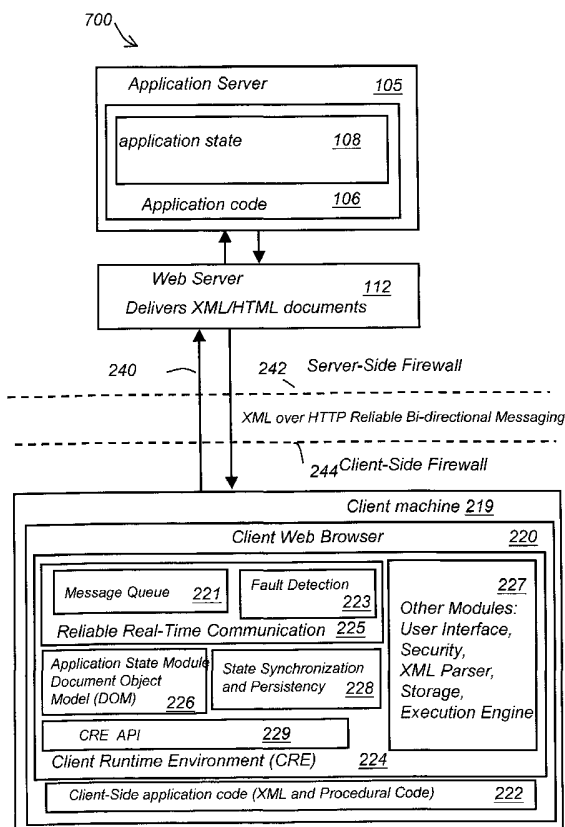
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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR STATEFUL WEB-BASED COMPUTING



(57) Abstract: A computing system for performing stateful distributed computing includes a client machine having a Client Runtime Environment (CRE) (224) that is adapted to maintain the state (108) of an application (106) in the client machine (219). The CRE (224) maintains state (108) of the application (106) by first retrieving a first markup document of the application (106), creating and storing a first object oriented representation of information contained in the first markup document. The first object oriented representation defines a first state (108) of the application (106). Next, retrieving a second markup document, creating and storing a second object oriented representation of information contained in the second markup document. Finally merging the first and second object oriented representations thereby forming a new object oriented representation of information contained in the first or the second markup documents. This new object oriented representation defines a new state of said application (106). The CRE (224) may further update the new state of the application (106) by retrieving one or more additional markup documents, creating and storing one or more additional object oriented representations of information contained in the one or more additional markup documents, respectively, and merging the one or more additional object oriented representations with the new object oriented representation thereby forming an updated state of the application (106).

WO 2004/046894 A3



SI, SK, TR), OAPI patent (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)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,

JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : GO6F 9/54
 US CL : 719/316

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)
 U.S. : 719/316

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2002/0161853 A1 (BURAK et al) 31 October 2002 (31.10.2002), page 2, paragraphs 34-38,	67,70,71,74 ----- 75-78
X,P --- Y,P	US 2003/0131051 A1 (LECTION et al) 10 July 2003 (10.07.2003), page 2, paragraphs 21, 22, page 3 paragraphs 35-36, page 6 paragraphs 100, 103,	55-57,59,60,64-66 ----- 58,61,62,63
Y,P	US 2003/0033369 A1 (Bernard) 13 February 2003 (13.02.2003), p2, paragraphs 29-34,	58, 61, 62, 63, 75-78

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"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
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"B" earlier application or patent published on or after the international filing date	"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
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"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	

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Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

NEW ABSTRACT

A computing system for performing stateful distributed computing includes a client machine having a Client Runtime Environment (CRE) (224) that is adapted to maintain the state (108) of an application (106) in the client machine (219). The CRE (224) maintains state (108) of the application (106) by first retrieving a first markup document of the application (106), creating and storing a first object oriented representation of information contained in the first markup document. The first object oriented representation defines a first state (108) of the application (106). Next, retrieving a second markup document, creating and storing a second object oriented representation of information contained in the second markup document. Finally merging the first and second object oriented representations thereby forming a new object oriented representation of information contained in the first or the second markup documents. This new object oriented representation defines a new state of said application (106). The CRE (224) may further update the new state of the application (106) by retrieving one or more additional markup documents, creating and storing one or more additional object oriented representations of information contained in the one or more additional markup documents, respectively, and merging the one or more additional object oriented representations with the new object oriented representation thereby forming an updated state of the application (106).