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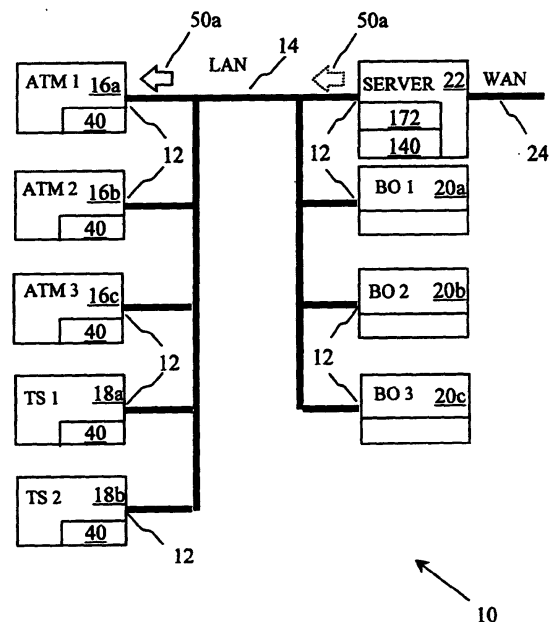
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(54) **Communications network**

(57) A communications network (10) comprises a plurality of network sites (12), to each of which a service terminal (16,18), a maintenance terminal (20), or a server (22) may be connected. Each service terminal (16,18), which may be an ATM or a point-of-sale terminal, has at least one service element (44), such as a card transport or currency bin, that is to be maintained in operation. Intelligent agent programs (50) move between terminals (16,18,20) collecting information from or imparting information to each terminal (16,18,20) visited. The information that is collected or imparted is used for facilitating efficient maintenance of the service terminals (16,18).



**Fig 6a**



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# EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	<p>COVACI S ET AL: "Java-based intelligent mobile agents for open system management" TOOLS WITH ARTIFICIAL INTELLIGENCE, 1997. PROCEEDINGS., NINTH IEEE INTERNATIONAL CONFERENCE ON NEWPORT BEACH, CA, USA 3-8 NOV. 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 3 November 1997 (1997-11-03), pages 492-501, XP010254362 ISBN: 0-8186-8203-5</p> <p>* abstract *</p> <p>* page 493, left-hand column, paragraph 4 *</p> <p>* page 493, right-hand column, last paragraph - page 494, left-hand column, paragraph 1 *</p> <p>* page 494, left-hand column, paragraph 4 *</p> <p>* page 494, right-hand column, paragraph 2 - page 496, left-hand column, paragraph 5 *</p> <p style="text-align: center;">----- -/--</p>	1-9,15	<p>G07F7/10 G07F19/00</p>
			<p>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</p> <p>G07F</p>
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		19 February 2004	Aguilar, J.M.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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Application Number  
EP 99 30 5625

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	<p>BIESZCZAD A ET AL: "Network management application-oriented taxonomy of mobile code"</p> <p>NETWORK OPERATIONS AND MANAGEMENT SYMPOSIUM, 1998. NOMS 98., IEEE NEW ORLEANS, LA, USA 15-20 FEB. 1998, NEW YORK, NY, USA, IEEE, US, 15 February 1998 (1998-02-15), pages 659-669, XP010267394</p> <p>ISBN: 0-7803-4351-4</p> <p>* abstract *</p> <p>* page 660, paragraph 2 *</p> <p>* page 661, paragraph 1 *</p> <p>* page 666, paragraph 2 - paragraph [0003] *</p> <p>* page 667, paragraph 2 *</p> <p>* page 668, paragraph 2 - paragraph [0003] *</p>	1-9,15	
A	<p>-----</p> <p>S. FRANKLIN AND A. GRAESSER: "Is it an agent, or just a program?: a taxonomy for autonomous agents"</p> <p>PROCEEDINGS OF THE THIRD INTERNATIONAL WORKSHOP ON AGENT THEORIES, ARCHITECTURES AND LANGUAGES, [Online] - 1996 XP002255762</p> <p>Retrieved from the Internet: &lt;URL:http://www.msci.memphis.edu/~franklin/AgentProg.html&gt; [retrieved on 2003-09-03]</p> <p>* page 1, last paragraph - page 2, paragraph 1 *</p> <p>* page 2, paragraph 10 - page 3, paragraph 2 *</p> <p>* page 3, last paragraph *</p> <p>* page 4, paragraph 6 *</p> <p>* page 5, last paragraph - page 6, paragraph 3 *</p> <p>* page 8, paragraph 1 - paragraph [0006] *</p> <p>-----</p> <p>-/--</p>	1-9,15	<p>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</p>
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
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<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p> <p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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Application Number  
EP 99 30 5625

