PCT
WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G06F 13/00

A1

(11) International Publication Number: WO 97/36241

(43) International Publication Date: 2 October 1997 (02.10.97)

(21) International Application Number: PCT/US97/03569

(22) International Filing Date: 11 March 1997 (11.03.97)

(30) Priority Data:
08/623,930 28 March 1996 (28.03.96) US

(71) Applicant *(for all designated States except US)*: INTEL CORPORATION [US/US]; 2200 Mission College Boulevard, Santa Clara, CA 95052 (US).

(72) Inventors; and

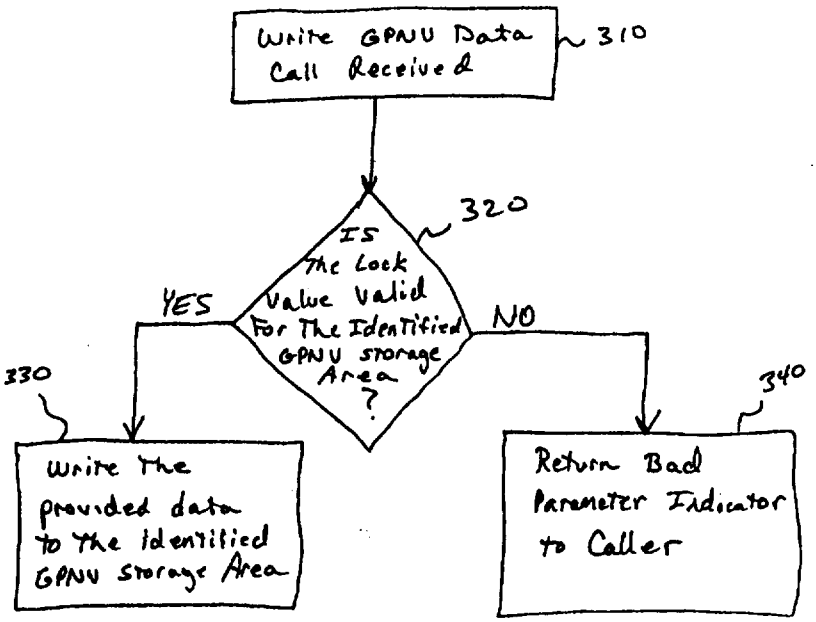
(75) Inventors/Applicants *(for US only)*: SHIPMAN, Mark, S. [US/US]; 3616 S.E. Willow Street, Hillsboro, OR 97123 (US). CHRISTESON, Orville, H. [US/US]; 2930 N.W. Whitman Court, Portland, OR 97229 (US). LABATTE, Timothy, E., W. [US/US]; 10605 N.W. Harding Court, Portland, OR 97229 (US).

(74) Agents: TAYLOR, Edwin, H. et al.; Blakely, Sokoloff, Taylor & Zafman L.L.P., 1279 Oakmead Parkway, Sunnyvale, CA 94086 (US).

(81) Designated States: AL, AM, AT, AT (Utility model), AU (Petty patent), AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: METHOD AND APPARATUS FOR PROTECTING DATA USING LOCK VALUES IN A COMPUTER SYSTEM



(57) Abstract

A method and apparatus for protecting data using lock values in a computer system includes indicating that the computer system does not support locked accesses to the data. However, upon receipt of a request (310) to write to a storage area where the data is contained, the present invention checks (320) whether a lock value corresponding to the request matches a predetermined lock value. If the lock value matches the predetermined lock value, then the data is written to the storage area (330); otherwise, the storage area is left unmodified (340).

