

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 March 2004 (25.03.2004)

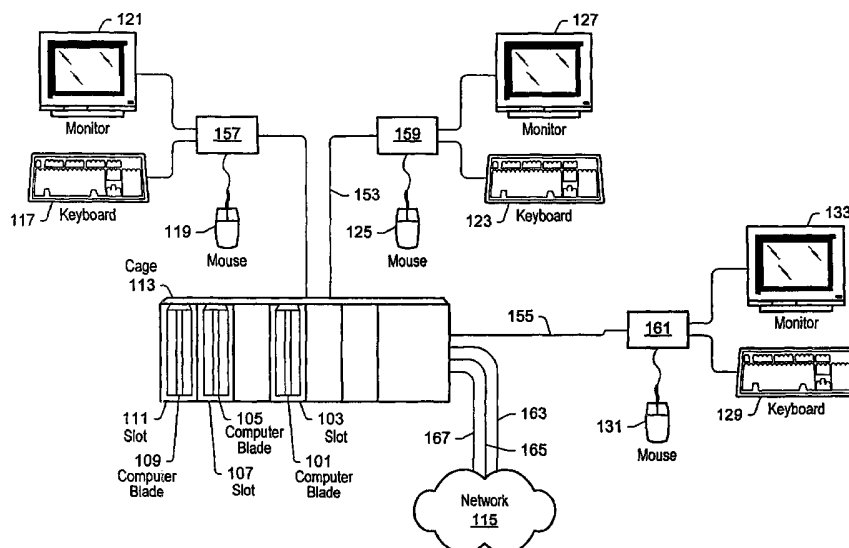
PCT

(10) International Publication Number
WO 2004/025466 A3

- (51) International Patent Classification⁷: G06F 9/46
- (21) International Application Number: PCT/US2003/028918
- (22) International Filing Date: 15 September 2003 (15.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/411,066 16 September 2002 (16.09.2002) US
- (71) Applicant: CLEARCUBE TECHNOLOGY, INC. [US/US]; 8834 Capitol of Texas Highway North, Austin, TX 78759 (US).
- (72) Inventors: HUSAIN, Syed, Mohammad, Amir; 12611 Andromeda Cove, Austin, TX 78727 (US). ENRIGHT, Todd, John; 12008 Portofino Drive, Austin, TX 78732 (US). THORNTON, Barry, W.; 5705 Land's End, Austin, TX 78734 (US).
- (74) Agent: MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.; HOOD, Jeffrey, C., P.O. Box 398, Austin, TX 78767-0398 (US).
- (81) Designated States (national): 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, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (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).
- Published: — with international search report

[Continued on next page]

(54) Title: DISTRIBUTED COMPUTING INFRASTRUCTURE



(57) Abstract: Systems and methods are disclosed for a distributed computing infrastructure on a computer network comprising a plurality of computers. The distributed computing infrastructure (DCI) provides a software platform for creating, running, and managing distributed applications. DCI may include XML-capable software applications on a peer-to-peer network. DCI may include small, network-unaware applications called peerlets. DCI may include a system and method for creating complex distributed applications using pre-compiled binaries. DCI may include a capability for multiple, independent collaborative sessions for distributed collaborative applications (e.g., chat, instant messaging, shared whiteboard, etc.). DCI may include systems and methods for reducing interactions between users and applications to archivable form and then playing back the interactions. DCI may include a system and method for automatic software retrieval on a peer-to-peer network.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

16 December 2004

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/28918

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F9/46

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 7 H04L G06F

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 practical, search terms used)

EPO-Internal, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>EP 1 043 671 A (IBM) 11 October 2000 (2000-10-11) column 1, line 29 - line 40 column 5, line 38 - line 56 column 6, line 58 - column 7, line 5 column 9, line 34 - line 38 column 11, line 10 - line 24 column 12, line 38 - line 42 column 13, line 29 - line 36 ----- -/--</p>	<p>1-33, 192-230</p>

Further documents are listed in the continuation of box C.

Patent family members are listed in 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 document 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 another 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.
- "&" document member of the same patent family

Date of the actual completion of the international search

18 May 2004

Date of mailing of the international search report

22 OCT 2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Dewyn, T

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/28918

*C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/06365 A (GROOVE NETWORKS INC) 25 January 2001 (2001-01-25) page 2, line 11 - line 21 page 4, line 22 - line 23 page 5, line 2 - line 4 page 6, line 10 - line 16 page 27, line 5 - line 20 page 29, line 12 - line 14 page 30, line 3 - line 8 page 31, line 17 - line 32 -----	1-33, 192-230
A	WO 02/32171 A (LAW ENG BOON ; SOH KAM HUNG (AU); SCHEBELLA CALLAN DOUGLAS (AU); TELST) 18 April 2002 (2002-04-18) the whole document -----	1-33, 192-230
A	WO 00/39713 A (GEMTEQ SOFTWARE INC) 6 July 2000 (2000-07-06) the whole document -----	1-33, 192-230
A	US 6 353 608 B1 (CULLERS WILLIAM R ET AL) 5 March 2002 (2002-03-05) abstract column 10, line 5 - line 12 column 13, line 13 - line 23 -----	1-33, 192-230

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/28918

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-33, 192-230

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-33,192-230

Distributed applications communicating with messages in a portable format, wherein the portable message comprises metadata identifying characteristics of the sending application. The portable message is sent using peer-to-peer message passing, the message is routed towards the target application based on the metadata

2. claims: 34-66, 138-167

Generating a message in response to user input, the user input requesting performance of a task, the message comprising instructions to perform the task, and metadata with identifying characteristics of the source application. the message is translated in a portable format and stored in a message log

3. claims: 67-87,168-191

Sending instructions for performing a task from a first computer system to one or more remote computer systems, the instructions comprising one or more subtasks with each of a plurality of applications, and wherein the instructions comprise a plurality of messages in a portable format. The instructions are translated from the portable to an executable format at the remote systems, and the subtasks are executed

4. claims: 88-95, 105-112, 122-129

A plurality of collaborative sessions in a networked environment. sending collaborative data from a first instance of the collaborative application on a first computer system to a second instance of the collaborative application on a second computer system, and vice versa. sending collaborative data from a third instance of the collaborative application on the first computer system to a fourth instance of the collaborative application on the second computer system, and vice versa.

5. claims: 96-104,113-121

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A plurality of collaborative sessions in a networked environment, maintaining a first collaborative session, which transmits a first set of collaborative data between a first computer system, a second computer system, and possibly other computer systems. Maintaining a second collaborative session, which transmits a second set of collaborative data between a first computer system, a third computer system, and possibly other computer systems. transmission of at least a portion of the second set occurs prior to transmission of all of the first set.

6. claim: 130

A networked environment, wherein a first computer system and a first subset of additional computer systems maintain a first collaborative session, the first computer system storing a first instance of a collaborative application, and each computer system of the first subset storing an instance of a collaborative application. The first computer system and a second subset of additional computer systems maintain a second collaborative session, the first computer system storing a second instance of a collaborative application, and each computer system of the second subset storing an instance of a collaborative application. The first session comprises transmission of collaborative data between the first instance and the instances of the collaborative application of the first subset. The second session comprises transmission of collaborative data between the second instance and the instances of the collaborative application on the second subset.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/28918

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