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- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

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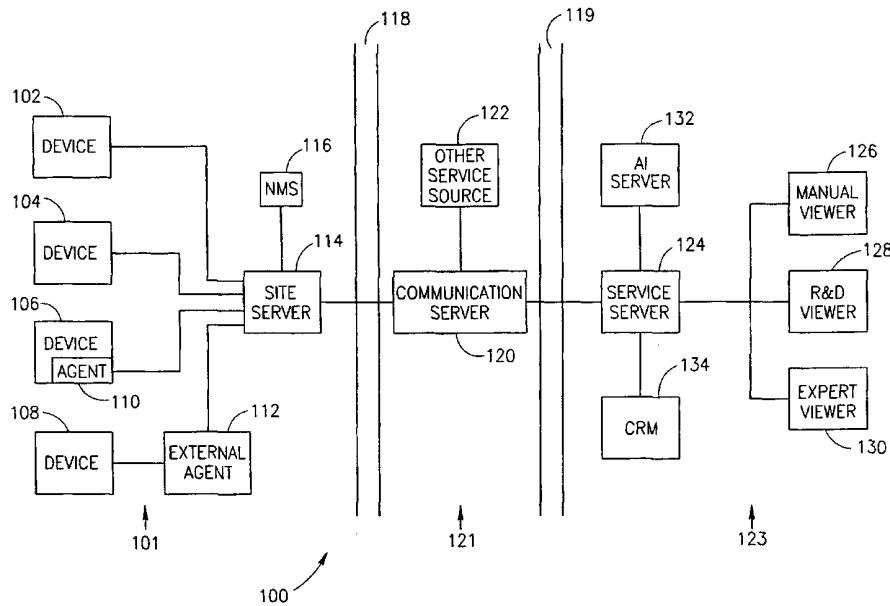
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[Continued on next page]

(54) Title: SUPPORT NETWORK



(57) Abstract: A method of device maintenance for determining that maintenance should be performed (item 116 of fig. 1) on a target device (item 102, 104, 106 or 108) by automatically selecting a maintenance process including at least one maintenance task to effect maintenance. The method automatically manages the maintenance process on a maintenance server (114) separate from the target device (item 102, 104, 106 or 108), with the maintenance server adapted to manage maintenance processes for a plurality of devices (item 102, 104, 106 or 108). The managing step includes at least monitoring the execution of the plurality of processes. The method also automatically performs at least one maintenance related task to effect at least a portion of the maintenance of the target devices.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL01/00144

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 9/45

US CL : 717/4

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)

U.S. : 717/4

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 practicable, search terms used)

WEST, STN

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P ---	US 6,029,175 A (CHOW ET AL.) 22 FEBRUARY 2000, TITLE, ABSTRACT, FIG 1, FIG 31, FIG 44, COLS. 3-5, 9, 11, 18-19, 22-23, 28, 36-37	1-5, 11, 14-16, 18, 26-27 ----- 6-10, 12-13, 17, 19-25, 28-54
Y,P	US 6,151,643 A (CHENG ET AL.) 21 NOVEMBER 2000, TITLE, ABSTRACT, FIGS 1-3, FIGS 8-9, COLS 2-3	1-5, 11, 14-16, 18, 26-27
Y,P	US 6,167,567 A (CHILES ET AL.) 26 DECEMBER 2000, TITLE, ABSTRACT, FIGS 1, 4A-5, COLS 3-5 AND 8.	1-5, 11, 14-16, 18, 26-27

 Further documents are listed in the continuation of Box C.
 See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier document published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search

02 AUGUST 2001

Date of mailing of the international search report

15 AUG 2001
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL01/00144

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 6,128,652 A (TOH ET AL.) 03 OCTOBER 2000, TITLE, ABSTRACT, COL. 1-2, 4, 7 AND 8	1-5,11,14-16,18,26-27
X	US 5,805,891 A (BIZUNCH ET AL.) 08 SEPTEMBER 1998, COLS 1-2, 4-5, 7-8, 10, 17-20.	1-5,11,14-16,18, 26-27
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Y		6-10,12-13,17,19-25, 28-54
A	US 6,009,274 A (FLETCHER ET AL.) 28 DECEMBER 1999, TITLE, ABSTRACT, FIG 1.	1-5,11,14-16,18,26, 27
A	US 5,909,581 A (PARK) 01 JUNE 1999, TITLE, ABSTRACT, FIGS 1 AND 3, AND COLS 1-2	1-5,11, 14-16,18, 26, 27
A,P	US 6,243,774 B1 (EIDE ET AL.) 05 JUNE 2001, TITLE, ABSTRACT, COLS 3-5	1-5,11,14-16,18, 26, 27
A	US 6,006,034 A (HEATH ET AL.) 21 DECEMBER 1999, TITLE, ABSTRACT, FIGS 1 AND 5, COLS 1-3	1-5, 11, 14-16, 18, 26-27
A,P	US 6,230,194 B1 (FRAILONG ET AL.) 08 MAY 2001, TITLE, ABSTRACT, FIGS 5,8,9B, COLS 1-2	1-5,11,14-16,18,26, 27

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL01/00144

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

This international 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:

Please See Extra 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.:
1-54

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

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL01/00144

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-54, drawn to PERFORMING MAINTAINANCE, which appears to be merely updating data from a server to a target device, which is classified in the US as 717/11 and internationally as G06F 9/445.

Group II, claim(s) 55-84, drawn to ACCESS CONTROL, which is classified in the US as 709/219 and internationally as G06F 12/14.

Group III, claim(s) 85-122, drawn to MONITORING AND ERROR DETECTION, classified in the US as 717/4 and internationally as G06F 11/30.

Group IV, claim(s) 123-147, drawn to DYNAMICALLY UPDATING DATA IN A PROGRAM AS IT EXECUTES, which is classified in 717/11 and internationally as G06F 9/445.

The inventions listed as Groups I, II, III and IV do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the claims directed to PERFORMING MAINTAINANCE are directed to standard updating of data between a client and a server, such as when a new version becomes available; while, the claims directed towards ACCESS CONTROL are directed toward determining who is eligible to use specific sites, the claims directed towards MONITORING AND ERROR DETECTION are directed towards analyzing errors in the system and the claims and the DYNAMIC UPDATING claims are directed toward updating data in an application as it executes. Therefore, the features of determining that maintainance should be performed, automatically selecting and managing a maintainance process, and automatically performing a maintainance related task in group I; selecting and setting a degree of access in group II; providing a log of data by a target and analyzing indications of internal states to detect pre-fault events in group III; and providing a replacement code patch to executing software, automatically estimating when a section is not executing and automatically replacing code in group IV are specific to the respective groups of claims.