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania
AM	Armenia
AT	Austria
AU	Australia
AZ	Azerbaijan
BA	Bosnia and Herzegovina
BB	Barbados
BE	Belgium
BF	Burkina Faso
BG	Bulgaria
BJ	Benin
BR	Brazil
BY	Belarus
CA	Canada
CF	Central African Republic
CG	Congo
CH	Switzerland
CI	Côte d'Ivoire
CM	Cameroon
CN	China
CU	Cuba
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GA	Gabon
GB	United Kingdom
GE	Georgia
GH	Ghana
GN	Guinea
GR	Greece
HU	Hungary
IE	Ireland
IL	Israel
IS	Iceland
IT	Italy
JP	Japan
KE	Kenya
KG	Kyrgyzstan
KP	Democratic People's Republic of Korea
KR	Republic of Korea
KZ	Kazakstan
LC	Saint Lucia
LI	Liechtenstein
LK	Sri Lanka
LR	Liberia
LS	Lesotho
LT	Lithuania
LU	Luxembourg
LV	Latvia
MC	Monaco
MD	Republic of Moldova
MG	Madagascar
MK	The former Yugoslav Republic of Macedonia
ML	Mali
MN	Mongolia
MR	Mauritania
MW	Malawi
MX	Mexico
NE	Niger
NL	Netherlands
NO	Norway
NZ	New Zealand
PL	Poland
PT	Portugal
RO	Romania
RU	Russian Federation
SD	Sudan
SE	Sweden
SG	Singapore
SI	Slovenia
SK	Slovakia
SN	Senegal
SZ	Swaziland
TD	Chad
TG	Togo
TJ	Tajikistan
TM	Turkmenistan
TR	Turkey
TT	Trinidad and Tobago
UA	Ukraine
UG	Uganda
US	United States of America
UZ	Uzbekistan
VN	Viet Nam
YU	Yugoslavia
ZW	Zimbabwe

METHOD AND APPARATUS FOR PROTECTING DATA USING LOCK VALUES IN A COMPUTER SYSTEM

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention pertains to the field of data storage in a computer system. More particularly, this invention relates to protecting data stored in a computer system using lock values.

Background

Computer technology is continuously advancing, resulting in modern computer systems which provide ever-increasing performance. One result of this improved performance is an increased use of computer systems by individuals in a wide variety of business, academic and personal applications. With the increased use of and demand for computer systems, a large number of manufacturers, developers, and suppliers of computer systems, components, and software have come into existence to service the demand.

The large number of manufacturers, developers, and suppliers, combined with the flexibility afforded them due to the advances in technology, has resulted in a wide range of methods in which computer systems operate. Typically, in order for different components within a computer system to work together effectively, each must agree on certain specific operating parameters. Often, standards or specifications are adopted or agreed upon by various industries or groups of companies which define certain operating parameters. Thus, if two components comply with the same standard(s) or specification(s), then the

two components should be able to work together effectively in the same system.

For example, one such standard is the Plug and Play Specification. A component which conforms to the Plug and Play Specification should work properly in a system which also complies with the Plug and Play Specification by simply connecting the component to the system. Components which do not comply with the Plug and Play Specification may require additional configuration steps to be taken by the user before they function properly.

Another current specification is the Desktop Management Interface (DMI) Specification. The DMI Specification provides, among other advantages, general purpose nonvolatile data areas which can be accessed to store various data by applications executing on the system. The DMI Specification, however, does not provide a mechanism to prevent an application from updating data stored in one of these general purpose nonvolatile data areas by another application. Thus, it would be beneficial to provide a mechanism for preventing unwanted updates to these general purpose nonvolatile data areas.

Additionally, in order to maintain compliance with the DMI Specification, any protection against unwanted updates to general purpose nonvolatile data areas must not violate the DMI Specification. Thus, it would be advantageous to provide a mechanism for preventing unwanted updates to the general purpose nonvolatile data areas which maintains compliance with the Desktop Management Interface Specification.

As will be described in more detail below, the present invention provides a mechanism for protecting data using lock values in a computer system that achieves these and other

desired results which will be apparent to those skilled in the art from the description to follow.

SUMMARY OF THE INVENTION

A method and apparatus for protecting data using lock values in a computer system is described herein. The present invention includes indicating that the computer system does not support locked accesses to the data. However, upon receipt of a request to write to the storage area where the data is contained, the present invention checks whether a lock value corresponding to the request matches a predetermined lock value. If the lock value matches the predetermined lock value, then the data is written to the storage area; otherwise, the storage area is left unmodified.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the figures of the accompanying drawings, in which like references indicate similar elements and in which:

Figure 1 is a block diagram showing a portion of a computer system in accordance with one embodiment of the present invention;

Figure 2 is a flowchart showing the steps used to read data from a storage area according to one embodiment of the present invention;

Figure 3 is a flowchart showing the steps used to write data to a storage area according to one embodiment of the present invention; and

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.