

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
2 April 2009 (02.04.2009)

PCT

(10) International Publication Number  
WO 2009/043030 A3

- (51) International Patent Classification: 60/976,246 28 September 2007 (28.09.2007) US  
G06F 15/16 (2006.01) 60/976,312 28 September 2007 (28.09.2007) US
- (21) International Application Number: 60/976,283 28 September 2007 (28.09.2007) US  
PCT/US2008/078166 60/976,281 28 September 2007 (28.09.2007) US  
60/976,339 28 September 2007 (28.09.2007) US  
60/976,292 28 September 2007 (28.09.2007) US
- (22) International Filing Date: 29 September 2008 (29.09.2008)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
  - 60/976,301 28 September 2007 (28.09.2007) US
  - 60/976,308 28 September 2007 (28.09.2007) US
  - 60/976,325 28 September 2007 (28.09.2007) US
  - 60/976,269 28 September 2007 (28.09.2007) US
  - 60/976,320 28 September 2007 (28.09.2007) US
  - 60/976,216 28 September 2007 (28.09.2007) US
  - 60/976,311 28 September 2007 (28.09.2007) US
  - 60/976,252 28 September 2007 (28.09.2007) US
  - 60/976,275 28 September 2007 (28.09.2007) US
  - 60/976,249 28 September 2007 (28.09.2007) US
  - 60/976,222 28 September 2007 (28.09.2007) US
  - 60/976,327 28 September 2007 (28.09.2007) US
  - 60/976,304 28 September 2007 (28.09.2007) US
  - 60/976,266 28 September 2007 (28.09.2007) US
  - 60/976,258 28 September 2007 (28.09.2007) US
- (71) Applicant (for all designated States except US): XCE-  
RION AB [SE/US]; 2003 Western Avenue, Suite 500,  
Seattle, WA 98121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ARTHURSSON,  
Daniel [SE/SE]; 2003 Western Avenue, Suite 500, Seattle,  
WA 98121 (US). BRISTAV, Markus [SE/US]; 2003  
Western Avenue, Suite 500, Seattle, WA 98121 (US).
- (74) Agent: FEEKES, Clint J.; Christensen O'Connor Johnson  
Kindness PLLC, 1420 5th Avenue, Suite 2800, Seattle, WA  
98101-2347 (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, 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,

[Continued on next page]

(54) Title: NETWORK OPERATING SYSTEM

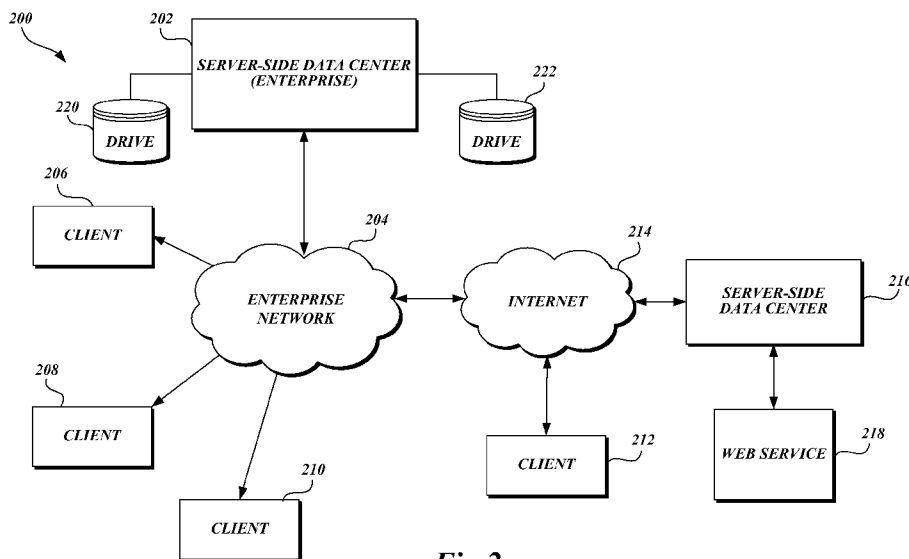


Fig.2.

(57) Abstract: Generally described, the present invention is directed to a network operating system that provides more effective ways of leveraging the connectivity of computer networks. In one embodiment, an XML virtual machine is implemented that accepts high-level application code written in an XML programming language as input. Functionality is provided to interpret or translate the application code written in an XML programming language into code that is suitable for execution across computer platforms. Moreover, the XML virtual machine supports the Model View Controller (MVC) design paradigm that facilitates true data abstraction from applications to a common data model. Multi-instance applications, with each instance potentially supporting multiple views, may be created and executed.

WO 2009/043030 A3



MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**(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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL,

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**(88) Date of publication of the international search report:**  
4 June 2009

**A. CLASSIFICATION OF SUBJECT MATTER****G06F 15/16(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)

IPC : G06F

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 since 1975  
Japanese utility models and applications for utility models since 1975

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

eKIPASS(KIPO Internal), Google, YesKisti  
keywords: XML, virtual machine, programming language, object set, operation handler, runtime state**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 20050273772 A1 (MATSAKIS, N. et al.) 8 December 2005 See paragraphs [31]-[45] and claims 1-29.	1-5
Y	US 20070067474 A1 (ANGELOV, D. V. et al.) 22 March 2007 See figure 6 and claims 1-20.	1-5
A	US 20010056504 A1 (KUZNETSOV, E.) 27 December 2001 See paragraphs [19]-[23] and claims 1-15.	1-5

 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

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"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

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

Date of the actual completion of the international search

23 APRIL 2009 (23.04.2009)

Date of mailing of the international search report

**23 APRIL 2009 (23.04.2009)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu,  
Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

AHN, Cheol Yong

Telephone No. 82-42-481-8371



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2008/078166**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 20050273772 A1	08.12.2005	NONE	
US 20070067474 A1	22.03.2007	NONE	
US 20010056504 A1	27.12.2001	AU 2001-22866 A1 CA 2394058 A1 EP 1242907 A2 JP 2003-518291 T WO 01-46837 A2	03.07.2001 28.06.2001 25.09.2002 03.06.2003 28.06.2001