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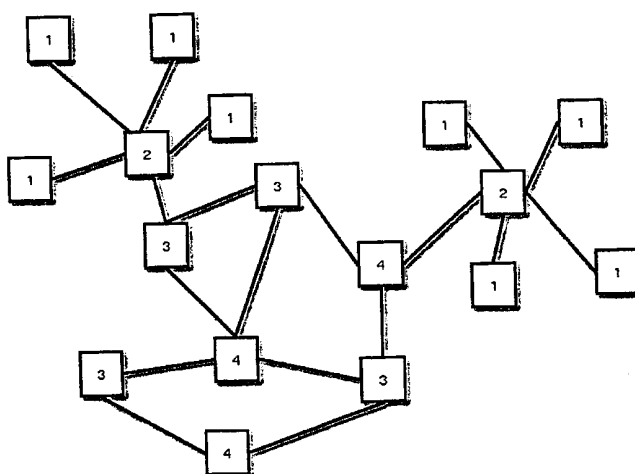
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—   with international search report

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17 January 2002

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.

(54) Title: METHOD FOR USING SOFTWARE AGENTS IN A NETWORK OF COMPUTERS

(57) Abstract: In a method for using software agents in a network of computers, a plurality of user computers can be connected to the network and each user computer can send at least one software agent on the network. A number of computers of the network is adapted to receive and transmit software agents. At least one waiting location for software agents is provided in at least one waiting computer of the network, each waiting location being identified by a given name and the network address of the corresponding waiting computer. A user identification and a waiting location identification are added to the software agent in each user computer and the waiting location identifications used are stored in the corresponding user computer. Each software agent arriving in a waiting computer with one or more waiting locations is checked on a corresponding waiting location identification, wherein the software agent is held in the waiting computer if a match is found between one of the waiting locations of the computer and the waiting location identification of the software agent. A user computer collects its software agent(s) from the waiting computer(s) corresponding to the used waiting location identification(s) stored by making a network connection to said waiting computer(s) and transmitting its user identification to the waiting computer.

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F9/50 G06F1/00

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)

INSPEC, EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	VAN DER MERWE J ET AL: "Electronic commerce with secure intelligent trade agents" COMPUTERS & SECURITY, 1998, ELSEVIER, UK, vol. 17, no. 5, pages 435-446, XP004132882 ISSN: 0167-4048 page 436, paragraphs 3,4 -page 443; figures 2,3 -/--	1

[X] Further documents are listed in the continuation of box C. [X] 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	Date of mailing of the international search report
6 June 2001	15. 06. 2001

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INTERNATIONAL SEARCH REPORT

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	PEINE H: "Security concepts and implementation in the Ara mobile agent system" PROCEEDINGS SEVENTH IEEE INTERNATIONAL WORKSHOP ON ENABLING TECHNOLOGIES: INFRASTUCTURE FOR COLLABORATIVE ENTERPRISES (WET ICE '98) (CAT. NO.98TB100253), PROCEEDINGS OF WET ICE'98 - IEEE SEVENTH INTERNATIONAL WORKSHOP ON ENABLING TECHNOLOGIES: INFRAS, pages 236-242, XP002143135 1998, Los Alamitos, CA, USA, IEEE Comput. Soc, USA ISBN: 0-8186-8751-7 page 3, paragraph 2.2 -page 4 page 5, paragraph 2.3.2	1
A	ROTH V ET AL: "Access control and key management for mobile agents" COMPUTERS AND GRAPHICS,GB,PERGAMON PRESS LTD. OXFORD, vol. 22, no. 4, 1 August 1998 (1998-08-01), pages 457-461, XP004145488 ISSN: 0097-8493 the whole document	1,4
A	S. FÜNFROCKEN: "An infrastructure for Web-Agent-based Service providing" TECHNICAL REPORT TR-VS-97-01, 1997, XP002143136 paragraph '03.6!	1
Y	RUBIN A D: "Secure distribution of electronic documents in a hostile environment" COMPUTER COMMUNICATIONS,NL,ELSEVIER SCIENCE PUBLISHERS BV, AMSTERDAM, vol. 18, no. 6, 1 June 1995 (1995-06-01), pages 429-434, XP004032475 ISSN: 0140-3664	7
A	page 430, right-hand column, line 7 -page 432, left-hand column, line 37	8
Y	EP 0 803 789 A (EUROP COMPUTER IND RES) 29 October 1997 (1997-10-29)	7
A	column 6, line 24 -column 7, line 45	8

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INTERNATIONAL SEARCH REPORT

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	BERGADANO F ET AL: "Security agents for information retrieval in distributed systems" PARALLEL COMPUTING,NL,ELSEVIER PUBLISHERS, AMSTERDAM, vol. 22, no. 13, 28 February 1997 (1997-02-28), pages 1719-1731, XP004055862 ISSN: 0167-8191 the whole document	7,8
A	US 4 995 082 A (SCHNORR CLAUS P) 19 February 1991 (1991-02-19) column 2, line 25 -column 3, line 27	7,8

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INTERNATIONAL SEARCH REPORT

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.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (1)) (July 1998)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-6

   Method for using software agents in a network of computers
   including waiting locations

2. Claims: 7-8

   Method for retrieving objects from a distributed database
   with digital signature checking

INTERNATIONAL SEARCH REPORT

Information on patent family members

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 0803789	A	29-10-1997	AU	716912 B	09-03-2000
			AU	1912097 A	30-10-1997
			US	5935246 A	10-08-1999
US 4995082	A	19-02-1991	EP	0383985 A	29-08-1990
			AT	106643 T	15-06-1994
			DE	59005851 D	07-07-1994
			EP	0384475 A	29-08-1990
			ES	2054120 T	01-08-1994
			JP	2666191 B	22-10-1997
			JP	3001629 A	08-01-1991