

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 January 2003 (16.01.2003)

PCT

(10) International Publication Number
WO 03/005194 A3

(51) International Patent Classification⁷: **G06F 9/46**

(21) International Application Number: PCT/CH02/00304

(22) International Filing Date: 10 June 2002 (10.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/899,662 5 July 2001 (05.07.2001) US

(71) Applicant (for all designated States except US): **SOFT-WIRED AG** [CH/CH]; Technoparkstrasse 1, CH-8005 Zürich (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GIOTTA, Paul** [US/CH]; Brühlgartenstrasse 31, CH-8400 Winterthur (CH). **SPRING, Jesper, Honig** [DK/CH]; Körnerstrasse 10, CH-8004 Zürich (CH).

(74) Agent: **FREI PATENTANWALTSBÜRO**; Postfach 768, CH-8029 Zürich (CH).

(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, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, 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, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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:
11 December 2003

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.



WO 03/005194 A3

(54) Title: METHOD FOR ENSURING OPERATION DURING NODE FAILURES AND NETWORK PARTITIONS IN A CLUSTERED MESSAGE PASSING SERVER

(57) Abstract: A means for guaranteeing the proper behavior as specified by the JMS semantics of clustered message server when the individual computer that comprise the cluster are separated by a network partition. A clustered message server is responsible for the reliable transportation of messages between different distributed computer applications. It employs multiple computers to perform a function that otherwise appears to be performed by a monolithic server running on one computer, but with more capacity and reliability than can be provided by one computer. If a computer in the cluster fails, another computer should automatically assume the role of the failed computer. However, it is not possible for the other machines in the cluster to detect the difference between the failure of one or more computers in the cluster, and the failure of data network connecting those computers. In ordinary clusters, different actions would be required in these two cases, but since they are impossible to distinguish, computer failure is always assumed and network failure is ignored and the consequence non-deterministic. The invention described here provides a means of responding to failures that yields correct behavior as specified by the JMS semantics whether the failure is due to computer failure or network failure.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/CH 02/00304

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 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, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 853 277 A (CROSSROADS SOFTWARE INC) 15 July 1998 (1998-07-15) column 23, line 24 - line 52 -----	1-14

 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

22 October 2003

Date of mailing of the international search report

30/10/2003

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

Gregori, S

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CH 02/00304

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
EP 0853277	A	15-07-1998	US 5913061 A	15-06-1999
			EP 0853277 A2	15-07-1998
			JP 10260825 A	29-09-1998
			US 6094688 A	25-07-2000
			US 2003093479 A1	15-05-2003
			US 6507875 B1	14-01-2003