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	LIOTTA A ET AL: "Modelling network and system monitoring over the Internet with mobile agents" NETWORK OPERATIONS AND MANAGEMENT SYMPOSIUM, 1998. NOMS 98., IEEE NEW ORLEANS, LA, USA 15-20 FEB. 1998, NEW YORK, NY, USA, IEEE, US, 15 February 1998 (1998-02-15), pages 303-312, XP010267404 ISBN: 0-7803-4351-4 * the whole document *	1-9,15	
X	US 5 655 081 A (BONNELL DAVID N ET AL) 5 August 1997 (1997-08-05) * abstract; figures 1,11,17,19,21-26 * * column 7, line 16 - line 22 * * column 10, line 63 - column 11, line 5 * * column 12, line 40 - line 51 * * column 13, line 38 - line 43 * * column 14, line 7 - line 47 *	10-14	
A	GARIJO ET AL.: "A multiagent system for cooperative network-fault management" PROCEEDINGS OF THE FIRST INTERNATIONAL CONFERENCE AND EXHIBITION ON THE PRACTICAL APPLICATIONS OF INTELLIGENT AGENTS AND MULTI-AGENT TECHNOLOGY, PAGES 279- 294, LONDON., [Online] - 1996 XP002270915 Retrieved from the Internet: <URL:http://citeseer.nj.nec.com/garijo96multiagent.html> [retrieved on 2004-02-18] * abstract * * page 4, paragraph 2 * * page 5, last paragraph * * page 8 - page 13 *	10-14	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>19 February 2004</b>	Examiner <b>Aguilar, J.M.</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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Application Number  
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	SCHROEDER ET AL.: "Distributed diagnosis by vivid agents" PROCEEDINGS OF INTERNATIONAL CONFERENCE ON AUTONOMOUS AGENTS, ACM PRESS, [Online] - 1997 XP002270916 Retrieved from the Internet: <URL:http://citeseer.nj.nec.com/schroeder97distributed.html> [retrieved on 2004-02-18] * abstract * * page 1, left-hand column *	10-14	
A	US 5 539 877 A (RIBAK AMNON ET AL) 23 July 1996 (1996-07-23) * abstract; figure 2 * * column 3, line 39 - line 53 *	10-14	
X,P	ZHANG D ET AL: "Developing network management applications in an application-oriented way using mobile agent" COMPUTER NETWORKS AND ISDN SYSTEMS, NORTH HOLLAND PUBLISHING. AMSTERDAM, NL, vol. 30, no. 16-18, 30 September 1998 (1998-09-30), pages 1551-1557, XP004138686 ISSN: 0169-7552 * page 1555, right-hand column *	16	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
Place of search Munich		Date of completion of the search 19 February 2004	Examiner Aguilar, J.M.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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Application Number  
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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 99 30 5625

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-9,15

Monitor intelligent agent programs (50a) are sent by a server and then routed to a plurality of sites (service terminals) where they are executed so that they retrieve and store operating information from the sites.

Problem to be solved: monitoring of the sites in a communication network.

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2. claims: 10-14

Intelligent agent service programs (50b) are sent to service terminals conveying the necessary information so that when a malfunction occurs the service terminal is able to request maintenance by sending an intelligent agent alert program (50c) to a maintenance terminal.

Problem to be solved: provide the network sites with the necessary information in order to enable them to autonomously request maintenance.

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3. claim: 16

Intelligent agent program is used to convey a maintenance request to a site selected according to the profile data of a person enrolled at that site.

Problem to be solved: optimize the selection of the person who will carry out the maintenance of a service terminal in a communication network.

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 30 5625

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-02-2004

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US 5539877	A	23-07-1996	FR 2722354 A1	12-01-1996
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			JP 8018593 A	19-01-1996
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